

Official Journal of the European Union

L 150



English edition

Legislation

Volume 63

13 May 2020

Contents

II *Non-legislative acts*

REGULATIONS

- ★ **Commission Implementing Regulation (EU) 2020/639 of 12 May 2020 amending Implementing Regulation (EU) 2019/947 as regards standard scenarios for operations executed in or beyond the visual line of sight ⁽¹⁾.....** 1
- ★ **Commission Implementing Regulation (EU) 2020/640 of 12 May 2020 concerning the non-approval of propolis extract as a basic substance in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market ⁽¹⁾.....** 32
- ★ **Commission Implementing Regulation (EU) 2020/641 of 12 May 2020 laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 31 March 2020 until 29 June 2020 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 ⁽¹⁾.....** 34
- ★ **Commission Implementing Regulation (EU) 2020/642 of 12 May 2020 approving the basic substance L-cysteine in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Commission Implementing Regulation (EU) No 540/2011 ⁽¹⁾.....** 134
- ★ **Commission Implementing Regulation (EU) 2020/643 of 12 May 2020 concerning the non-approval of *Saponaria officinalis* L. roots as a basic substance in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market ⁽¹⁾.....** 138

ACTS ADOPTED BY BODIES CREATED BY INTERNATIONAL AGREEMENTS

- ★ **Decision No 2/2020 of the EU-Singapore Trade Committee of 27 April 2020 on the interpretation, pursuant to Article 16.1(4)(d), of Articles 10.17 and 10.22 of the Free Trade Agreement between the European Union and the Republic of Singapore as regards changes to the protection of geographical indications for wines, spirits, agricultural products and foodstuffs registered in Singapore [2020/644].....** 140

⁽¹⁾ Text with EEA relevance.

EN

Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

The titles of all other acts are printed in bold type and preceded by an asterisk.

II

(Non-legislative acts)

REGULATIONS

COMMISSION IMPLEMENTING REGULATION (EU) 2020/639

of 12 May 2020

amending Implementing Regulation (EU) 2019/947 as regards standard scenarios for operations executed in or beyond the visual line of sight

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 216/2008 and (EC) No 552/2004 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 ⁽¹⁾, and in particular Article 57 thereof,

Whereas:

- (1) Pursuant to Commission Implementing Regulation (EU) 2019/947 ⁽²⁾, an unmanned aircraft system ('UAS') must comply with operational limitations set out in operational authorisations or in a standard scenario, established by that Regulation.
- (2) On the basis of the experience of Member States, the European Union Aviation Safety Agency (EASA) developed two standard scenarios for the operations.
- (3) Standard scenario 1 ('STS-01') covers operations executed in visual line of sight ('VLOS'), at a maximum height of 120 m over a controlled ground area in a populated environment using a CE class C5 UAS.
- (4) Standard scenario 2 ('STS-02') covers operations that could be conducted beyond visual line of sight ('BVLOS'), with the unmanned aircraft at a distance of not more than 2 km from the remote pilot with the presence of airspace observers, at a maximum height of 120 m over a controlled ground area in a sparsely populated environment, and using a CE class C6 UAS.
- (5) Implementing Regulation (EU) 2019/947 should therefore be amended to include those standard scenarios.
- (6) Where the probability of encountering manned aircraft is not low, Member States may establish geographical zones in such areas to prevent UAS operators from conducting operations under standard scenarios.
- (7) A requirement for a minimum overall mark attesting that remote pilots have successfully completed the theoretical knowledge examination should be introduced.

⁽¹⁾ OJ L 212, 22.8.2018, p. 1.

⁽²⁾ Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft (OJ L 152, 11.6.2019, p. 45).

- (8) In order to improve the conspicuity of the unmanned aircraft flown at night, and in particular, to allow a person on the ground to easily distinguish the unmanned aircraft from a manned aircraft, a green flashing light should be activated on the unmanned aircraft.
- (9) Well defined rules should apply to practical skill training and assessment of remote pilots operating under a standard scenario. That training and assessment should be provided by an entity recognised by the competent authority or by an UAS operator in compliance with requirements laid down in this Regulation.
- (10) In case of cross-border operations or operations outside the Member State of registration by a holder of a light UAS operator certificate (LUC), the Member State of operation should receive information regarding the location or locations of the intended operation.
- (11) EASA prepared draft implementing rules and submitted them with Opinion No 05/2019 (?) pursuant to points (b) and (c) of Article 75(2) and with Article 76(1) of Regulation (EU) 2018/1139.
- (12) The measures provided for in this Regulation are in accordance with the opinion of the committee established in accordance with Article 127 of Regulation (EU) 2018/1139,

HAS ADOPTED THIS REGULATION:

Article 1

Amendments to Implementing Regulation (EU) 2019/947

Implementing Regulation (EU) 2019/947 is amended as follows:

- (1) in Article 2, the following points (24) to (34) are added:

- (24) “unmanned aircraft observer” means a person, positioned alongside the remote pilot, who, by unaided visual observation of the unmanned aircraft, assists the remote pilot in keeping the unmanned aircraft in VLOS and safely conducting the flight;
- (25) “airspace observer” means a person who assists the remote pilot by performing unaided visual scanning of the airspace in which the unmanned aircraft is operating for any potential hazard in the air;
- (26) “command unit” (“CU”) means the equipment or system of equipment to control unmanned aircraft remotely as defined in point 32 of Article 3 of Regulation (EU) 2018/1139 which supports the control or the monitoring of the unmanned aircraft during any phase of flight, with the exception of any infrastructure supporting the command and control (C2) link service;
- (27) “C2 link service” means a communication service supplied by a third party, providing command and control between the unmanned aircraft and the CU;
- (28) “flight geography” means the volume(s) of airspace defined spatially and temporally in which the UAS operator plans to conduct the operation under normal procedures described in point (6)(c) of Appendix 5 to the Annex;
- (29) “flight geography area” means the projection of the flight geography on the surface of the earth;
- (30) “contingency volume” means the volume of airspace outside the flight geography where contingency procedures described in point (6)(d) of Appendix 5 to the Annex are applied;
- (31) “contingency area” means the projection of the contingency volume on the surface of the earth;
- (32) “operational volume” is the combination of the flight geography and the contingency volume;
- (33) “ground risk buffer” is an area over the surface of the earth, which surrounds the operational volume and that is specified in order to minimise the risk to third parties on the surface in the event of the unmanned aircraft leaving the operational volume;

(?) <https://www.easa.europa.eu/document-library/opinions>

- (34) “night” means the hours between the end of evening civil twilight and the beginning of morning civil twilight as defined in Implementing Regulation (EU) No 923/2012 (*).

(*) Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).;

- (2) paragraph 5 of Article 5 is replaced by the following:

‘5. Where the UAS operator submits a declaration to the competent authority of the Member State of registration in accordance with point UAS.SPEC.020 laid down in Part B of the Annex for an operation complying with a standard scenario set out in Appendix 1 to that Annex, the UAS operator shall not be required to obtain an operational authorisation in accordance with paragraphs 1 to 4 of this Article and the procedure laid down in paragraph 5 of Article 12 shall apply. The UAS operator shall use the declaration referred to in Appendix 2 to that Annex.’;

- (3) in Article 13 a new paragraph 4 is added:

‘4. Where a UAS operator holding an LUC with privileges in accordance with point UAS.LUC.060 of the Annex intends to conduct an operation in the “specific category” taking place partially or entirely in the airspace of a Member State other than the Member State of registration, the UAS operator shall provide the competent authority of the Member State of intended operation with the following information:

- (a) a copy of the term of approval received in accordance with point UAS.LUC.050 of the Annex; and
- (b) the location or locations of the intended operation in accordance with paragraph 1(b) of this Article.’;

- (4) in Article 14, the following paragraph 9 is added:

‘9. In addition to the data defined in point (2) Member States may collect additional identity information from the UAS operators.’;

- (5) in Article 15, point (a) of paragraph 1 is replaced by the following:

‘(a) prohibit certain or all UAS operations, request particular conditions for certain or all UAS operations or require a prior flight authorisation for certain or all UAS operations’;

- (6) Article 22 is replaced by the following:

‘Article 22

Without prejudice to Article 20, the use of UAS in the “open” category which do not comply with the requirements of Parts 1 to 5 of the Annex to Commission Delegated Regulation (EU) 2019/945 (*) shall be allowed for a transitional period of two years starting one year after the date of entry into force of this Regulation, subject to the following conditions:

- (a) unmanned aircraft with a take-off mass of less than 500 g are operated within the operational requirements set out in points UAS.OPEN.020(1) of Part A of the Annex by a remote pilot having competency level defined by the Member State concerned;
- (b) unmanned aircraft with a take-off mass of less than 2 kg is operated by keeping a minimum horizontal distance of 50 meters from people and the remote pilots have a competency level at least equivalent to the one set out in point UAS.OPEN.030(2) of Part A of the Annex;
- (c) unmanned aircraft with a take-off mass of less than 25 kg is operated within the operational requirements set out in point UAS.OPEN.040(1) and (2) and the remote pilots have a competency level at least equivalent to the one set out in point UAS.OPEN.020(4)(b) of Part A of the Annex.

(*) Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems (OJ L 152, 11.6.2019, p. 1).;

- (7) Article 23 is replaced by the following:

‘Article 23

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 1 July 2020.

2. Paragraph 5 of Article 5 and point (1)(l) of point UAS.SPEC.050 shall apply from 2 December 2021;
3. Point (2)(g) of point UAS.OPEN.060 shall apply from 1 July 2022.
4. Without prejudice to paragraph 1 of Article 21, until 2 December 2021 Member States may accept declarations made by UAS operators in accordance with paragraph 5 of Article 5, based on national standard scenarios or equivalent, if those national scenarios meet the requirements of point UAS.SPEC.020 of the Annex.

Such declarations shall cease to be valid from 2 December 2023.

5. Paragraph 3 of Article 15 shall apply from 1 July 2021.;

(8) the Annex is replaced by the Annex to this Regulation.

Article 2

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2020.

For the Commission
The President
Ursula VON DER LEYEN

ANNEX

UAS OPERATIONS IN THE 'OPEN' AND 'SPECIFIC' CATEGORIES

PART A

UAS OPERATIONS IN THE 'OPEN' CATEGORY

UAS.OPEN.010 General provisions

- (1) The category of UAS 'open' operations is divided into three subcategories A1, A2 and A3, on the basis of operational limitations, requirements for the remote pilot and technical requirements for UAS.
- (2) Where the UAS operation involves the flight of the unmanned aircraft starting from a natural elevation in the terrain or over terrain with natural elevations, the unmanned aircraft shall be maintained within 120 metres from the closest point of the surface of the earth. The measurement of distances shall be adapted accordingly to the geographical characteristics of the terrain, such as plains, hills, mountains.
- (3) When flying an unmanned aircraft within a horizontal distance of 50 metres from an artificial obstacle taller than 105 metres, the maximum height of the UAS operation may be increased up to 15 metres above the height of the obstacle at the request of the entity responsible for the obstacle.
- (4) By way of derogation from point (2), unmanned sailplanes with a MTOM, including payload, of less than 10 kg, may be flown at a distance in excess of 120 metres from the closest point of the surface of the earth, provided that the unmanned sailplane is not flown at a height greater than 120 metres above the remote pilot at any time.

UAS.OPEN.020 UAS operations in subcategory A1

UAS operations in subcategory A1 shall comply with all of the following conditions:

- (1) for unmanned aircraft referred to in point (5)(d), be conducted in such a way that a remote pilot of the unmanned aircraft does not overfly assemblies of people and reasonably expects that no uninvolved person will be overflown. In the event of unexpected overflight of uninvolved persons, the remote pilot shall reduce as much as possible the time during which the unmanned aircraft overflies those persons;
- (2) in the case of an unmanned aircraft referred to in points (5)(a), (5)(b) and (5)(c), be conducted in such a way that the remote pilot of the unmanned aircraft may overfly uninvolved persons, but shall never overfly assemblies of people;
- (3) by way of derogation from point (d) of paragraph 1 of Article 4, be conducted, when the follow-me mode is active, up to a distance of 50 metres from the remote pilot;
- (4) be performed by a remote pilot who:
 - (a) is familiar with manufacturer's instructions provided by the manufacturer of the UAS;
 - (b) in the case of an unmanned aircraft class C1, as defined in Part 2 of the Annex to Delegated Regulation (EU) 2019/945, has completed an online training course followed by completing successfully an online theoretical knowledge examination provided by the competent authority or by an entity designated by the competent authority of a Member State achieving at least 75% of the overall marks. The examination shall comprise 40 multiple-choice questions distributed appropriately across the following subjects:
 - (i) air safety;
 - (ii) airspace restrictions;
 - (iii) aviation regulation;
 - (iv) human performance limitations;
 - (v) operational procedures;
 - (vi) UAS general knowledge;
 - (vii) privacy and data protection;
 - (viii) insurance;
 - (ix) security.

- (5) be performed with an unmanned aircraft that:
- (a) has an MTOM, including payload, of less than 250 g and a maximum operating speed of less than 19 m/s, in the case of a privately built UAS; or
 - (b) meets the requirements defined in point (a) of Article 20;
 - (c) is marked as class C0 and complies with the requirements of that class, as defined in Part 1 of the Annex to Delegated Regulation (EU) 2019/945; or
 - (d) is marked as class C1 and complies with the requirements of that class, as defined in Part 2 of the Annex to Delegated Regulation (EU) 2019/945 and is operated with active and updated direct remote identification system and geo-awareness function.

UAS.OPEN.030 UAS operations in subcategory A2

UAS operations in subcategory A2 shall comply with all of the following conditions:

- (1) be conducted in such a way that the unmanned aircraft does not overfly uninvolved persons and the UAS operations take place at a safe horizontal distance of at least 30 metres from them; the remote pilot may reduce the horizontal safety distance down to a minimum of 5 metres from an uninvolved person when operating an unmanned aircraft with an active low speed mode function and after evaluation of the situation regarding:
 - (a) weather conditions,
 - (b) performance of the unmanned aircraft,
 - (c) segregation of the overflowed area.
- (2) be performed by a remote pilot who is familiar with manufacturer's instructions provided by the manufacturer of the UAS and holds a certificate of remote pilot competency issued by the competent authority or by an entity designated by the competent authority of a Member State. This certificate shall be obtained after complying with all of the following conditions and in the order indicated:
 - (a) completing an online training course and passed the online theoretical knowledge examination as referred to in point (4)(b) of point UAS.OPEN.020;
 - (b) completing a self-practical training in the operating conditions of the subcategory A3 set out in points (1) and (2) of point UAS.OPEN.040;
 - (c) declaring the completion of the self-practical training defined in point (b) and passing an additional theoretical knowledge examination provided by the competent authority or at an entity designated by the competent authority of a Member State achieving at least 75% of the overall marks. The examination shall comprise at least 30 multiple-choice questions aimed at assessing the remote pilot's knowledge of the technical and operational mitigations for ground risk, distributed appropriately across the following subjects:
 - (i) meteorology;
 - (ii) UAS flight performance;
 - (iii) technical and operational mitigations for ground risk.
- (3) be performed with an unmanned aircraft which is marked as class C2 and complies with the requirements of that class, as defined in Part 3 of the Annex to Delegated Regulation (EU) 2019/945, and is operated with active and updated direct remote identification system and geo-awareness function.

UAS.OPEN.040 UAS operations in subcategory A3

UAS operations in subcategory A3 shall comply with all of the following conditions:

- (1) be conducted in an area where the remote pilot reasonably expects that no uninvolved person will be endangered within the range where the unmanned aircraft is flown during the entire time of the UAS operation;
- (2) be conducted at a safe horizontal distance of at least 150 metres from residential, commercial, industrial or recreational areas;
- (3) be performed by a remote pilot who is familiar with manufacturer's instructions provided by the manufacturer of the UAS and who has completed an online training course and passed an online theoretical knowledge examination as defined in point (4)(b) of point UAS.OPEN.020;

- (4) be performed with an unmanned aircraft that:
- (a) has an MTOM, including payload, of less than 25 kg, in the case of a privately built UAS, or
 - (b) meets the requirements defined in point (b) of Article 20;
 - (c) is marked as class C2 and complies with the requirements of that class, as defined in Part 3 of the Annex to Delegated Regulation (EU) 2019/945 and is operated with active and updated direct remote identification system and geo-awareness function or;
 - (d) is marked as class C3 and complies with the requirements of that class, as defined in Part 4 of the Annex to Delegated Regulation (EU) 2019/945 and is operated with active and updated direct remote identification system and geo-awareness function; or
 - (e) is marked as class C4 and complies with the requirements of that class, as defined in Part 5 of the Annex to Delegated Regulation (EU) 2019/945.

UAS.OPEN.050 Responsibilities of the UAS operator

The UAS operator shall comply with all of the following:

- (1) develop operational procedures adapted to the type of operation and the risk involved;
- (2) ensure that all operations effectively use and support the efficient use of radio spectrum in order to avoid harmful interference;
- (3) designate a remote pilot for each flight;
- (4) ensure that remote pilots and all other personnel performing a task in support of the operations are familiar with manufacturer's instructions provided by the manufacturer of the UAS, and:
 - (a) have appropriate competency in the subcategory of the intended UAS operations in accordance with points UAS.OPEN.020, UAS.OPEN.030 or UAS.OPEN.040 to perform their tasks or, for personnel other than the remote pilot, have completed an on-the-job-training course developed by the operator;
 - (b) are fully familiar with the UAS operator's procedures;
 - (c) are provided with the information relevant to the intended UAS operation concerning any geographical zones published by the Member State of operation in accordance with Article 15;
- (5) update the information into the geo-awareness system when applicable according to the intended location of operation;
- (6) in the case of an operation with an unmanned aircraft of one of the classes defined in Parts 1 to 5 of the Annex of Delegated Regulation (EU) 2019/945, ensure that the UAS is:
 - (a) accompanied by the corresponding EU declaration of conformity, including the reference to the appropriate class; and
 - (b) the related class identification label is affixed to the unmanned aircraft.
- (7) Ensure in the case of an UAS operation in subcategory A2 or A3, that all involved persons present in the area of the operation have been informed of the risks and have explicitly agreed to participate.

UAS.OPEN.060 Responsibilities of the remote pilot

- (1) Before starting an UAS operation, the remote pilot shall:
 - (a) have the appropriate competency in the subcategory of the intended UAS operations in accordance with points UAS.OPEN.020, UAS.OPEN.030 or UAS.OPEN.040 to perform its task and carry a proof of competency while operating the UAS, except when operating an unmanned aircraft referred to in points (5)(a), (5)(b) or (5)(c) of point UAS.OPEN.020;
 - (b) obtain updated information relevant to the intended UAS operation about any geographical zone published by the Member State of operation in accordance with Article 15;
 - (c) observe the operating environment, check the presence of obstacles and, unless operating in subcategory A1 with an unmanned aircraft referred to in points (5)(a), (5)(b) or (5)(c) of point UAS.OPEN.020, check the presence of any uninvolved person;
 - (d) ensure that the UAS is in a condition to safely complete the intended flight, and if applicable, check if the direct remote identification is active and up-to-date;
 - (e) if the UAS is fitted with an additional payload, verify that its mass does not exceed neither the MTOM defined by the manufacturer or the MTOM limit of its class.

- (2) During the flight, the remote pilot shall:
 - (a) not perform duties under the influence of psychoactive substances or alcohol or when it is unfit to perform its tasks due to injury, fatigue, medication, sickness or other causes;
 - (b) keep the unmanned aircraft in VLOS and maintain a thorough visual scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property;
 - (c) comply with the operational limitations in geographical zones defined in accordance with Article 15;
 - (d) have the ability to maintain control of the unmanned aircraft, except in the case of a lost link or when operating a free-flight unmanned aircraft;
 - (e) operate the UAS in accordance with manufacturer's instructions provided by the manufacturer, including any applicable limitations;
 - (f) comply with the operator's procedures when available;
 - (g) when operating at night, ensure that a green flashing light on the unmanned aircraft is activated.
- (3) During the flight, remote pilots and UAS operators shall not fly close to or inside areas where an emergency response effort is ongoing unless they have permission to do so from the responsible emergency response services.
- (4) For the purposes of point (2)(b), remote pilots may be assisted by an unmanned aircraft observer. In such case, clear and effective communication shall be established between the remote pilot and the unmanned aircraft observer.

UAS.OPEN.070 Duration and validity of the remote pilot online theoretical competency and certificates of remote pilot competency

- (1) The remote pilot online theoretical competency, required by points (4)(b) of point UAS.OPEN.020 and point (3) of point UAS.OPEN.040, and the certificate of remote pilot competency, required by point (2) of point UAS.OPEN.030, shall be valid for five years.
- (2) The revalidation of the remote pilot online theoretical competency and of the certificate of remote pilot competency is, within its validity period, subject to:
 - (a) a demonstration of competencies respectively in accordance with point (4)(b) of point UAS.OPEN.020 or point (2) of point UAS.OPEN.030; or
 - (b) the completion of a refresher training addressing respectively the theoretical knowledge subjects as defined in point (4)(b) of point UAS.OPEN.020 or point (2) of point UAS.OPEN.030 provided by the competent authority or by an entity designated by the competent authority.
- (3) In order to revalidate the remote pilot online theoretical competency or the certificate of remote pilot competency upon its expiration, the remote pilot shall comply with point (2)(a).

PART B

UAS OPERATIONS IN THE 'SPECIFIC' CATEGORY

UAS.SPEC.010 General provisions

The UAS operator shall provide the competent authority with an operational risk assessment for the intended operation in accordance with Article 11, or submit a declaration when point UAS.SPEC.020 is applicable, unless the operator holds a light UAS operator certificate (LUC) with the appropriate privileges, in accordance with Part C of this Annex. The UAS operator shall regularly evaluate the adequacy of the mitigation measures taken and update them where necessary.

UAS.SPEC.020 Operational declaration

- (1) In accordance with Article 5, the UAS operator may submit an operational declaration of compliance with a standard scenario as defined in Appendix 1 to this Annex to the competent authority of the Member State of registration as an alternative to points UAS.SPEC.30 and UAS.SPEC.40 in relation to operations:
 - (a) of unmanned aircraft with:
 - (i) maximum characteristic dimension up to 3 metres in VLOS over controlled ground area except over assemblies of people,

- (ii) maximum characteristic dimension up to 1 metre in VLOS except over assemblies of people;
 - (iii) maximum characteristic dimension up to 1 metre in BVLOS over sparsely populated areas;
 - (iv) maximum characteristic dimension up to 3 metres in BVLOS over controlled ground area.
- (b) performed below 120 metres from the closest point of the surface of the earth, and:
- (i) in uncontrolled airspace (class F or G) unless different limitations are provided by Member States through UAS geographical zones in areas where the probability of encountering manned aircraft is not low; or
 - (ii) in controlled airspace, in accordance with published procedures for the area of operation, so that a low probability of encountering manned aircraft is ensured.
- (2) A declaration of UAS operators shall contain:
- (a) administrative information about the UAS operator;
 - (b) a statement that the operation satisfies the operational requirement set out in point (1) and a standard scenario as defined in Appendix 1 to the Annex;
 - (c) the commitment of the UAS operator to comply with the relevant mitigation measures required for the safety of the operation, including the associated instructions for the operation, for the design of the unmanned aircraft and the competency of involved personnel.
 - (d) confirmation by the UAS operator that an appropriate insurance cover will be in place for every flight made under the declaration, if required by Union or national law.
- (3) Upon receipt of the declaration, the competent authority shall verify that the declaration contains all the elements listed in point (2) and shall provide the UAS operator with a confirmation of receipt and completeness without undue delay.
- (4) After receiving the confirmation of receipt and completeness, the UAS operator is entitled to start the operation.
- (5) UAS operators shall notify, without any delay, the competent authority of any change to the information contained in the operational declaration that they submitted.
- (6) UAS operators holding an LUC with appropriate privileges, in accordance with Part C of this Annex, are not required to submit the declaration.

UAS.SPEC.030 Application for an operational authorisation

- (1) Before starting an UAS operation in the 'specific' category the UAS operator shall obtain an operational authorisation from the national competent authority of the Member State of registration, except:
- (a) when point UAS.SPEC.020 is applicable; or
 - (b) the UAS operator holds an LUC with the appropriate privileges, in accordance with Part C of this Annex.
- (2) The UAS operator shall submit an application for an updated operational authorisation if there are any significant changes to the operation or to the mitigation measures listed in the operational authorisation.
- (3) The application for an operational authorisation shall be based on the risk assessment referred to in Article 11 and shall include in addition the following information:
- (a) the registration number of the UAS operator;
 - (b) the name of the accountable manager or the name of the UAS operator in the case of a natural person;
 - (c) the operational risk assessment;
 - (d) the list of mitigation measures proposed by the UAS operator, with sufficient information for the competent authority to assess the adequacy of the mitigation means to address the risks;
 - (e) an operations manual when required by the risk and complexity of the operation;
 - (f) a confirmation that an appropriate insurance cover will be in place at the start of the UAS operations, if required by Union or national law.

UAS.SPEC.040 Issuing of an operational authorisation

- (1) When receiving an application in accordance with point UAS.SPEC.030, the competent authority shall issue, without undue delay, an operational authorisation in accordance with Article 12 when it concludes that the operation meets the following conditions:
 - (a) all information in accordance with point (3) of point UAS.SPEC.030 is provided;
 - (b) a procedure is in place for coordination with the relevant service provider for the airspace if the entire operation, or part of it, is to be conducted in controlled airspace.
- (2) The competent authority shall specify in the operational authorisation the exact scope of the authorisation in accordance with Article 12.

UAS.SPEC.050 Responsibilities of the UAS operator

- (1) The UAS operator shall comply with all of the following:
 - (a) establish procedures and limitations adapted to the type of the intended operation and the risk involved, including:
 - (i) operational procedures to ensure the safety of the operations;
 - (ii) procedures to ensure that security requirements applicable to the area of operations are complied with in the intended operation;
 - (iii) measures to protect against unlawful interference and unauthorised access;
 - (iv) procedures to ensure that all operations are in respect of Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. In particular it shall carry out a data protection impact assessment, when required by the National Authority for data protection in application of Article 35 of Regulation (EU) 2016/679;
 - (v) guidelines for its remote pilots to plan UAS operations in a manner that minimises nuisances, including noise and other emissions-related nuisances, to people and animals.
 - (b) designate a remote pilot for each flight or, in the case of autonomous operations, ensure that during all phases of the flight, responsibilities and tasks especially those defined in points (2) and (3) of point UAS.SPEC.060 are properly allocated in accordance with the procedures established pursuant to point (a);
 - (c) ensure that all operations effectively use and support the efficient use of radio spectrum in order to avoid harmful interference;
 - (d) ensure that before conducting operations, remote pilots comply with all of the following conditions:
 - (i) have the competency to perform their tasks in line with the applicable training identified by the operational authorisation or, if point UAS.SPEC.020 applies, by the conditions and limitations defined in the appropriate standard scenario listed in Appendix 1 or as defined by the LUC;
 - (ii) follow remote pilot training which shall be competency based and include the competencies set out in paragraph 2 of Article 8;
 - (iii) follow remote pilot training, as defined in the operational authorisation, for operations requiring such authorisation, it shall be conducted in cooperation with an entity designated by the competent authority;
 - (iv) follow remote pilot training for operations under declaration that shall be conducted in accordance with the mitigation measures defined by the standard scenario;
 - (v) have been informed about the UAS operator's operations manual, if required by the risk assessment and procedures established in accordance with point (a);
 - (vi) obtain updated information relevant to the intended operation about any geographical zones defined in accordance with Article 15;
 - (e) ensure that personnel in charge of duties essential to the UAS operation, other than the remote pilot itself, comply with all of the following conditions:
 - (i) have completed the on-the-job-training developed by the operator;
 - (ii) have been informed about the UAS operator's operations manual, if required by the risk assessment, and about the procedures established in accordance with point (a);
 - (iii) have obtained updated information relevant to the intended operation about any geographical zones defined in accordance with Article 15;
 - (f) carry out each operation within the limitations, conditions, and mitigation measures defined in the declaration or specified in the operational authorisation;

- (g) keep and maintain an up-to-date record of:
 - (i) all the relevant qualifications and training courses completed by the remote pilot and the other personnel in charge of duties essential to the UAS operation and by the maintenance staff, for at least 3 years after those persons have ceased employment with the organisation or have changed their position in the organisation;
 - (ii) the maintenance activities conducted on the UAS for a minimum of 3 years;
 - (iii) the information on UAS operations, including any unusual technical or operational occurrences and other data as required by the declaration or by the operational authorisation for a minimum of 3 years;
- (h) use UAS which, as a minimum, are designed in such a manner that a possible failure will not lead the UAS to fly outside the operation volume or to cause a fatality. In addition, Man Machine interfaces shall be such to minimise the risk of pilot error and shall not cause unreasonable fatigue;
- (i) maintain the UAS in a suitable condition for safe operation by:
 - (i) as a minimum, defining maintenance instructions and employing an adequately trained and qualified maintenance staff; and
 - (ii) complying with point UAS.SPEC.100, if required;
 - (iii) using an unmanned aircraft which is designed to minimise noise and other emissions, taking into account the type of the intended operations and geographical areas where the aircraft noise and other emissions are of concern.
- (j) establish and keep an up-to-date list of the designated remote pilots for each flight;
- (k) establish and keep an up-to-date list of the maintenance staff employed by the operator to carry out maintenance activities; and
- (l) ensure that each individual unmanned aircraft is installed with:
 - (i) at least one green flashing light for the purpose of visibility of the unmanned aircraft at night, and
 - (ii) an active and up-to-date remote identification system.

UAS.SPEC.060 Responsibilities of the remote pilot

- (1) The remote pilot shall:
 - (a) not perform duties under the influence of psychoactive substances or alcohol or when it is unfit to perform its tasks due to injury, fatigue, medication, sickness or other causes;
 - (b) have the appropriate remote pilot competency as defined in the operational authorisation, in the standard scenario defined in Appendix 1 or as defined by the LUC and carry a proof of competency while operating the UAS.
 - (c) be familiar with manufacturer's instructions provided by the manufacturer of the UAS.
- (2) Before starting an UAS operation, the remote pilot shall comply with all of the following:
 - (a) obtain updated information relevant to the intended operation about any geographical zones defined in accordance with Article 15;
 - (b) ensure that the operating environment is compatible with the authorised or declared limitations and conditions;
 - (c) ensure that the UAS is in a safe condition to complete the intended flight safely, and if applicable, check if the direct remote identification is active and up-to-date;
 - (d) ensure that the information about the operation has been made available to the relevant air traffic service (ATS) unit, other airspace users and relevant stakeholders, as required by the operational authorisation or by the conditions published by the Member State for the geographical zone of operation in accordance with Article 15.
- (3) During the flight, the remote pilot shall:
 - (a) comply with the authorised or declared limitations and conditions;
 - (b) avoid any risk of collision with any manned aircraft and discontinue a flight when continuing it may pose a risk to other aircraft, people, animals, environment or property;

- (c) comply with the operational limitations in geographical zones defined in accordance with Article 15;
- (d) comply with the operator's procedures;
- (e) not fly close to or inside areas where an emergency response effort is ongoing unless they have permission to do so from the responsible emergency response services.

UAS.SPEC.070 Transferability of an operational authorisation

An operational authorisation is not transferable.

UAS.SPEC.080 Duration and validity of an operational authorisation

- (1) The competent authority shall specify the duration of the operational authorisation in the authorisation itself.
- (2) Notwithstanding point (1), the operational authorisation remains valid as long as the UAS operator remains compliant with the relevant requirements of this Regulation and with the conditions defined in the operational authorisation.
- (3) Upon revocation or surrender of the operational authorisation the UAS operator shall provide an acknowledgment in digital format that must be returned to the competent authority without delay.

UAS.SPEC.085 Duration and validity of an operational declaration:

The operational declaration shall have a limited duration of 2 years. The declaration shall no longer be considered as complete within the meaning of point (4) of point UAS.SPEC.020 if:

- (1) during the oversight of the UAS operator, the competent authority has found that the UAS operation is not conducted in accordance with the operational declaration;
- (2) the conditions of the UAS operation have changed to the extent that the operational declaration no longer complies with the applicable requirements of this Regulation;
- (3) the competent authority is not granted access in accordance with point UAS.SPEC.090.

UAS.SPEC.090 Access

For the purpose of demonstrating compliance with this Regulation, an UAS operator shall grant to any person, that is duly authorised by the competent authority, an access to any facility, UAS, document, records, data, procedures or to any other material relevant to its activity, which is subject to operational authorisation or operational declaration, regardless of whether or not its activity is contracted or subcontracted to another organisation.

UAS.SPEC.100 Use of certified equipment and certified unmanned aircraft

- (1) If the UAS operation is using an unmanned aircraft for which a certificate of airworthiness or a restricted certificate of airworthiness have been issued, or using certified equipment, the UAS operator shall record the operation or service time in accordance either with the instructions and procedures applicable to the certified equipment, or with the organisational approval or authorisation.
- (2) The UAS operator shall follow the instructions referred to in the unmanned aircraft certificate or equipment certificate, and also comply with any airworthiness or operational directives issued by the Agency.

PART C

LIGHT UAS OPERATOR CERTIFICATE (LUC)

UAS.LUC.010 General requirements for an LUC

- (1) A legal person is eligible to apply for an LUC under this Part.

- (2) An application for an LUC or for an amendment to an existing LUC shall be submitted to the competent authority and shall contain all of the following information:
 - (a) a description of the UAS operator's management system, including its organisational structure and safety management system;
 - (b) the name(s) of the responsible UAS operator's personnel, including the person responsible for authorising operations with UASs;
 - (c) a statement that all the documentation submitted to the competent authority has been verified by the applicant and found to comply with the applicable requirements.
- (3) If the requirements of this Part are met, an LUC holder may be granted the privileges, in accordance with point UAS.LUC.060.

UAS.LUC.020 Responsibilities of the LUC holder

The LUC holder shall:

- (1) comply with the requirements of points UAS.SPEC.050 and UAS.SPEC.060;
- (2) comply with the scope and privileges defined in the terms of approval;
- (3) establish and maintain a system for exercising operational control over any operation conducted under the terms of its LUC;
- (4) carry out an operational risk assessment of the intended operation in accordance with Article 11 unless conducting an operation for which an operational declaration is sufficient according to point UAS.SPEC.020,
- (5) keep records of the following items in a manner that ensures protection from damage, alteration and theft for a period at least 3 years for operations conducted using the privileges specified under point UAS.LUC.060:
 - (a) the operational risk assessment, when required according to point (4), and its supporting documentation;
 - (b) mitigation measures taken; and
 - (c) the qualifications and experience of personnel involved in the UAS operation, compliance monitoring and safety management;
- (6) keep personnel records referred to in point (5)(c) as long as the person works for the organisation and shall be retained until 3 years after the person has left the organisation.

UAS.LUC.030 Safety management system

- (1) An UAS operator who applies for an LUC shall establish, implement and maintain a safety management system corresponding to the size of the organisation, to the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.
- (2) The UAS operator shall comply with all of the following:
 - (a) nominate an accountable manager with authority for ensuring that within the organisation all activities are performed in accordance with the applicable standards and that the organisation is continuously in compliance with the requirements of the management system and the procedures identified in the LUC manual referred to in point UAS.LUC.040;
 - (b) define clear lines of responsibility and accountability throughout the organisation;
 - (c) establish and maintain a safety policy and related corresponding safety objectives;
 - (d) appoint key safety personnel to execute the safety policy;
 - (e) establish and maintain a safety risk management process including the identification of safety hazards associated with the activities of the UAS operator, as well as their evaluation and the management of associated risks, including taking action to mitigate those risks and verify the effectiveness of the action;
 - (f) promote safety in the organisation through:
 - (i) training and education;
 - (ii) communication;

- (g) document all safety management system key processes for making personnel aware of their responsibilities and of the procedure for amending this documentation; key processes include:
 - (i) safety reporting and internal investigations;
 - (ii) operational control;
 - (iii) communication on safety;
 - (iv) training and safety promotion;
 - (v) compliance monitoring;
 - (vi) safety risk management;
 - (vii) management of change;
 - (viii) interface between organisations;
 - (ix) use of sub-contractors and partners;
 - (h) include an independent function to monitor the compliance and adequacy of the fulfilment of the relevant requirements of this Regulation, including a system to provide feedback of findings to the accountable manager to ensure effective implementation of corrective measures as necessary;
 - (i) include a function to ensure that safety risks inherent to a service or product delivered through subcontractors are assessed and mitigated under the operator's safety management system.
- (3) If the organisation holds other organisation certificates within the scope of Regulation (EU) 2018/1139, the safety management system of the UAS operator may be integrated with the safety management system that is required by any of those additional certificate(s).

UAS.LUC.040 LUC manual

- (1) An LUC holder shall provide the competent authority with an LUC manual describing directly or by cross reference its organisation, the relevant procedures and the activities carried out.
- (2) The manual shall contain a statement signed by the accountable manager that confirms that the organisation will at all times work in accordance with this Regulation and with the approved LUC manual. When the accountable Manager is not the Chief Executive Officer of the organisation, the chief executive officer shall countersign the statement.
- (3) If any activity is carried out by partner organisations or subcontractors, the UAS operator shall include in the LUC manual procedures on how the LUC holder shall manage the relationship with those partner organisations or subcontractors.
- (4) The LUC manual shall be amended as necessary to retain an up-to-date description of the LUC holder's organisation, and copies of amendments shall be provided to the competent authority.
- (5) The UAS operator shall distribute the relevant parts of the LUC manual to all its personnel in accordance with their functions and duties.

UAS.LUC.050 Terms of approval of the LUC holder

- (1) The competent authority shall issue an LUC after it is satisfied that the UAS operator complies with points UAS.LUC.020, UAS.LUC.030 and UAS.LUC.040.
- (2) The LUC shall include:
 - (a) the UAS operator identification;
 - (b) the UAS operator's privileges;
 - (c) authorised type(s) of operation;
 - (d) the authorised area, zone or class of airspace for operations, if applicable;

- (e) any special limitations or conditions, if applicable;

UAS.LUC.060 Privileges of the LUC holder

When satisfied with the documentation provided, the competent authority:

- (1) shall specify the terms and conditions of the privilege granted to the UAS operator in the LUC; and
- (2) may, within the terms of approval, grant to an LUC holder the privilege to authorise its own operations without:
 - (a) submitting an operational declaration;
 - (b) applying for an operational authorisation.

UAS.LUC.070 Changes in the LUC management system

After an LUC is issued, the following changes require prior approval by the competent authority:

- (1) any change in the terms of approval of the UAS operator;
- (2) any significant change to the elements of the LUC holder's safety management system as required by point UAS.LUC.030.

UAS.LUC.075 Transferability of an LUC

Except for the change to the ownership of the organisation, approved by the competent authority in accordance with point UAS.LUC.070, an LUC is not transferable.

UAS.LUC.080 Duration and validity of an LUC

- (1) An LUC shall be issued for an unlimited duration. It shall remain valid subject to:
 - (a) the LUC holder's continuous compliance with the relevant requirements of this Regulation and of the Member State that issued the certificate; and
 - (b) it not being surrendered or revoked.
- (2) Upon revocation or surrender of an LUC, the LUC holder shall provide an acknowledgment in digital format that must be returned to the competent authority without delay.

UAS.LUC.090 Access

For the purpose of demonstrating compliance with this Regulation, the LUC holder shall grant any person, that is duly authorised by the competent authority, an access to any facility, UAS, document, records, data, procedures or to any other material relevant to its activity, which is subject to certification, operational authorisation or operational declaration, regardless of whether or not its activity is contracted or subcontracted to another organisation.

Appendix 1

for standard scenarios supporting a declaration

CHAPTER I

STS-01 – VLOS over a controlled ground area in a populated environment

UAS.STS-01.010 General provisions

- (1) During flight, the unmanned aircraft shall be maintained within 120 m from the closest point of the surface of the earth. The measurement of distances shall be adapted accordingly to the geographical characteristics of the terrain, such as plains, hills, mountains.
- (2) When flying an unmanned aircraft within a horizontal distance of 50 m from an artificial obstacle taller than 105 metres, the maximum height of the UAS operation may be increased up to 15 m above the height of the obstacle at the request of the entity responsible for the obstacle.
- (3) The maximum height of the operational volume shall not exceed 30 m above the maximum height allowed in points (1) and (2).
- (4) During flight, the unmanned aircraft shall not carry dangerous goods.

UAS.STS-01.020 UAS operations in STS-01

- (1) UAS operations in STS-01 shall meet all of the following conditions:
 - (a) be conducted with the unmanned aircraft kept in VLOS at all times;
 - (b) be conducted in accordance with the operations manual referred to in point (1) of point UAS.STS-01.030;
 - (c) be conducted over a controlled ground area comprising:
 - (i) for the operation of an untethered unmanned aircraft:
 - (A) the flight geography area;
 - (B) the contingency area, with its external limit(s) at least 10 m beyond the limit(s) of the flight geography area; and
 - (C) the ground risk buffer, which shall cover a distance beyond the external limit(s) of the contingency area that meets at least the following parameters:

Maximum height above ground	Minimum distance to be covered by the ground risk buffer for untethered unmanned aircraft	
	with an MTOM up to 10 kg	with an MTOM above 10 kg
30 m	10 m	20 m
60 m	15 m	30 m
90 m	20 m	45 m
120 m	25 m	60 m

- (ii) for operation of a tethered unmanned aircraft, a radius equal to the tether length plus 5 m and centred on the point where the tether is fixed over the surface of the earth.
- (d) be conducted at a ground speed of less than 5 m/s in the case of untethered unmanned aircraft;
- (e) be conducted by a remote pilot who:
 - (i) holds a certificate of remote pilot theoretical knowledge in accordance with Attachment A to this Chapter for operations in the standard scenarios issued by the competent authority or by an entity designated by the competent authority of a Member State;

- (ii) holds an accreditation of completion of the STS-01 practical skill training, in accordance with Attachment A to this Chapter and issued by:
 - (A) an entity that has declared compliance with the requirements in Appendix 3 and is recognised by the competent authority of a Member State; or
 - (B) an UAS operator that has declared to the competent authority of the Member State of registration, compliance with STS-01 and that has declared compliance with the requirements in Appendix 3; and
 - (f) be conducted with an unmanned aircraft which is marked as class C5 and complies with the requirements of that class, as defined in Part 16 of the Annex to Delegated Regulation (EU) 2019/945, and is operated with active and updated direct remote identification system.
- (2) The remote pilot shall obtain the certificate of theoretical knowledge for operations in the standard scenarios after:
- (a) having completed an online training course and passed the online theoretical knowledge examination as referred to in point (4)(b) of point UAS.OPEN.020; and
 - (b) having passed an additional theoretical knowledge examination provided by the competent authority or by an entity designated by the competent authority of a Member State in accordance with Attachment A to this Chapter.
- (3) This certificate shall be valid for five years. The revalidation, within its validity period is subject to any of the following:
- (a) the demonstration of competencies in accordance with point (2);
 - (b) the completion of a refresher training addressing the theoretical knowledge subjects as defined in point (2) provided by the competent authority or by an entity designated by the competent authority.
- (4) In order to revalidate the certificate upon its expiration, the remote pilot shall comply with point (2).

UAS.STS-01.030 Responsibilities of the UAS operator

In addition to the responsibilities defined in UAS.SPEC.050, the UAS operator shall:

- (1) develop an operations manual including the elements defined in Appendix 5;
- (2) define the operational volume and ground risk buffer for the intended operations, including the controlled ground area covering the projections on the surface of the earth within both the volume and the buffer;
- (3) ensure the adequacy of the contingency and emergency procedures through any of the following:
 - (a) dedicated flight tests;
 - (b) simulations, provided that the representativeness of the simulation means is appropriate for the intended purpose;
- (4) develop an effective emergency response plan (ERP) suitable for the operation that includes at least:
 - (a) the plan to limit any escalating effects of the emergency situation;
 - (b) the conditions to alert the relevant authorities and organisations;
 - (c) the criteria to identify an emergency situation;
 - (d) clear delineation of the duties of the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation;
- (5) ensure that the level of performance for any externally provided service necessary for the safety of the flight is adequate for the intended operation;
- (6) define the allocation of the roles and responsibilities between the operator and the external service provider(s), if applicable;
- (7) upload updated information into the geo-awareness, if the function is installed on the UAS, when required by the UAS geographical zone for the intended location of operation;
- (8) ensure that, before starting the operation, the controlled ground area is in place, effective and compliant with the minimum distance defined in point UAS.STS-01.020(1)(C)(i)(C) and, when required, coordination with the appropriate authorities has been conducted;
- (9) ensure that, before starting the operation, all persons present in the controlled ground area:
 - (a) have been informed of the risks of the operation;

- (b) have been briefed or trained, as appropriate, on the safety precautions and measures established by the UAS operator for their protection; and
 - (c) have explicitly agreed to participate in the operation;
- (10) ensure that:
- (a) the UAS is accompanied by the corresponding EU declaration(s) of conformity, including the reference to class C5 or reference to class C3 and to the accessories kit; and
 - (b) the class C5 identification label is affixed to the unmanned aircraft or to the accessories kit.

UAS.STS-01.040 Responsibilities of the remote pilot

In addition to the responsibilities defined in UAS.SPEC.060, the remote pilot:

- (1) before starting an UAS operation, shall verify that the means to terminate the flight of the unmanned aircraft are operational and check if the direct remote identification is active and up-to-date;
- (2) during the flight:
 - (a) shall keep the unmanned aircraft in VLOS and maintain a thorough airspace scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of a collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property;
 - (b) for the purposes of point (a), may be assisted by an unmanned aircraft observer. In such case, clear and effective communication shall be established between the remote pilot and the unmanned aircraft observer;
 - (c) shall have the ability to maintain control of the unmanned aircraft, except in the case of a lost command and control (C2) link;
 - (d) shall operate only one unmanned aircraft at a time;
 - (e) shall not operate the unmanned aircraft from a moving vehicle;
 - (f) shall not hand over the control of the unmanned aircraft to another command unit;
 - (g) shall perform the contingency procedures defined by the UAS operator for abnormal situations, including when the remote pilot has an indication that the unmanned aircraft may exceed the limits of the flight geography; and
 - (h) shall perform the emergency procedures defined by the UAS operator for emergency situations, including triggering the means to terminate the flight when the remote pilot has an indication that the unmanned aircraft may exceed the limits of the operational volume.

ATTACHMENT A: REMOTE PILOT THEORETICAL KNOWLEDGE AND PRACTICAL SKILL EXAMINATION FOR STS-01

(1) Theoretical knowledge examination

- (a) The examination referred in point (2)(b) of point UAS.STS-01.020 shall comprise at least 40 multiple-choice questions aimed at assessing the remote pilot's knowledge of the technical and operational mitigations, distributed appropriately across the following subjects:
 - (i) aviation regulations;
 - (ii) human performance limitations;
 - (iii) operational procedures;
 - (iv) technical and operational mitigations for ground risk;
 - (v) UAS general knowledge;
 - (vi) meteorology;
 - (vii) the flight performance of the UAS; and
 - (viii) technical and operational mitigations for air risks.
- (b) If the student remote pilot already holds a certificate of remote pilot competency as referred to in point (2) of point UAS.OPEN.030, the examination shall comprise at least 30 multiple-choice questions distributed appropriately across the subjects in points (1)(a)(i) to (1)(a)(v).
- (c) To pass the theoretical knowledge examination, the remote pilot student shall achieve at least 75 % of the overall marks.

(2) Practical skill training and assessment

The training and assessment of the practical skill for operations under any standard scenario shall cover at least the subjects and areas identified in Table 1:

Table 1

Subjects and areas to be covered for practical skill training and assessment

Subject	Areas to be covered
(a) Pre-flight actions	<ul style="list-style-type: none"> (i) Operation planning, airspace considerations and site risk assessment. The following points are to be included: <ul style="list-style-type: none"> (A) identify the objectives of the intended operation; (B) make sure that the defined operational volume and relevant buffers (e.g. ground risk buffer) are suitable for the intended operation; (C) spot the obstacles in the operational volume that could hinder the intended operation; (D) identify whether the wind speed and/or direction may be affected by topography or by obstacles in the operational volume; (E) select relevant data on airspace information (including on UAS geographical zones) that can have an impact on the intended operation; (F) make sure the UAS is suitable for the intended operation; (G) make sure that the selected payload is compatible with the UAS used for the operation; (H) implement the necessary measures to comply with the limitations and conditions applicable to the operational volume and ground risk buffer for the intended operation in accordance with the operations manual procedures for the relevant scenario; (I) implement the necessary procedures to operate in controlled airspace, including a protocol to communicate with ATC and obtain clearance and instructions, if necessary; (J) confirm that all the necessary documents for the intended operation are on site; and (K) brief all participants about the planned operation. (ii) UAS pre-flight inspection and set-up (including flight modes and power-source hazards). The following points are to be included: <ul style="list-style-type: none"> (A) assess the general condition of the UAS; (B) ensure that all the removable components of the UAS are properly secured; (C) make sure that the UAS software configurations are compatible; (D) calibrate the instruments in the UAS; (E) identify any flaw that may jeopardise the intended operation; (F) make sure that the energy level of the battery is sufficient for the intended operation; (G) make sure that the flight termination system of the UAS and its triggering system are operational; (H) check the correct functioning of the command and control link; (I) activate the geo-awareness function and upload the information to it (if geo-awareness function is available); and (J) set the height and speed limitation systems (if available). (iii) Knowledge of the basic actions to be taken in the event of an emergency situation, including issues with the UAS, or if a mid-air collision hazard arises during the flight.

Subject	Areas to be covered
(b) In-flight procedures	<ul style="list-style-type: none"> (i) Maintain an effective look-out and keep the unmanned aircraft within visual line of sight (VLOS) at all times to include: situational awareness of the location in relation to the operational volume and other airspace users, obstacles, terrain and persons who are not involved at all times. (ii) Perform accurate and controlled flight manoeuvres at different heights and distances representative of the corresponding STS (including flight in manual/non-GNSS assisted mode or the equivalent, where fitted). At least the following manoeuvres shall be performed: <ul style="list-style-type: none"> (A) hover in position (only for rotorcraft); (B) transition from hover into forward flight (only for rotorcraft); (C) climb and descent from level flight; (D) turns in level flight; (E) speed control in level flight; (F) actions after a failure of a motor/ propulsion system; and (G) evasive action (manoeuvres) to avoid collisions (iii) Real-time monitoring of the UAS status and endurance limitations. Flight under abnormal conditions: <ul style="list-style-type: none"> (A) manage a partial or complete power shortage of the unmanned aircraft propulsion system while ensuring the safety of third parties on the ground; (B) manage the path of the unmanned aircraft in abnormal situations; (C) manage a situation in which the unmanned aircraft positioning equipment is impaired; (D) manage a situation of an incursion by a person not involved into the operational volume or the controlled ground area, and take appropriate measures to maintain safety; (E) react to, and take the appropriate corrective actions for a situations where the unmanned aircraft is likely to exceed the limit of the flight geography (contingency procedures) and from the operational volume (emergency procedures) as defined during the flight preparation; (F) manage the situation when an aircraft approaches the operational volume; and (G) demonstrate the recovery method following a deliberate (simulated) loss of the command and control link.
(c) Post-flight actions	<ul style="list-style-type: none"> (i) Shut down and secure the UAS. (ii) Post-flight inspection and recording of any relevant data relating to the general condition of the UAS (its systems, components and power sources) and crew fatigue. (iii) Conduct a debriefing about the operation. (iv) Identify situations when an occurrence report was necessary and complete the required occurrence report.

CHAPTER II

STS-02 – BVLOS with Airspace Observers over a controlled ground area in a sparsely populated environment

UAS.STS-02.010 General provisions

- (1) During flight, the unmanned aircraft shall be maintained within 120 m from the closest point of the surface of the earth. The measurement of distances shall be adapted according to the geographical characteristics of the terrain, such as plains, hills, mountains.
- (2) When flying an unmanned aircraft within a horizontal distance of 50 m from an artificial obstacle taller than 105 m, the maximum height of the UAS operation may be increased up to 15 m above the height of the obstacle at the request of the entity responsible for the obstacle.

- (3) The maximum height of the operational volume shall not exceed 30 m above the maximum height allowed in points (1) and (2).
- (4) During flight, the unmanned aircraft shall not carry dangerous goods.

UAS.STS-02.020 UAS operations in STS-02

UAS operations in STS-02 shall be conducted:

- (1) in accordance with the operations manual referred to in point (1) of point UAS.STS-02.030;
- (2) over a controlled ground area entirely located in a sparsely populated environment including:
 - (a) the flight geography area,
 - (b) the contingency, which its external limit(s) shall be located at least 10 m beyond the limit(s) of the flight geography area,
 - (c) a ground risk buffer covering a distance that is at least equal to the distance most likely to be travelled by the UA after activation of the means to terminate the flight specified by the UAS manufacturer in manufacturer's instructions, considering the operational conditions within the limitations specified by the UAS manufacturer;
- (3) in an area where the minimum flight visibility is more than 5 km;
- (4) with the unmanned aircraft in sight of the remote pilot during the launch and recovery of the unmanned aircraft, unless the latter is the result of an emergency flight termination;
- (5) if no airspace observer is used in the operation, with the unmanned aircraft flying no further than 1 km from the remote pilot, with the unmanned aircraft following a pre-programmed trajectory when the unmanned aircraft is not in VLOS of the remote pilot;
- (6) if one or more airspace observers are used in the operation, it shall comply with all of the following conditions:
 - (a) the airspace observer(s) are positioned in a manner allowing for an adequate coverage of the operational volume and the surrounding airspace with the minimum flight visibility indicated in point (3);
 - (b) the unmanned aircraft is operated no further than 2 km from the remote pilot;
 - (c) the unmanned aircraft is operated no further than 1 km from the airspace observer who is nearest to the unmanned aircraft;
 - (d) the distance between any airspace observer and the remote pilot is not more than 1 km;
 - (e) robust and effective communication means are available for the communication between the remote pilot and the airspace observer(s);
- (7) by a remote pilot who holds:
 - (a) a certificate of remote pilot theoretical knowledge for operations in standard scenarios, issued by the competent authority or by an entity designated by the competent authority of a Member State;
 - (b) an accreditation of completion of the STS-02 practical skill training, in accordance with Attachment A to this Chapter and issued by:
 - (A) an entity that has declared compliance with the requirements in Appendix 3 and is recognised by the competent authority of a Member State; or
 - (B) by an UAS operator that has declared to the competent authority of the Member State of registration, compliance with STS-02 and that has declared compliance with the requirements in Appendix 3;
- (8) with an unmanned aircraft which complies with all of the following conditions:
 - (a) is marked as class C6 and complies with the requirements of that class, as defined in Part 17 of the Annex to Delegated Regulation (EU) 2019/945;
 - (b) is operated with an active system to prevent the unmanned aircraft from breaching the flight geography;
 - (c) is operated with active and updated direct remote identification system.

- (9) The remote pilot shall obtain the certificate of theoretical knowledge for operations in the standard scenarios after:
 - (a) having completed an online training course and passed the online theoretical knowledge examination as referred to in point (4)(b) of point UAS.OPEN.020; and
 - (b) having passed an additional theoretical knowledge examination provided by the competent authority or by an entity designated by the competent authority of a Member State in accordance with Attachment A to this Chapter.
- (10) This certificate shall be valid for five years. The revalidation, within its validity period is subject to any of the following:
 - (a) the demonstration of competencies in accordance with point (9);
 - (b) the completion of a refresher training addressing the theoretical knowledge subjects as defined in point (9) provided by the competent authority or by an entity designated by the competent authority;
- (11) In order to revalidate the certificate upon its expiration, the remote pilot shall comply with point (9).

UAS.STS-02.030 Responsibilities of the UAS operator

In addition to the responsibilities defined in UAS.SPEC.050, the UAS operator shall:

- (1) develop an operations manual including the elements defined in Appendix 5;
- (2) define the operational volume and ground risk buffer for the intended operations, including the controlled ground area covering the projections on the surface of the earth of both the volume and the buffer;
- (3) ensure the adequacy of the contingency and emergency procedures through any of the following:
 - (a) dedicated flight tests;
 - (b) simulations, provided that the representativeness of the simulation means is appropriate for the intended purpose;
- (4) develop an effective emergency response plan (ERP) suitable for the operation that includes at least:
 - (a) the plan to limit the escalating effects of the emergency situation;
 - (b) the conditions to alert the relevant authorities and organisations;
 - (c) the criteria to identify an emergency situation;
 - (d) clear delineation of the duties of the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation;
- (5) ensure that the level of performance for any externally provided service necessary for the safety of the flight is adequate for the intended operation;
- (6) define the allocation of the roles and responsibilities between the operator and the external service provider(s), if applicable;
- (7) upload updated information into the geo-awareness, if the function is installed on the UAS, when required by the UAS geographical zone for the intended location of the operation;
- (8) ensure that, before starting the operation, all appropriate measures to reduce the risk of intrusion of uninvolved persons in the controlled ground area compliant with the minimum distance defined in point UAS.STS-02.020(2) have been taken and, when required, coordination with the appropriate authorities has been conducted;
- (9) ensure that, before starting the operation, all persons present in the controlled ground area:
 - (a) have been informed of the risks of the operation;
 - (b) have been briefed and, if applicable, trained on the safety precautions and measures established by the UAS operator for their protection; and
 - (c) have explicitly agreed to participate in the operation;
- (10) before starting the operation, if airspace observers are used:
 - (a) ensure the correct placement and number of airspace observers along the intended flight path;
 - (b) verify:
 - (i) that the visibility and the planned distance of the airspace observer are within acceptable limits as defined in the operations manual;
 - (ii) the absence of potential terrain obstructions for each airspace observer;
 - (iii) that there are no gaps between the zones covered by each of the airspace observers;

- (iv) that the communication with each airspace observer is established and effective;
 - (v) that if means are used by the airspace observers to determine the position of the unmanned aircraft, those means are functioning and effective;
 - (c) ensure that the airspace observers have been briefed on the intended path of the unmanned aircraft and the associated timing;
- (11) ensure that:
- (a) the UAS is accompanied by the corresponding EU declaration of conformity, including the reference to class C6;
 - (b) the class C6 identification label is affixed to the unmanned aircraft.

UAS.STS-02.040 Responsibilities of the remote pilot

In addition to the responsibilities defined in UAS.SPEC.060, the remote pilot shall:

- (1) before starting an UAS operation:
- (a) set the programmable flight volume of the unmanned aircraft to keep it within the flight geography;
 - (b) verify that the means to terminate the flight and the programmable operational volume functionality of the unmanned aircraft are operational; and, check if the direct remote identification is active and up-to-date.
- (2) during flight:
- (a) unless supported by airspace observers, maintain a thorough airspace scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of a collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property;
 - (b) have the ability to maintain control of the unmanned aircraft, except in the case of a lost command and control (C2) link;
 - (c) operate only one unmanned aircraft at a time;
 - (d) not operate the unmanned aircraft from a moving vehicle;
 - (e) not hand over the control of the unmanned aircraft to another command unit;
 - (f) inform the airspace observer(s), when employed, in a timely manner of any deviations of the unmanned aircraft from the intended path, and the associated timing;
 - (g) perform the contingency procedures defined by the UAS operator for abnormal situations, including when the remote pilot has indication that the unmanned aircraft may exceed the limits of the flight geography;
 - (h) perform the emergency procedures defined by the UAS operator for emergency situations, including triggering the means to terminate the flight when the remote pilot has an indication that the unmanned aircraft may exceed the limits of the operational volume.

UAS.STS-02.050 Responsibilities of the airspace observer

An airspace observer shall:

- (1) maintain a thorough airspace scan of the airspace surrounding the unmanned aircraft in order to identify any risk of a collision with any manned aircraft;
- (2) maintain awareness of the position of the unmanned aircraft through direct airspace observation or through assistance provided by electronic means;
- (3) alert the remote pilot when a hazard is detected and assist in avoiding or minimising the potential negative effects.

ATTACHMENT A: REMOTE PILOT THEORETICAL KNOWLEDGE AND PRACTICAL SKILL FOR STS-02

1. Theoretical knowledge examination

The examination shall be defined in accordance with point 1 of Attachment A to Chapter I.

2. Practical skill training and assessment

In addition to the areas defined in point A.2 of Attachment A to Chapter I, the following areas shall be covered:


Table 1

Additional subjects and areas to be covered for practical skill training and assessment for STS-02

Subject	Areas to be covered
(a) BVLOS operations conducted under STS-02	(i) Pre-flight actions — operation planning, airspace considerations and site risk-assessment. The following points are to be included: (A) airspace scanning; (B) operations with airspace observers (AOs): adequate placement of AOs, and a deconfliction scheme that includes phraseology, coordination and communications means; (ii) The in-flight procedures, defined in point 2.(b)(ii) of Attachment A to Chapter I, shall be performed in both VLOS and BVLOS.

Appendix 2

Operational declaration

		<p>Operational declaration</p>	
<p>Data protection: Personal data included in this declaration is processed by the competent authority pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). It will be processed for the purposes of the performance, management and follow up of the oversight activities according to Commission Implementing Regulation (EU) 2019/947.</p> <p>If you require further information concerning the processing of your personal data or you wish to exercise your rights (e.g. to access or rectify any inaccurate or incomplete data), please refer to the contact point of the competent authority.</p> <p>The applicant has the right to make a complaint regarding the processing of the personal data at any time to the national Data Protection Supervisory Authority.</p>			
UAS operator registration number			
UAS operator name			
UAS manufacturer			
UAS model			
UAS Serial number			
<p>I hereby declare that:</p> <ul style="list-style-type: none"> — I comply with all the applicable provisions of Implementing Regulation (EU) 2019/947 and with STS.x; and — appropriate insurance cover will be in place for every flight made under the declaration, if required by Union or national law. 			
Date		Signature or other verification	

*Appendix 3***Additional requirements for entities recognised by the competent authority and UAS operators that conduct practical skill training and assessment of remote pilots for operations covered by STS**

An entity that intends to be recognised by the competent authority for conducting practical skill training and assessment of remote pilots for an STS, shall declare to the competent authority compliance with the following requirements using the declaration form in Appendix 6.

An UAS operator that intends to conduct practical skill training and assessment of remote pilots for an STS, in addition to submitting the operational declaration for that STS, shall declare to the competent authority compliance with the following requirements using the declaration form in Appendix 4.

If the competent authority or the UAS operator intends to conduct practical skill training and assessment of remote pilots for an STS in a Member State other than the Member State of registration, a copy of the declaration form in Appendix 4 shall be submitted to the competent authority of the Member State where the training is conducted.


If an entity recognised by the competent authority intends to conduct practical skill training and assessment of remote pilots for an STS in a Member State other than the Member State of recognition, a proof of the recognition shall be submitted to the competent authority of the Member State where the training is conducted.

- (1) The entity recognised by the competent authority or the UAS operator shall ensure a clear separation between the training activities and any other operational activity to guarantee the independence of the evaluation.
- (2) The entity recognised by the competent authority or the UAS operator shall have the capability to adequately perform the technical and administrative activities linked with the entire task process, including the adequacy of personnel and the use of facilities and equipment appropriate to the task.
- (3) The entity recognised by the competent authority or the UAS operator shall have an accountable manager, with the responsibility for ensuring that all tasks are performed in compliance with the information and procedures identified in point (8).
- (4) The personnel responsible for the practical skill training and practical skill assessment tasks shall:
 - (a) have the competence to conduct these tasks;
 - (b) be impartial and shall not participate in assessments if they feel that their objectivity may be affected;
 - (c) have a sound theoretical knowledge and practical skill training experience, and satisfactory knowledge of the requirements for the practical skill assessment tasks they carry out as well as adequate experience of such processes;
 - (d) have the ability to administer the declarations, records and reports that demonstrate that the relevant practical skill assessments have been carried out and to draw the conclusions of those practical skill assessments; and
 - (e) not disclose any information supplied by the operator or remote pilot to any person other than the competent authority upon their request.
- (5) The training and assessment shall cover the practical skills corresponding to the STS for which the declaration is made, included in Attachment A to the relevant Chapter.
- (6) The practical skill training and assessment location(s) shall be conducted in an environment representative of the conditions of the STS.
- (7) The practical skill assessment shall consist of a continuous evaluation of the student remote pilot.
- (8) The entity recognised by the competent authority or the UAS operator shall produce an assessment report after completing the practical skill assessment, which shall:
 - (a) include at least:
 - (i) the student remote pilot's identification details;

- (ii) the identity of the person responsible for the practical skill assessment;
 - (iii) the identification of the STS for which the practical skill assessment has been performed;
 - (iv) performance marks for each action performed by the student remote pilot;
 - (v) an overall practical skill assessment of the student remote pilot's competencies; and
 - (vi) practical skill assessment feedback providing guidance on areas for improvement where applicable;
- (b) be appropriately signed and dated by the person responsible for the practical skill assessment once complete; and
- (c) be recorded and made available for inspection by the competent authority upon request.
- (9) An accreditation of completion of the practical skill training for the STS shall be delivered to the student remote pilot by entity recognised by the competent authority or the UAS operator if the assessment report concludes that the student remote pilot has achieved a satisfactory level of practical skill.
- (10) The issuance of the accreditation of completion of point (9) shall be notified to the competent authority of the Member State where the practical skill training and assessment are conducted including the student remote pilot's identification details, the STS covered, the date of issuance and the identification details of the entity recognised by the competent authority of a Member State or the UAS operator issuing it.
- (11) The entity recognised by the competent authority or the UAS operator shall include in the operations manual, developed in accordance with Appendix 5, a separate section covering the training elements, including the following:
- (a) the nominated personnel conducting practical skill training and assessment, including:
 - (i) descriptions of the respective personnel's competence;
 - (ii) the personnel's duties and responsibilities; and
 - (iii) a chart of the organisation showing the associated chains of responsibility;
 - (b) the procedures and processes used for practical skill training and assessment, including the training syllabus covering the practical skill corresponding to the STS for which the declaration is made, defined in Attachment A to the relevant Chapter;
 - (c) a description of the UAS and any other equipment, tools and environment used for the practical skill training and assessment; and
 - (d) a template for the assessment report.
-

Appendix 4

Declaration of UAS operators that intend to provide practical skill training and assessment of remote pilots in STS-x

 <p style="text-align: center;">STS-x</p> <p style="text-align: center;">Declaration of UAS operators that intend to provide practical skill training and assessment of remote pilots</p>			
<p>Data protection: Personal data included in this declaration is processed by the competent authority pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). It will be processed for the purposes of the performance, management and follow up of the oversight activities according to Commission Regulation (EU) 2019/947.</p> <p>If you require further information concerning the processing of your personal data or you wish to exercise your rights (e. g. to access or rectify any inaccurate or incomplete data), please refer to the contact point of the competent authority.</p> <p>The applicant has the right to make a complaint regarding the processing of the personal data at any time to the national Data Protection Supervisory Authority.</p>			
UAS operator registration number			
UAS operator name			
<p>I hereby declare that:</p> <ul style="list-style-type: none"> — I have submitted the operational declaration for STS-x; — I comply with the requirements defined in Appendix 3 to the Annex to Implementing Regulation (EU) 2019/947; and — when operating an UAS in the context of training activities for STS.x, I comply with all the applicable provisions of Implementing Regulation (EU) 2019/947, including requirements for operations under STS.x 			
Date		Signature or other verification	

*Appendix 5***Operations manual for Standard Scenario**


The operations manual for STS defined in Appendix 1 shall contain at least the following:

- (1) a statement that the operations manual complies with the relevant requirements of this Regulation and with the declaration, and contains instructions that are to be complied with by the personnel involved in flight operations;
- (2) an approval signature by the accountable manager or the UAS operator in the case of a natural person;
- (3) an overall description of the UAS operator's organisation;
- (4) a description of the concept of the operation, including at least:
 - (a) the nature and description of the activities performed in the UAS operations, and the identified associated risks;
 - (b) the operational environment and geographical area for the intended operations, including:
 - (i) the characteristics of the area to be overflown in terms of the population density, topography, obstacles, etc.;
 - (ii) the characteristics of the airspace to be used;
 - (iii) the environmental conditions including at least the weather and the electromagnetic environment;
 - (iv) the definition of the operational volume and risk buffers to address the ground and air risks;
 - (c) the technical means used and their main characteristics, performance and limitations, including the UAS, external systems supporting the UAS operation, facilities, etc.;
 - (d) the required personnel for conducting operations, including the composition of the team, their roles and responsibilities, selection criteria, initial training and recent experience requirements and/or recurrent training;
- (5) the maintenance instructions required to keep the UAS in a safe condition, covering the UAS manufacturer's maintenance instructions and requirements, if applicable;
- (6) operational procedures, which shall be based on manufacturer's instructions provided by the UAS manufacturer, and shall include:
 - (a) consideration of the following to minimise human errors:
 - (i) a clear distribution and assignment of tasks; and
 - (ii) an internal checklist to check that staff are performing their assigned tasks adequately;
 - (b) consideration of the deterioration of external systems supporting the UAS operation;
 - (c) normal procedures, including at least:
 - (i) pre-flight preparations and checklists, covering:
 - (A) the assessment of the operational volume and related buffers (the ground risk buffer, and air risk buffer when applicable), including the terrain and potential obstacles and obstructions that may reduce the ability to keep the unmanned aircraft in visual line of sight or to scan the airspace, the potential overflight of persons who are not involved and potential overflight of critical infrastructure;
 - (B) the assessment of the surrounding environment and airspace, including the proximity of UAS geographical zones and potential activities by other airspace users;
 - (C) the environmental conditions suitable for conducting the UAS operation;
 - (D) the minimum number of personnel in charge of duties essential to the UAS operation who are required to perform the operation, and their responsibilities;
 - (E) the required communication procedures between the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation and with any external parties, when needed;
 - (F) compliance with any specific requirements from the relevant authorities in the intended area of operations, including those related to security, privacy, data and environmental protection, and the use of the RF spectrum;

- (G) the required risk mitigations in place to ensure the safe conduct of the operation; in particular, for the controlled ground area:
 - (a) determination of the controlled ground area; and
 - (b) securing the controlled ground area to prevent third parties from entering the area during the operation, and ensuring coordination with the local authorities, when needed;
 - (H) the procedures to verify that the UAS is in a suitable condition to safely conduct the intended operation;
 - (ii) launch and recovery procedures;
 - (iii) in-flight procedures, including those to ensure that the unmanned aircraft remains within the flight geography;
 - (iv) post-flight procedures, including the inspections to verify the condition of the UAS;
 - (v) procedures for the detection of potentially conflicting aircraft by the remote pilot and, when required by the UAS operator, by airspace observer(s) or unmanned aircraft observer(s), as applicable;
 - (d) contingency procedures, including at least:
 - (i) procedures to cope with the unmanned aircraft leaving the designated 'flight geography';
 - (ii) procedures to cope with persons who are not involved entering the controlled ground area;
 - (iii) procedures to cope with adverse operating conditions;
 - (iv) procedures to cope with the deterioration of external systems supporting the operation;
 - (v) if airspace observers are employed, the phraseology to be used;
 - (vi) Conflict avoidance procedures with other airspace users;
 - (e) emergency procedures to cope with emergency situations, including at least:
 - (i) procedures to avoid, or at least minimise, harm to third parties in the air or on the ground;
 - (ii) procedures to cope with the unmanned aircraft leaving the 'operational' volume;
 - (iii) procedures for the emergency recovery of the unmanned aircraft;
 - (f) security procedures as referred to in point (1)(a)(ii) and (iii) of point UAS.SPEC.050;
 - (g) the procedures for the protection of personal data referred to in point (1)(a)(iv) of point UAS.SPEC.050;
 - (h) the guidelines to minimise nuisance and environmental impact referred to in point (1)(a)(v) of point UAS.SPEC.050;
 - (i) occurrence reporting procedures;
 - (j) record-keeping procedures; and
 - (k) the policy defining how the remote pilot(s) and any other personnel in charge of duties essential to the UAS operation can declare themselves fit to operate before conducting any operation.
-

Appendix 6

Declaration of the entity intending to be recognised by the competent authority to provide practical skill training and assessment of remote pilots in STS-x

 <p style="text-align: center;">STS-x</p> <p style="text-align: center;">Declaration of the entity intending to be recognised by the competent authority to provide practical skill training and assessment of remote pilots</p>			
<p>Data protection: Personal data included in this declaration is processed by the competent authority pursuant to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). It will be processed for the purposes of the performance, management and follow up of the oversight activities according to Regulation (EU) 2019/947.</p> <p>If you require further information concerning the processing of your personal data or you wish to exercise your rights (e.g. to access or rectify any inaccurate or incomplete data), please refer to the contact point of the competent authority.</p> <p>The applicant has the right to make a complaint regarding the processing of the personal data at any time to the national Data Protection Supervisory Authority.</p>			
Identification of the entity			
First and last name, telephone number and email address of the responsible person			
<p>I hereby declare that:</p> <ul style="list-style-type: none"> — I comply with the requirements defined in Appendix 3 to the Annex to Regulation (EU) 2019/947; and — when operating an UAS in the context of training activities for STS.x, I comply with all the applicable provisions of Regulation (EU) 2019/947, including requirements for operations under STS.x 			
Date		Signature or other verification	

COMMISSION IMPLEMENTING REGULATION (EU) 2020/640**of 12 May 2020****concerning the non-approval of propolis extract as a basic substance in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC ⁽¹⁾, and in particular Article 23(5) in conjunction with Article 13(2) thereof,

Whereas:

- (1) On 20 December 2016, the Commission received an application from the company Pollenergie for the approval of propolis extract as a basic substance for post-harvest treatment in plant protection as fungicide or bactericide on fruits with non-edible peel. That application was accompanied by the information required under the second subparagraph of Article 23(3) of Regulation (EC) No 1107/2009.
- (2) The Commission asked the European Food Safety Authority ('the Authority') for scientific assistance. The Authority provided the Commission with a technical report on propolis extract on 11 October 2018 ⁽²⁾. The Commission presented the review report ⁽³⁾ and the draft of this Regulation on the non-approval of propolis extract to the Standing Committee on Plants, Animals, Food and Feed on 5 December 2019.
- (3) The information provided by the applicant on the propolis extract under evaluation was insufficient to demonstrate clearly that it fulfils the criteria of a foodstuff as defined in Article 2 of Regulation (EC) No 178/2002 of the European Parliament and of the Council ⁽⁴⁾.
- (4) The Authority identified propolis extract as a skin sensitiser (H317 'may cause an allergic skin reaction'). Although no other specific concerns were identified, the information provided was not sufficient to demonstrate the absence of genotoxic potential and of endocrine activity and to conclude an assessment of the risk to consumers. Moreover, the available information on propolis extract did not allow to establish a safe limit for the use of that substance.
- (5) No relevant evaluation, carried out in accordance with other Union legislation as referred to in Article 23(2) of Regulation (EC) No 1107/2009, was available.
- (6) The Commission invited the applicant to submit its comments on the technical report of the Authority and on the Commission's draft review report. The applicant submitted its comments, which have been carefully examined.
- (7) However, despite the arguments put forward by the applicant, the concerns related to the substance cannot be eliminated.
- (8) Consequently, as laid down in the Commission's review report, it has not been established that the requirements laid down in Article 23 of Regulation (EC) No 1107/2009 are satisfied. It is therefore appropriate not to approve propolis extract as a basic substance.

⁽¹⁾ OJ L 309, 24.11.2009, p. 1.

⁽²⁾ EFSA (European Food Safety Authority), 2018. Technical report on the outcome of the consultation with Member States and EFSA on the basic substance application for propolis extract (admissibility accepted when named water-soluble extract of propolis) for use in plant protection as fungicide and bactericide. EFSA supporting publication 2018:EN-1494. 56 pp. doi:10.2903/sp.efsa.2018.EN-1494.

⁽³⁾ <http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=activesubstance.selection&language=EN>.

⁽⁴⁾ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1).

- (9) This Regulation does not prejudice the submission of a further application for the approval of propolis extract as a basic substance in accordance with Article 23(3) of Regulation (EC) No 1107/2009.
- (10) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

HAS ADOPTED THIS REGULATION:

Article 1

The substance propolis extract is not approved as a basic substance.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2020.

For the Commission
The President
Ursula VON DER LEYEN

COMMISSION IMPLEMENTING REGULATION (EU) 2020/641**of 12 May 2020****laying down technical information for the calculation of technical provisions and basic own funds for reporting with reference dates from 31 March 2020 until 29 June 2020 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****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) ⁽¹⁾, and in particular the third subparagraph of Article 77e(2) thereof,

Whereas:

- (1) In order to ensure uniform conditions for the calculation of technical provisions and basic own funds by insurance and reinsurance undertakings for the purposes of Directive 2009/138/EC, technical information on relevant risk-free interest rate term structures, fundamental spreads for the calculation of the matching adjustment and volatility adjustments should be laid down for every reference date.
- (2) Insurance and re-insurance undertakings should use the technical information, which is based on market data related to the end of the last month preceding the first reporting reference date to which this Regulation applies. On 3 April 2020, the European Insurance and Occupational Pensions Authority provided the Commission with the technical information related to end of March 2020 market data. That information was published on 3 April 2020 in accordance with Article 77e(1) of Directive 2009/138/EC.
- (3) Given the need for the immediate availability of the technical information, it is important that this Regulation enters into force as a matter of urgency.
- (4) For prudential reasons it is necessary that insurance and reinsurance undertakings use the same technical information for calculating technical provisions and basic own funds irrespective of the date on which they report to their competent authorities. This Regulation should therefore apply from the first reporting reference date to which this Regulation applies.
- (5) To provide legal certainty as soon as possible, it is duly justified on imperative grounds of urgency related to the availability of the relevant risk-free interest rate term structure that measures provided for in this Regulation be adopted in accordance with Article 8, in conjunction with Article 4, of Regulation (EU) No 182/2011 of the European Parliament and of the Council ⁽²⁾,

HAS ADOPTED THIS REGULATION:

Article 1

1. Insurance and reinsurance undertakings shall use the technical information referred to in paragraph 2 when calculating technical provisions and basic own funds for reporting with reference dates from 31 March 2020 until 29 June 2020.
2. For each relevant currency, the technical information used to calculate the best estimate in accordance with Article 77 of Directive 2009/138/EC, the matching adjustment in accordance with Article 77c of that Directive and the volatility adjustment in accordance with Article 77d of that Directive shall be the following:

- (a) the relevant risk-free rate term structures set out in Annex I;

⁽¹⁾ OJ L 335, 17.12.2009, p. 1.

⁽²⁾ Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

- (b) the fundamental spreads for the calculation of the matching adjustment set out in Annex II;
- (c) for each relevant national insurance market, the volatility adjustments set out in Annex III.

Article 2

This Regulation shall enter into force on the day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 31 March 2020.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2020.

For the Commission
The President
Ursula VON DER LEYEN

ANNEX I

Relevant risk-free interest rate term structures to calculate the best estimate, without any matching adjustment or volatility adjustment

Term to maturity (in years)	Euro	Czech koruna	Danish krone	Forint	Krona	Kuna
1	-0,405 %	0,665 %	-0,415 %	0,740 %	0,062 %	0,141 %
2	-0,415 %	0,605 %	-0,425 %	0,891 %	0,036 %	0,256 %
3	-0,395 %	0,601 %	-0,405 %	1,050 %	0,046 %	0,372 %
4	-0,365 %	0,616 %	-0,375 %	1,226 %	0,066 %	0,486 %
5	-0,325 %	0,630 %	-0,335 %	1,413 %	0,096 %	0,600 %
6	-0,286 %	0,640 %	-0,296 %	1,605 %	0,131 %	0,713 %
7	-0,246 %	0,645 %	-0,256 %	1,795 %	0,169 %	0,826 %
8	-0,206 %	0,648 %	-0,216 %	1,980 %	0,179 %	0,939 %
9	-0,156 %	0,648 %	-0,166 %	2,156 %	0,206 %	1,052 %
10	-0,116 %	0,645 %	-0,126 %	2,322 %	0,291 %	1,161 %
11	-0,074 %	0,642 %	-0,084 %	2,481 %	0,450 %	1,266 %
12	-0,040 %	0,644 %	-0,050 %	2,631 %	0,642 %	1,365 %
13	0,005 %	0,656 %	-0,005 %	2,771 %	0,834 %	1,459 %
14	0,040 %	0,680 %	0,029 %	2,897 %	1,016 %	1,549 %
15	0,056 %	0,719 %	0,046 %	3,011 %	1,184 %	1,633 %
16	0,060 %	0,771 %	0,050 %	3,110 %	1,335 %	1,712 %
17	0,062 %	0,834 %	0,052 %	3,198 %	1,472 %	1,787 %
18	0,070 %	0,903 %	0,060 %	3,275 %	1,595 %	1,858 %
19	0,089 %	0,975 %	0,079 %	3,344 %	1,706 %	1,925 %
20	0,124 %	1,049 %	0,114 %	3,406 %	1,806 %	1,988 %
21	0,175 %	1,123 %	0,165 %	3,462 %	1,898 %	2,048 %
22	0,238 %	1,196 %	0,228 %	3,513 %	1,981 %	2,104 %
23	0,308 %	1,268 %	0,299 %	3,559 %	2,057 %	2,158 %
24	0,384 %	1,339 %	0,375 %	3,601 %	2,127 %	2,208 %
25	0,462 %	1,407 %	0,453 %	3,640 %	2,191 %	2,256 %
26	0,542 %	1,473 %	0,533 %	3,675 %	2,251 %	2,302 %
27	0,622 %	1,537 %	0,613 %	3,708 %	2,306 %	2,345 %
28	0,700 %	1,599 %	0,692 %	3,738 %	2,357 %	2,386 %
29	0,778 %	1,658 %	0,770 %	3,766 %	2,405 %	2,425 %
30	0,854 %	1,714 %	0,846 %	3,792 %	2,450 %	2,462 %
31	0,927 %	1,769 %	0,920 %	3,817 %	2,491 %	2,498 %

Term to maturity (in years)	Euro	Czech koruna	Danish krone	Forint	Krona	Kuna
32	0,999 %	1,821 %	0,991 %	3,839 %	2,530 %	2,532 %
33	1,068 %	1,871 %	1,061 %	3,861 %	2,567 %	2,564 %
34	1,135 %	1,919 %	1,128 %	3,881 %	2,602 %	2,594 %
35	1,199 %	1,965 %	1,192 %	3,900 %	2,634 %	2,624 %
36	1,261 %	2,010 %	1,255 %	3,917 %	2,665 %	2,652 %
37	1,321 %	2,052 %	1,315 %	3,934 %	2,694 %	2,679 %
38	1,379 %	2,092 %	1,372 %	3,950 %	2,722 %	2,704 %
39	1,434 %	2,131 %	1,428 %	3,965 %	2,748 %	2,729 %
40	1,487 %	2,169 %	1,481 %	3,979 %	2,773 %	2,752 %
41	1,538 %	2,205 %	1,532 %	3,992 %	2,797 %	2,775 %
42	1,587 %	2,239 %	1,581 %	4,005 %	2,819 %	2,796 %
43	1,634 %	2,272 %	1,629 %	4,017 %	2,841 %	2,817 %
44	1,680 %	2,304 %	1,674 %	4,029 %	2,862 %	2,837 %
45	1,724 %	2,334 %	1,718 %	4,040 %	2,881 %	2,856 %
46	1,766 %	2,364 %	1,760 %	4,050 %	2,900 %	2,875 %
47	1,806 %	2,392 %	1,801 %	4,060 %	2,918 %	2,892 %
48	1,845 %	2,419 %	1,840 %	4,070 %	2,935 %	2,910 %
49	1,883 %	2,445 %	1,878 %	4,079 %	2,952 %	2,926 %
50	1,919 %	2,470 %	1,914 %	4,088 %	2,968 %	2,942 %
51	1,954 %	2,495 %	1,949 %	4,096 %	2,983 %	2,957 %
52	1,987 %	2,518 %	1,983 %	4,104 %	2,998 %	2,972 %
53	2,020 %	2,541 %	2,015 %	4,112 %	3,012 %	2,986 %
54	2,051 %	2,563 %	2,046 %	4,119 %	3,025 %	3,000 %
55	2,081 %	2,584 %	2,077 %	4,126 %	3,039 %	3,013 %
56	2,111 %	2,604 %	2,106 %	4,133 %	3,051 %	3,026 %
57	2,139 %	2,624 %	2,134 %	4,140 %	3,063 %	3,038 %
58	2,166 %	2,643 %	2,162 %	4,146 %	3,075 %	3,050 %
59	2,193 %	2,661 %	2,188 %	4,153 %	3,087 %	3,062 %
60	2,218 %	2,679 %	2,214 %	4,159 %	3,098 %	3,073 %
61	2,243 %	2,697 %	2,239 %	4,164 %	3,108 %	3,084 %
62	2,267 %	2,713 %	2,263 %	4,170 %	3,119 %	3,095 %
63	2,290 %	2,730 %	2,286 %	4,175 %	3,129 %	3,105 %

Term to maturity (in years)	Euro	Czech koruna	Danish krone	Forint	Krona	Kuna
64	2,313 %	2,745 %	2,309 %	4,180 %	3,138 %	3,115 %
65	2,335 %	2,761 %	2,331 %	4,185 %	3,148 %	3,124 %
66	2,356 %	2,776 %	2,352 %	4,190 %	3,157 %	3,134 %
67	2,376 %	2,790 %	2,373 %	4,195 %	3,166 %	3,143 %
68	2,396 %	2,804 %	2,393 %	4,200 %	3,174 %	3,152 %
69	2,416 %	2,818 %	2,412 %	4,204 %	3,183 %	3,160 %
70	2,435 %	2,831 %	2,431 %	4,208 %	3,191 %	3,169 %
71	2,453 %	2,844 %	2,450 %	4,213 %	3,199 %	3,177 %
72	2,471 %	2,856 %	2,468 %	4,217 %	3,206 %	3,185 %
73	2,488 %	2,868 %	2,485 %	4,221 %	3,214 %	3,192 %
74	2,505 %	2,880 %	2,502 %	4,224 %	3,221 %	3,200 %
75	2,522 %	2,892 %	2,518 %	4,228 %	3,228 %	3,207 %
76	2,538 %	2,903 %	2,535 %	4,232 %	3,235 %	3,214 %
77	2,553 %	2,914 %	2,550 %	4,235 %	3,241 %	3,221 %
78	2,569 %	2,924 %	2,566 %	4,239 %	3,248 %	3,228 %
79	2,584 %	2,935 %	2,580 %	4,242 %	3,254 %	3,234 %
80	2,598 %	2,945 %	2,595 %	4,245 %	3,260 %	3,241 %
81	2,612 %	2,955 %	2,609 %	4,249 %	3,266 %	3,247 %
82	2,626 %	2,965 %	2,623 %	4,252 %	3,272 %	3,253 %
83	2,639 %	2,974 %	2,636 %	4,255 %	3,278 %	3,259 %
84	2,653 %	2,983 %	2,650 %	4,258 %	3,284 %	3,265 %
85	2,665 %	2,992 %	2,662 %	4,261 %	3,289 %	3,271 %
86	2,678 %	3,001 %	2,675 %	4,263 %	3,294 %	3,276 %
87	2,690 %	3,009 %	2,687 %	4,266 %	3,300 %	3,282 %
88	2,702 %	3,018 %	2,699 %	4,269 %	3,305 %	3,287 %
89	2,714 %	3,026 %	2,711 %	4,271 %	3,310 %	3,292 %
90	2,725 %	3,034 %	2,723 %	4,274 %	3,315 %	3,297 %
91	2,737 %	3,042 %	2,734 %	4,276 %	3,319 %	3,302 %
92	2,748 %	3,050 %	2,745 %	4,279 %	3,324 %	3,307 %
93	2,758 %	3,057 %	2,756 %	4,281 %	3,329 %	3,312 %
94	2,769 %	3,064 %	2,766 %	4,284 %	3,333 %	3,316 %
95	2,779 %	3,072 %	2,776 %	4,286 %	3,338 %	3,321 %

Term to maturity (in years)	Euro	Czech koruna	Danish krone	Forint	Krona	Kuna
96	2,789 %	3,079 %	2,787 %	4,288 %	3,342 %	3,325 %
97	2,799 %	3,086 %	2,796 %	4,290 %	3,346 %	3,330 %
98	2,809 %	3,092 %	2,806 %	4,293 %	3,350 %	3,334 %
99	2,818 %	3,099 %	2,816 %	4,295 %	3,354 %	3,338 %
100	2,827 %	3,105 %	2,825 %	4,297 %	3,358 %	3,342 %
101	2,836 %	3,112 %	2,834 %	4,299 %	3,362 %	3,346 %
102	2,845 %	3,118 %	2,843 %	4,301 %	3,366 %	3,350 %
103	2,854 %	3,124 %	2,852 %	4,303 %	3,370 %	3,354 %
104	2,863 %	3,130 %	2,860 %	4,305 %	3,373 %	3,358 %
105	2,871 %	3,136 %	2,869 %	4,306 %	3,377 %	3,362 %
106	2,879 %	3,142 %	2,877 %	4,308 %	3,380 %	3,365 %
107	2,887 %	3,147 %	2,885 %	4,310 %	3,384 %	3,369 %
108	2,895 %	3,153 %	2,893 %	4,312 %	3,387 %	3,372 %
109	2,903 %	3,158 %	2,901 %	4,314 %	3,390 %	3,376 %
110	2,911 %	3,164 %	2,909 %	4,315 %	3,394 %	3,379 %
111	2,918 %	3,169 %	2,916 %	4,317 %	3,397 %	3,383 %
112	2,926 %	3,174 %	2,924 %	4,319 %	3,400 %	3,386 %
113	2,933 %	3,179 %	2,931 %	4,320 %	3,403 %	3,389 %
114	2,940 %	3,184 %	2,938 %	4,322 %	3,406 %	3,392 %
115	2,947 %	3,189 %	2,945 %	4,323 %	3,409 %	3,395 %
116	2,954 %	3,194 %	2,952 %	4,325 %	3,412 %	3,398 %
117	2,961 %	3,199 %	2,959 %	4,326 %	3,415 %	3,401 %
118	2,968 %	3,203 %	2,965 %	4,328 %	3,418 %	3,404 %
119	2,974 %	3,208 %	2,972 %	4,329 %	3,421 %	3,407 %
120	2,981 %	3,213 %	2,978 %	4,331 %	3,423 %	3,410 %
121	2,987 %	3,217 %	2,985 %	4,332 %	3,426 %	3,413 %
122	2,993 %	3,221 %	2,991 %	4,333 %	3,429 %	3,416 %
123	2,999 %	3,226 %	2,997 %	4,335 %	3,431 %	3,418 %
124	3,005 %	3,230 %	3,003 %	4,336 %	3,434 %	3,421 %
125	3,011 %	3,234 %	3,009 %	4,337 %	3,436 %	3,424 %
126	3,017 %	3,238 %	3,015 %	4,339 %	3,439 %	3,426 %
127	3,023 %	3,242 %	3,021 %	4,340 %	3,441 %	3,429 %

Term to maturity (in years)	Euro	Czech koruna	Danish krone	Forint	Krona	Kuna
128	3,028 %	3,246 %	3,027 %	4,341 %	3,444 %	3,431 %
129	3,034 %	3,250 %	3,032 %	4,342 %	3,446 %	3,434 %
130	3,040 %	3,254 %	3,038 %	4,344 %	3,448 %	3,436 %
131	3,045 %	3,258 %	3,043 %	4,345 %	3,451 %	3,439 %
132	3,050 %	3,261 %	3,048 %	4,346 %	3,453 %	3,441 %
133	3,056 %	3,265 %	3,054 %	4,347 %	3,455 %	3,443 %
134	3,061 %	3,269 %	3,059 %	4,348 %	3,457 %	3,446 %
135	3,066 %	3,272 %	3,064 %	4,350 %	3,460 %	3,448 %
136	3,071 %	3,276 %	3,069 %	4,351 %	3,462 %	3,450 %
137	3,076 %	3,279 %	3,074 %	4,352 %	3,464 %	3,452 %
138	3,081 %	3,282 %	3,079 %	4,353 %	3,466 %	3,454 %
139	3,085 %	3,286 %	3,084 %	4,354 %	3,468 %	3,457 %
140	3,090 %	3,289 %	3,088 %	4,355 %	3,470 %	3,459 %
141	3,095 %	3,292 %	3,093 %	4,356 %	3,472 %	3,461 %
142	3,099 %	3,296 %	3,098 %	4,357 %	3,474 %	3,463 %
143	3,104 %	3,299 %	3,102 %	4,358 %	3,476 %	3,465 %
144	3,108 %	3,302 %	3,107 %	4,359 %	3,478 %	3,467 %
145	3,113 %	3,305 %	3,111 %	4,360 %	3,480 %	3,469 %
146	3,117 %	3,308 %	3,115 %	4,361 %	3,481 %	3,471 %
147	3,121 %	3,311 %	3,120 %	4,362 %	3,483 %	3,472 %
148	3,126 %	3,314 %	3,124 %	4,363 %	3,485 %	3,474 %
149	3,130 %	3,317 %	3,128 %	4,364 %	3,487 %	3,476 %
150	3,134 %	3,320 %	3,132 %	4,365 %	3,489 %	3,478 %
Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
1	-0,455 %	0,472 %	3,126 %	0,651 %	1,725 %	0,632 %
2	-0,465 %	0,391 %	3,410 %	0,764 %	1,823 %	0,630 %
3	-0,445 %	0,386 %	3,699 %	0,858 %	1,955 %	0,628 %
4	-0,415 %	0,399 %	3,986 %	0,980 %	2,084 %	0,658 %
5	-0,375 %	0,415 %	4,264 %	1,122 %	2,205 %	0,699 %
6	-0,336 %	0,431 %	4,528 %	1,271 %	2,322 %	0,735 %
7	-0,296 %	0,446 %	4,784 %	1,417 %	2,434 %	0,774 %

Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
8	-0,256 %	0,459 %	5,034 %	1,560 %	2,534 %	0,820 %
9	-0,206 %	0,471 %	5,275 %	1,701 %	2,617 %	0,875 %
10	-0,166 %	0,483 %	5,519 %	1,842 %	2,687 %	0,941 %
11	-0,124 %	0,493 %	5,705 %	1,966 %	2,747 %	1,016 %
12	-0,091 %	0,503 %	5,832 %	2,073 %	2,800 %	1,098 %
13	-0,046 %	0,511 %	5,916 %	2,167 %	2,846 %	1,182 %
14	-0,011 %	0,518 %	5,966 %	2,250 %	2,888 %	1,266 %
15	0,005 %	0,524 %	5,992 %	2,324 %	2,926 %	1,349 %
16	0,009 %	0,528 %	5,998 %	2,391 %	2,960 %	1,430 %
17	0,011 %	0,530 %	5,990 %	2,451 %	2,992 %	1,508 %
18	0,019 %	0,532 %	5,970 %	2,506 %	3,021 %	1,583 %
19	0,038 %	0,532 %	5,943 %	2,557 %	3,048 %	1,655 %
20	0,073 %	0,531 %	5,909 %	2,604 %	3,072 %	1,724 %
21	0,125 %	0,528 %	5,870 %	2,647 %	3,096 %	1,790 %
22	0,188 %	0,525 %	5,829 %	2,687 %	3,118 %	1,852 %
23	0,260 %	0,522 %	5,785 %	2,724 %	3,138 %	1,912 %
24	0,337 %	0,518 %	5,740 %	2,759 %	3,157 %	1,969 %
25	0,417 %	0,513 %	5,694 %	2,792 %	3,175 %	2,024 %
26	0,497 %	0,508 %	5,648 %	2,823 %	3,192 %	2,076 %
27	0,578 %	0,503 %	5,602 %	2,851 %	3,208 %	2,125 %
28	0,658 %	0,499 %	5,557 %	2,879 %	3,224 %	2,172 %
29	0,737 %	0,496 %	5,513 %	2,904 %	3,238 %	2,217 %
30	0,814 %	0,493 %	5,469 %	2,929 %	3,252 %	2,260 %
31	0,889 %	0,491 %	5,427 %	2,952 %	3,265 %	2,300 %
32	0,961 %	0,489 %	5,386 %	2,973 %	3,278 %	2,339 %
33	1,031 %	0,488 %	5,346 %	2,994 %	3,290 %	2,376 %
34	1,099 %	0,485 %	5,307 %	3,014 %	3,301 %	2,412 %
35	1,164 %	0,481 %	5,270 %	3,033 %	3,312 %	2,446 %
36	1,227 %	0,476 %	5,233 %	3,050 %	3,322 %	2,478 %
37	1,288 %	0,469 %	5,198 %	3,068 %	3,332 %	2,509 %
38	1,346 %	0,460 %	5,165 %	3,084 %	3,342 %	2,539 %
39	1,402 %	0,448 %	5,132 %	3,099 %	3,351 %	2,567 %

Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
40	1,456 %	0,433 %	5,101 %	3,114 %	3,360 %	2,595 %
41	1,508 %	0,416 %	5,071 %	3,129 %	3,368 %	2,621 %
42	1,558 %	0,399 %	5,042 %	3,142 %	3,377 %	2,646 %
43	1,606 %	0,382 %	5,014 %	3,155 %	3,384 %	2,670 %
44	1,652 %	0,369 %	4,987 %	3,168 %	3,392 %	2,693 %
45	1,696 %	0,359 %	4,961 %	3,180 %	3,399 %	2,715 %
46	1,739 %	0,353 %	4,935 %	3,192 %	3,406 %	2,737 %
47	1,780 %	0,353 %	4,911 %	3,203 %	3,413 %	2,757 %
48	1,819 %	0,358 %	4,888 %	3,214 %	3,419 %	2,777 %
49	1,857 %	0,368 %	4,866 %	3,224 %	3,426 %	2,796 %
50	1,894 %	0,385 %	4,844 %	3,234 %	3,432 %	2,815 %
51	1,929 %	0,408 %	4,823 %	3,244 %	3,437 %	2,832 %
52	1,963 %	0,435 %	4,803 %	3,253 %	3,443 %	2,849 %
53	1,996 %	0,467 %	4,783 %	3,262 %	3,448 %	2,866 %
54	2,028 %	0,501 %	4,765 %	3,271 %	3,454 %	2,882 %
55	2,059 %	0,538 %	4,747 %	3,279 %	3,459 %	2,897 %
56	2,088 %	0,576 %	4,729 %	3,287 %	3,464 %	2,912 %
57	2,117 %	0,615 %	4,712 %	3,295 %	3,469 %	2,927 %
58	2,145 %	0,655 %	4,696 %	3,303 %	3,473 %	2,940 %
59	2,171 %	0,695 %	4,680 %	3,310 %	3,478 %	2,954 %
60	2,197 %	0,735 %	4,664 %	3,317 %	3,482 %	2,967 %
61	2,222 %	0,776 %	4,649 %	3,324 %	3,486 %	2,980 %
62	2,247 %	0,816 %	4,635 %	3,331 %	3,490 %	2,992 %
63	2,270 %	0,855 %	4,621 %	3,338 %	3,494 %	3,004 %
64	2,293 %	0,895 %	4,607 %	3,344 %	3,498 %	3,015 %
65	2,315 %	0,933 %	4,594 %	3,350 %	3,502 %	3,026 %
66	2,337 %	0,971 %	4,582 %	3,356 %	3,506 %	3,037 %
67	2,358 %	1,009 %	4,569 %	3,362 %	3,509 %	3,048 %
68	2,378 %	1,046 %	4,557 %	3,367 %	3,513 %	3,058 %
69	2,398 %	1,082 %	4,545 %	3,373 %	3,516 %	3,068 %
70	2,417 %	1,117 %	4,534 %	3,378 %	3,519 %	3,078 %
71	2,436 %	1,152 %	4,523 %	3,383 %	3,522 %	3,087 %

Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
72	2,454 %	1,186 %	4,512 %	3,388 %	3,525 %	3,096 %
73	2,471 %	1,219 %	4,502 %	3,393 %	3,529 %	3,105 %
74	2,488 %	1,252 %	4,492 %	3,398 %	3,531 %	3,114 %
75	2,505 %	1,284 %	4,482 %	3,403 %	3,534 %	3,122 %
76	2,521 %	1,315 %	4,472 %	3,407 %	3,537 %	3,130 %
77	2,537 %	1,345 %	4,463 %	3,412 %	3,540 %	3,138 %
78	2,553 %	1,375 %	4,454 %	3,416 %	3,542 %	3,146 %
79	2,568 %	1,404 %	4,445 %	3,420 %	3,545 %	3,154 %
80	2,582 %	1,433 %	4,436 %	3,424 %	3,548 %	3,161 %
81	2,597 %	1,461 %	4,427 %	3,428 %	3,550 %	3,168 %
82	2,611 %	1,488 %	4,419 %	3,432 %	3,552 %	3,175 %
83	2,624 %	1,515 %	4,411 %	3,436 %	3,555 %	3,182 %
84	2,638 %	1,541 %	4,403 %	3,440 %	3,557 %	3,189 %
85	2,651 %	1,566 %	4,396 %	3,443 %	3,559 %	3,196 %
86	2,663 %	1,591 %	4,388 %	3,447 %	3,562 %	3,202 %
87	2,676 %	1,615 %	4,381 %	3,450 %	3,564 %	3,208 %
88	2,688 %	1,639 %	4,373 %	3,454 %	3,566 %	3,214 %
89	2,700 %	1,663 %	4,366 %	3,457 %	3,568 %	3,220 %
90	2,711 %	1,685 %	4,360 %	3,460 %	3,570 %	3,226 %
91	2,723 %	1,708 %	4,353 %	3,463 %	3,572 %	3,232 %
92	2,734 %	1,730 %	4,346 %	3,466 %	3,574 %	3,238 %
93	2,745 %	1,751 %	4,340 %	3,469 %	3,576 %	3,243 %
94	2,755 %	1,772 %	4,334 %	3,472 %	3,577 %	3,248 %
95	2,766 %	1,793 %	4,327 %	3,475 %	3,579 %	3,254 %
96	2,776 %	1,813 %	4,321 %	3,478 %	3,581 %	3,259 %
97	2,786 %	1,833 %	4,315 %	3,481 %	3,583 %	3,264 %
98	2,796 %	1,852 %	4,310 %	3,484 %	3,584 %	3,269 %
99	2,805 %	1,871 %	4,304 %	3,486 %	3,586 %	3,274 %
100	2,815 %	1,889 %	4,298 %	3,489 %	3,588 %	3,278 %
101	2,824 %	1,908 %	4,293 %	3,492 %	3,589 %	3,283 %
102	2,833 %	1,926 %	4,288 %	3,494 %	3,591 %	3,288 %
103	2,842 %	1,943 %	4,282 %	3,497 %	3,592 %	3,292 %

Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
104	2,851 %	1,960 %	4,277 %	3,499 %	3,594 %	3,297 %
105	2,859 %	1,977 %	4,272 %	3,501 %	3,595 %	3,301 %
106	2,868 %	1,994 %	4,267 %	3,504 %	3,597 %	3,305 %
107	2,876 %	2,010 %	4,262 %	3,506 %	3,598 %	3,309 %
108	2,884 %	2,026 %	4,258 %	3,508 %	3,600 %	3,313 %
109	2,892 %	2,042 %	4,253 %	3,510 %	3,601 %	3,317 %
110	2,900 %	2,057 %	4,248 %	3,513 %	3,602 %	3,321 %
111	2,907 %	2,072 %	4,244 %	3,515 %	3,604 %	3,325 %
112	2,915 %	2,087 %	4,240 %	3,517 %	3,605 %	3,329 %
113	2,922 %	2,102 %	4,235 %	3,519 %	3,606 %	3,333 %
114	2,929 %	2,116 %	4,231 %	3,521 %	3,608 %	3,336 %
115	2,936 %	2,130 %	4,227 %	3,523 %	3,609 %	3,340 %
116	2,943 %	2,144 %	4,223 %	3,525 %	3,610 %	3,343 %
117	2,950 %	2,158 %	4,219 %	3,527 %	3,611 %	3,347 %
118	2,957 %	2,171 %	4,215 %	3,529 %	3,612 %	3,350 %
119	2,964 %	2,184 %	4,211 %	3,531 %	3,614 %	3,354 %
120	2,970 %	2,197 %	4,207 %	3,532 %	3,615 %	3,357 %
121	2,977 %	2,210 %	4,203 %	3,534 %	3,616 %	3,360 %
122	2,983 %	2,222 %	4,199 %	3,536 %	3,617 %	3,363 %
123	2,989 %	2,235 %	4,196 %	3,538 %	3,618 %	3,366 %
124	2,995 %	2,247 %	4,192 %	3,539 %	3,619 %	3,370 %
125	3,001 %	2,259 %	4,189 %	3,541 %	3,620 %	3,373 %
126	3,007 %	2,270 %	4,185 %	3,543 %	3,621 %	3,376 %
127	3,013 %	2,282 %	4,182 %	3,544 %	3,622 %	3,379 %
128	3,019 %	2,293 %	4,178 %	3,546 %	3,623 %	3,381 %
129	3,024 %	2,305 %	4,175 %	3,548 %	3,624 %	3,384 %
130	3,030 %	2,316 %	4,172 %	3,549 %	3,625 %	3,387 %
131	3,035 %	2,327 %	4,168 %	3,551 %	3,626 %	3,390 %
132	3,041 %	2,337 %	4,165 %	3,552 %	3,627 %	3,393 %
133	3,046 %	2,348 %	4,162 %	3,554 %	3,628 %	3,395 %
134	3,051 %	2,358 %	4,159 %	3,555 %	3,629 %	3,398 %
135	3,056 %	2,368 %	4,156 %	3,557 %	3,630 %	3,400 %

Term to maturity (in years)	Lev	Pound sterling	Romanian leu	Zloty	Króna	Norwegian krone
136	3,062 %	2,378 %	4,153 %	3,558 %	3,631 %	3,403 %
137	3,067 %	2,388 %	4,150 %	3,559 %	3,632 %	3,406 %
138	3,072 %	2,398 %	4,147 %	3,561 %	3,632 %	3,408 %
139	3,076 %	2,408 %	4,144 %	3,562 %	3,633 %	3,411 %
140	3,081 %	2,417 %	4,141 %	3,563 %	3,634 %	3,413 %
141	3,086 %	2,427 %	4,139 %	3,565 %	3,635 %	3,415 %
142	3,091 %	2,436 %	4,136 %	3,566 %	3,636 %	3,418 %
143	3,095 %	2,445 %	4,133 %	3,567 %	3,636 %	3,420 %
144	3,100 %	2,454 %	4,131 %	3,569 %	3,637 %	3,422 %
145	3,104 %	2,463 %	4,128 %	3,570 %	3,638 %	3,425 %
146	3,109 %	2,472 %	4,125 %	3,571 %	3,639 %	3,427 %
147	3,113 %	2,480 %	4,123 %	3,572 %	3,640 %	3,429 %
148	3,117 %	2,489 %	4,120 %	3,574 %	3,640 %	3,431 %
149	3,121 %	2,497 %	4,118 %	3,575 %	3,641 %	3,433 %
150	3,126 %	2,506 %	4,115 %	3,576 %	3,642 %	3,435 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
1	-0,705 %	0,270 %	0,519 %	0,524 %	0,546 %	4,014 %
2	-0,745 %	0,254 %	0,610 %	0,585 %	0,897 %	4,713 %
3	-0,706 %	0,273 %	0,688 %	0,660 %	1,318 %	5,297 %
4	-0,631 %	0,325 %	0,768 %	0,748 %	1,730 %	5,759 %
5	-0,544 %	0,398 %	0,855 %	0,793 %	2,119 %	6,179 %
6	-0,454 %	0,475 %	0,945 %	0,838 %	2,465 %	6,505 %
7	-0,373 %	0,549 %	1,037 %	0,885 %	2,770 %	6,774 %
8	-0,311 %	0,618 %	1,129 %	0,923 %	3,040 %	6,997 %
9	-0,269 %	0,681 %	1,216 %	0,953 %	3,274 %	7,179 %
10	-0,250 %	0,737 %	1,299 %	0,973 %	3,468 %	7,352 %
11	-0,251 %	0,786 %	1,376 %	0,983 %	3,624 %	7,474 %
12	-0,264 %	0,822 %	1,443 %	0,989 %	3,750 %	7,545 %
13	-0,281 %	0,844 %	1,499 %	0,993 %	3,853 %	7,578 %
14	-0,299 %	0,855 %	1,548 %	0,997 %	3,938 %	7,584 %
15	-0,315 %	0,861 %	1,597 %	1,002 %	4,009 %	7,568 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
16	-0,326 %	0,863 %	1,649 %	1,010 %	4,069 %	7,537 %
17	-0,333 %	0,863 %	1,704 %	1,020 %	4,119 %	7,494 %
18	-0,333 %	0,863 %	1,760 %	1,032 %	4,162 %	7,443 %
19	-0,328 %	0,863 %	1,816 %	1,047 %	4,199 %	7,385 %
20	-0,317 %	0,862 %	1,871 %	1,065 %	4,231 %	7,324 %
21	-0,299 %	0,862 %	1,925 %	1,085 %	4,258 %	7,259 %
22	-0,275 %	0,858 %	1,978 %	1,107 %	4,282 %	7,193 %
23	-0,246 %	0,848 %	2,029 %	1,132 %	4,303 %	7,127 %
24	-0,210 %	0,830 %	2,078 %	1,159 %	4,321 %	7,060 %
25	-0,168 %	0,803 %	2,126 %	1,188 %	4,337 %	6,994 %
26	-0,120 %	0,767 %	2,172 %	1,219 %	4,351 %	6,929 %
27	-0,067 %	0,730 %	2,216 %	1,252 %	4,363 %	6,866 %
28	-0,012 %	0,699 %	2,259 %	1,287 %	4,374 %	6,804 %
29	0,045 %	0,678 %	2,299 %	1,324 %	4,384 %	6,744 %
30	0,103 %	0,672 %	2,338 %	1,364 %	4,393 %	6,685 %
31	0,161 %	0,680 %	2,376 %	1,405 %	4,400 %	6,628 %
32	0,218 %	0,701 %	2,412 %	1,448 %	4,407 %	6,574 %
33	0,275 %	0,732 %	2,446 %	1,491 %	4,413 %	6,521 %
34	0,330 %	0,769 %	2,479 %	1,535 %	4,419 %	6,470 %
35	0,385 %	0,811 %	2,511 %	1,579 %	4,424 %	6,421 %
36	0,438 %	0,856 %	2,541 %	1,623 %	4,428 %	6,374 %
37	0,490 %	0,904 %	2,570 %	1,666 %	4,432 %	6,329 %
38	0,540 %	0,953 %	2,598 %	1,708 %	4,436 %	6,285 %
39	0,589 %	1,003 %	2,625 %	1,749 %	4,440 %	6,243 %
40	0,636 %	1,053 %	2,651 %	1,790 %	4,443 %	6,203 %
41	0,681 %	1,103 %	2,675 %	1,829 %	4,445 %	6,164 %
42	0,725 %	1,153 %	2,699 %	1,868 %	4,448 %	6,127 %
43	0,768 %	1,202 %	2,722 %	1,905 %	4,450 %	6,091 %
44	0,809 %	1,250 %	2,744 %	1,942 %	4,452 %	6,057 %
45	0,849 %	1,297 %	2,765 %	1,977 %	4,454 %	6,024 %
46	0,887 %	1,343 %	2,785 %	2,012 %	4,456 %	5,992 %
47	0,924 %	1,388 %	2,804 %	2,045 %	4,458 %	5,961 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
48	0,960 %	1,432 %	2,823 %	2,077 %	4,459 %	5,931 %
49	0,995 %	1,475 %	2,841 %	2,109 %	4,461 %	5,903 %
50	1,028 %	1,516 %	2,859 %	2,139 %	4,462 %	5,875 %
51	1,060 %	1,557 %	2,876 %	2,168 %	4,463 %	5,849 %
52	1,092 %	1,596 %	2,892 %	2,197 %	4,464 %	5,824 %
53	1,122 %	1,634 %	2,908 %	2,225 %	4,465 %	5,799 %
54	1,151 %	1,671 %	2,923 %	2,251 %	4,466 %	5,775 %
55	1,179 %	1,707 %	2,937 %	2,277 %	4,467 %	5,752 %
56	1,206 %	1,742 %	2,952 %	2,302 %	4,468 %	5,730 %
57	1,233 %	1,775 %	2,965 %	2,327 %	4,469 %	5,709 %
58	1,258 %	1,808 %	2,979 %	2,350 %	4,470 %	5,688 %
59	1,283 %	1,840 %	2,991 %	2,373 %	4,470 %	5,668 %
60	1,307 %	1,871 %	3,004 %	2,395 %	4,471 %	5,649 %
61	1,330 %	1,901 %	3,016 %	2,417 %	4,472 %	5,630 %
62	1,352 %	1,930 %	3,027 %	2,438 %	4,472 %	5,612 %
63	1,374 %	1,958 %	3,039 %	2,458 %	4,473 %	5,594 %
64	1,395 %	1,985 %	3,050 %	2,478 %	4,473 %	5,577 %
65	1,416 %	2,012 %	3,060 %	2,497 %	4,474 %	5,560 %
66	1,436 %	2,038 %	3,071 %	2,516 %	4,474 %	5,544 %
67	1,455 %	2,063 %	3,081 %	2,534 %	4,475 %	5,529 %
68	1,474 %	2,087 %	3,090 %	2,551 %	4,475 %	5,514 %
69	1,492 %	2,111 %	3,100 %	2,568 %	4,476 %	5,499 %
70	1,510 %	2,134 %	3,109 %	2,585 %	4,476 %	5,485 %
71	1,527 %	2,156 %	3,118 %	2,601 %	4,477 %	5,471 %
72	1,544 %	2,178 %	3,127 %	2,617 %	4,477 %	5,457 %
73	1,561 %	2,200 %	3,135 %	2,632 %	4,477 %	5,444 %
74	1,576 %	2,220 %	3,144 %	2,647 %	4,478 %	5,431 %
75	1,592 %	2,240 %	3,152 %	2,662 %	4,478 %	5,419 %
76	1,607 %	2,260 %	3,159 %	2,676 %	4,478 %	5,407 %
77	1,622 %	2,279 %	3,167 %	2,690 %	4,479 %	5,395 %
78	1,636 %	2,298 %	3,174 %	2,703 %	4,479 %	5,383 %
79	1,650 %	2,316 %	3,182 %	2,716 %	4,479 %	5,372 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
80	1,664 %	2,334 %	3,189 %	2,729 %	4,480 %	5,361 %
81	1,677 %	2,351 %	3,196 %	2,742 %	4,480 %	5,351 %
82	1,690 %	2,368 %	3,202 %	2,754 %	4,480 %	5,340 %
83	1,703 %	2,385 %	3,209 %	2,766 %	4,480 %	5,330 %
84	1,715 %	2,401 %	3,215 %	2,778 %	4,481 %	5,320 %
85	1,727 %	2,417 %	3,222 %	2,789 %	4,481 %	5,310 %
86	1,739 %	2,432 %	3,228 %	2,800 %	4,481 %	5,301 %
87	1,751 %	2,447 %	3,234 %	2,811 %	4,481 %	5,292 %
88	1,762 %	2,462 %	3,240 %	2,821 %	4,481 %	5,283 %
89	1,773 %	2,476 %	3,245 %	2,832 %	4,482 %	5,274 %
90	1,784 %	2,490 %	3,251 %	2,842 %	4,482 %	5,265 %
91	1,794 %	2,504 %	3,256 %	2,852 %	4,482 %	5,257 %
92	1,805 %	2,517 %	3,262 %	2,862 %	4,482 %	5,249 %
93	1,815 %	2,531 %	3,267 %	2,871 %	4,483 %	5,240 %
94	1,825 %	2,543 %	3,272 %	2,880 %	4,483 %	5,233 %
95	1,834 %	2,556 %	3,277 %	2,890 %	4,483 %	5,225 %
96	1,844 %	2,568 %	3,282 %	2,898 %	4,483 %	5,217 %
97	1,853 %	2,581 %	3,287 %	2,907 %	4,483 %	5,210 %
98	1,862 %	2,592 %	3,292 %	2,916 %	4,483 %	5,203 %
99	1,871 %	2,604 %	3,296 %	2,924 %	4,484 %	5,195 %
100	1,880 %	2,615 %	3,301 %	2,932 %	4,484 %	5,188 %
101	1,889 %	2,627 %	3,305 %	2,940 %	4,484 %	5,182 %
102	1,897 %	2,638 %	3,309 %	2,948 %	4,484 %	5,175 %
103	1,905 %	2,648 %	3,314 %	2,956 %	4,484 %	5,168 %
104	1,913 %	2,659 %	3,318 %	2,964 %	4,484 %	5,162 %
105	1,921 %	2,669 %	3,322 %	2,971 %	4,485 %	5,156 %
106	1,929 %	2,679 %	3,326 %	2,978 %	4,485 %	5,149 %
107	1,937 %	2,689 %	3,330 %	2,986 %	4,485 %	5,143 %
108	1,944 %	2,699 %	3,334 %	2,993 %	4,485 %	5,137 %
109	1,952 %	2,709 %	3,338 %	3,000 %	4,485 %	5,131 %
110	1,959 %	2,718 %	3,341 %	3,006 %	4,485 %	5,126 %
111	1,966 %	2,727 %	3,345 %	3,013 %	4,485 %	5,120 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
112	1,973 %	2,736 %	3,349 %	3,020 %	4,486 %	5,114 %
113	1,980 %	2,745 %	3,352 %	3,026 %	4,486 %	5,109 %
114	1,986 %	2,754 %	3,356 %	3,032 %	4,486 %	5,104 %
115	1,993 %	2,763 %	3,359 %	3,039 %	4,486 %	5,098 %
116	2,000 %	2,771 %	3,363 %	3,045 %	4,486 %	5,093 %
117	2,006 %	2,779 %	3,366 %	3,051 %	4,486 %	5,088 %
118	2,012 %	2,788 %	3,369 %	3,057 %	4,486 %	5,083 %
119	2,018 %	2,796 %	3,372 %	3,062 %	4,486 %	5,078 %
120	2,025 %	2,804 %	3,375 %	3,068 %	4,487 %	5,073 %
121	2,031 %	2,811 %	3,378 %	3,074 %	4,487 %	5,069 %
122	2,036 %	2,819 %	3,382 %	3,079 %	4,487 %	5,064 %
123	2,042 %	2,827 %	3,385 %	3,085 %	4,487 %	5,059 %
124	2,048 %	2,834 %	3,387 %	3,090 %	4,487 %	5,055 %
125	2,053 %	2,841 %	3,390 %	3,095 %	4,487 %	5,050 %
126	2,059 %	2,848 %	3,393 %	3,101 %	4,487 %	5,046 %
127	2,064 %	2,856 %	3,396 %	3,106 %	4,487 %	5,042 %
128	2,070 %	2,863 %	3,399 %	3,111 %	4,487 %	5,037 %
129	2,075 %	2,869 %	3,401 %	3,116 %	4,487 %	5,033 %
130	2,080 %	2,876 %	3,404 %	3,120 %	4,488 %	5,029 %
131	2,085 %	2,883 %	3,407 %	3,125 %	4,488 %	5,025 %
132	2,090 %	2,889 %	3,409 %	3,130 %	4,488 %	5,021 %
133	2,095 %	2,896 %	3,412 %	3,135 %	4,488 %	5,017 %
134	2,100 %	2,902 %	3,414 %	3,139 %	4,488 %	5,013 %
135	2,105 %	2,908 %	3,417 %	3,144 %	4,488 %	5,010 %
136	2,110 %	2,915 %	3,419 %	3,148 %	4,488 %	5,006 %
137	2,114 %	2,921 %	3,422 %	3,153 %	4,488 %	5,002 %
138	2,119 %	2,927 %	3,424 %	3,157 %	4,488 %	4,998 %
139	2,123 %	2,932 %	3,427 %	3,161 %	4,488 %	4,995 %
140	2,128 %	2,938 %	3,429 %	3,165 %	4,488 %	4,991 %
141	2,132 %	2,944 %	3,431 %	3,169 %	4,489 %	4,988 %
142	2,137 %	2,950 %	3,433 %	3,173 %	4,489 %	4,984 %
143	2,141 %	2,955 %	3,436 %	3,178 %	4,489 %	4,981 %

Term to maturity (in years)	Swiss franc	Australian dollar	Baht	Canadian dollar	Chilean peso	Colombian peso
144	2,145 %	2,961 %	3,438 %	3,181 %	4,489 %	4,978 %
145	2,149 %	2,966 %	3,440 %	3,185 %	4,489 %	4,974 %
146	2,153 %	2,972 %	3,442 %	3,189 %	4,489 %	4,971 %
147	2,157 %	2,977 %	3,444 %	3,193 %	4,489 %	4,968 %
148	2,161 %	2,982 %	3,446 %	3,197 %	4,489 %	4,965 %
149	2,165 %	2,987 %	3,448 %	3,201 %	4,489 %	4,962 %
150	2,169 %	2,992 %	3,450 %	3,204 %	4,489 %	4,958 %
Term to maturity (in years)	Hong Kong dollar	Indian rupee	Mexican peso	New Taiwan dollar	New Zealand dollar	Rand
1	0,883 %	4,505 %	5,589 %	0,213 %	0,343 %	4,722 %
2	0,711 %	4,794 %	5,535 %	0,213 %	0,363 %	5,000 %
3	0,711 %	5,115 %	5,665 %	0,218 %	0,380 %	5,449 %
4	0,723 %	5,456 %	5,964 %	0,230 %	0,411 %	6,041 %
5	0,737 %	5,767 %	6,258 %	0,245 %	0,456 %	6,676 %
6	0,761 %	6,034 %	6,493 %	0,264 %	0,481 %	7,304 %
7	0,786 %	6,228 %	6,677 %	0,286 %	0,581 %	7,890 %
8	0,803 %	6,368 %	6,822 %	0,310 %	0,612 %	8,415 %
9	0,809 %	6,469 %	6,944 %	0,336 %	0,669 %	8,864 %
10	0,803 %	6,537 %	7,054 %	0,362 %	0,770 %	9,223 %
11	0,787 %	6,580 %	7,158 %	0,413 %	0,882 %	9,483 %
12	0,771 %	6,605 %	7,257 %	0,485 %	0,997 %	9,664 %
13	0,764 %	6,617 %	7,347 %	0,569 %	1,111 %	9,781 %
14	0,770 %	6,619 %	7,427 %	0,659 %	1,222 %	9,850 %
15	0,793 %	6,614 %	7,497 %	0,752 %	1,328 %	9,878 %
16	0,834 %	6,604 %	7,554 %	0,846 %	1,430 %	9,874 %
17	0,887 %	6,590 %	7,600 %	0,939 %	1,526 %	9,845 %
18	0,948 %	6,574 %	7,631 %	1,029 %	1,617 %	9,797 %
19	1,014 %	6,555 %	7,649 %	1,117 %	1,702 %	9,734 %
20	1,083 %	6,534 %	7,651 %	1,202 %	1,781 %	9,660 %
21	1,153 %	6,513 %	7,638 %	1,283 %	1,855 %	9,579 %
22	1,223 %	6,491 %	7,612 %	1,362 %	1,924 %	9,491 %
23	1,292 %	6,469 %	7,576 %	1,437 %	1,988 %	9,401 %

Term to maturity (in years)	Hong Kong dollar	Indian rupee	Mexican peso	New Taiwan dollar	New Zealand dollar	Rand
24	1,360 %	6,447 %	7,534 %	1,508 %	2,048 %	9,308 %
25	1,427 %	6,425 %	7,486 %	1,577 %	2,105 %	9,214 %
26	1,491 %	6,403 %	7,434 %	1,642 %	2,158 %	9,120 %
27	1,554 %	6,382 %	7,379 %	1,704 %	2,208 %	9,028 %
28	1,614 %	6,361 %	7,323 %	1,764 %	2,256 %	8,937 %
29	1,672 %	6,340 %	7,266 %	1,820 %	2,300 %	8,848 %
30	1,728 %	6,320 %	7,208 %	1,874 %	2,342 %	8,761 %
31	1,782 %	6,300 %	7,151 %	1,926 %	2,383 %	8,676 %
32	1,833 %	6,282 %	7,095 %	1,975 %	2,421 %	8,594 %
33	1,883 %	6,263 %	7,040 %	2,022 %	2,457 %	8,515 %
34	1,930 %	6,245 %	6,986 %	2,067 %	2,491 %	8,438 %
35	1,976 %	6,228 %	6,933 %	2,110 %	2,524 %	8,365 %
36	2,020 %	6,212 %	6,882 %	2,151 %	2,555 %	8,294 %
37	2,062 %	6,195 %	6,832 %	2,190 %	2,584 %	8,225 %
38	2,102 %	6,180 %	6,784 %	2,228 %	2,613 %	8,159 %
39	2,140 %	6,165 %	6,737 %	2,264 %	2,640 %	8,096 %
40	2,177 %	6,150 %	6,692 %	2,298 %	2,666 %	8,036 %
41	2,213 %	6,136 %	6,649 %	2,332 %	2,691 %	7,977 %
42	2,247 %	6,123 %	6,607 %	2,363 %	2,714 %	7,921 %
43	2,280 %	6,110 %	6,566 %	2,394 %	2,737 %	7,867 %
44	2,312 %	6,097 %	6,527 %	2,423 %	2,759 %	7,815 %
45	2,342 %	6,085 %	6,490 %	2,451 %	2,780 %	7,765 %
46	2,371 %	6,073 %	6,453 %	2,478 %	2,800 %	7,717 %
47	2,399 %	6,062 %	6,418 %	2,504 %	2,819 %	7,671 %
48	2,426 %	6,051 %	6,385 %	2,529 %	2,838 %	7,627 %
49	2,452 %	6,041 %	6,352 %	2,553 %	2,856 %	7,584 %
50	2,477 %	6,030 %	6,321 %	2,576 %	2,873 %	7,543 %
51	2,501 %	6,020 %	6,291 %	2,598 %	2,890 %	7,504 %
52	2,525 %	6,011 %	6,262 %	2,620 %	2,906 %	7,465 %
53	2,547 %	6,002 %	6,233 %	2,641 %	2,921 %	7,428 %
54	2,569 %	5,993 %	6,206 %	2,661 %	2,936 %	7,393 %
55	2,590 %	5,984 %	6,180 %	2,680 %	2,951 %	7,359 %

Term to maturity (in years)	Hong Kong dollar	Indian rupee	Mexican peso	New Taiwan dollar	New Zealand dollar	Rand
56	2,610 %	5,976 %	6,155 %	2,699 %	2,965 %	7,326 %
57	2,630 %	5,968 %	6,130 %	2,717 %	2,978 %	7,294 %
58	2,649 %	5,960 %	6,106 %	2,734 %	2,991 %	7,263 %
59	2,667 %	5,952 %	6,084 %	2,751 %	3,004 %	7,233 %
60	2,685 %	5,945 %	6,061 %	2,768 %	3,016 %	7,204 %
61	2,702 %	5,938 %	6,040 %	2,784 %	3,028 %	7,176 %
62	2,719 %	5,931 %	6,019 %	2,799 %	3,039 %	7,149 %
63	2,735 %	5,924 %	5,999 %	2,814 %	3,050 %	7,122 %
64	2,751 %	5,918 %	5,979 %	2,828 %	3,061 %	7,097 %
65	2,766 %	5,911 %	5,961 %	2,842 %	3,072 %	7,072 %
66	2,781 %	5,905 %	5,942 %	2,856 %	3,082 %	7,048 %
67	2,795 %	5,899 %	5,924 %	2,869 %	3,092 %	7,025 %
68	2,809 %	5,893 %	5,907 %	2,882 %	3,101 %	7,003 %
69	2,823 %	5,888 %	5,890 %	2,894 %	3,111 %	6,981 %
70	2,836 %	5,882 %	5,874 %	2,907 %	3,120 %	6,960 %
71	2,848 %	5,877 %	5,858 %	2,918 %	3,128 %	6,939 %
72	2,861 %	5,872 %	5,843 %	2,930 %	3,137 %	6,919 %
73	2,873 %	5,867 %	5,827 %	2,941 %	3,145 %	6,899 %
74	2,885 %	5,862 %	5,813 %	2,952 %	3,153 %	6,880 %
75	2,896 %	5,857 %	5,799 %	2,962 %	3,161 %	6,862 %
76	2,907 %	5,852 %	5,785 %	2,973 %	3,169 %	6,844 %
77	2,918 %	5,848 %	5,771 %	2,983 %	3,177 %	6,826 %
78	2,929 %	5,843 %	5,758 %	2,992 %	3,184 %	6,809 %
79	2,939 %	5,839 %	5,745 %	3,002 %	3,191 %	6,792 %
80	2,949 %	5,835 %	5,733 %	3,011 %	3,198 %	6,776 %
81	2,959 %	5,830 %	5,721 %	3,020 %	3,205 %	6,760 %
82	2,969 %	5,826 %	5,709 %	3,029 %	3,211 %	6,745 %
83	2,978 %	5,823 %	5,697 %	3,038 %	3,218 %	6,730 %
84	2,987 %	5,819 %	5,686 %	3,046 %	3,224 %	6,715 %
85	2,996 %	5,815 %	5,675 %	3,055 %	3,230 %	6,701 %
86	3,005 %	5,811 %	5,664 %	3,063 %	3,236 %	6,687 %
87	3,013 %	5,808 %	5,653 %	3,070 %	3,242 %	6,673 %

Term to maturity (in years)	Hong Kong dollar	Indian rupee	Mexican peso	New Taiwan dollar	New Zealand dollar	Rand
88	3,022 %	5,804 %	5,643 %	3,078 %	3,248 %	6,660 %
89	3,030 %	5,801 %	5,633 %	3,086 %	3,253 %	6,646 %
90	3,038 %	5,797 %	5,623 %	3,093 %	3,259 %	6,634 %
91	3,046 %	5,794 %	5,614 %	3,100 %	3,264 %	6,621 %
92	3,053 %	5,791 %	5,604 %	3,107 %	3,270 %	6,609 %
93	3,061 %	5,788 %	5,595 %	3,114 %	3,275 %	6,597 %
94	3,068 %	5,785 %	5,586 %	3,121 %	3,280 %	6,585 %
95	3,075 %	5,782 %	5,577 %	3,128 %	3,285 %	6,574 %
96	3,082 %	5,779 %	5,568 %	3,134 %	3,290 %	6,562 %
97	3,089 %	5,776 %	5,560 %	3,140 %	3,294 %	6,551 %
98	3,096 %	5,773 %	5,552 %	3,147 %	3,299 %	6,541 %
99	3,102 %	5,770 %	5,544 %	3,153 %	3,303 %	6,530 %
100	3,109 %	5,768 %	5,536 %	3,159 %	3,308 %	6,520 %
101	3,115 %	5,765 %	5,528 %	3,164 %	3,312 %	6,510 %
102	3,121 %	5,762 %	5,520 %	3,170 %	3,317 %	6,500 %
103	3,127 %	5,760 %	5,513 %	3,176 %	3,321 %	6,490 %
104	3,133 %	5,757 %	5,505 %	3,181 %	3,325 %	6,480 %
105	3,139 %	5,755 %	5,498 %	3,187 %	3,329 %	6,471 %
106	3,145 %	5,753 %	5,491 %	3,192 %	3,333 %	6,462 %
107	3,151 %	5,750 %	5,484 %	3,197 %	3,337 %	6,453 %
108	3,156 %	5,748 %	5,477 %	3,202 %	3,341 %	6,444 %
109	3,162 %	5,746 %	5,471 %	3,207 %	3,344 %	6,435 %
110	3,167 %	5,743 %	5,464 %	3,212 %	3,348 %	6,427 %
111	3,172 %	5,741 %	5,457 %	3,217 %	3,352 %	6,418 %
112	3,177 %	5,739 %	5,451 %	3,222 %	3,355 %	6,410 %
113	3,182 %	5,737 %	5,445 %	3,226 %	3,359 %	6,402 %
114	3,187 %	5,735 %	5,439 %	3,231 %	3,362 %	6,394 %
115	3,192 %	5,733 %	5,433 %	3,235 %	3,365 %	6,386 %
116	3,197 %	5,731 %	5,427 %	3,240 %	3,369 %	6,379 %
117	3,202 %	5,729 %	5,421 %	3,244 %	3,372 %	6,371 %
118	3,206 %	5,727 %	5,415 %	3,249 %	3,375 %	6,364 %
119	3,211 %	5,725 %	5,410 %	3,253 %	3,378 %	6,356 %

Term to maturity (in years)	Hong Kong dollar	Indian rupee	Mexican peso	New Taiwan dollar	New Zealand dollar	Rand
120	3,215 %	5,723 %	5,404 %	3,257 %	3,381 %	6,349 %
121	3,220 %	5,721 %	5,399 %	3,261 %	3,384 %	6,342 %
122	3,224 %	5,719 %	5,393 %	3,265 %	3,387 %	6,335 %
123	3,228 %	5,718 %	5,388 %	3,269 %	3,390 %	6,328 %
124	3,233 %	5,716 %	5,383 %	3,273 %	3,393 %	6,322 %
125	3,237 %	5,714 %	5,378 %	3,277 %	3,396 %	6,315 %
126	3,241 %	5,712 %	5,373 %	3,280 %	3,399 %	6,309 %
127	3,245 %	5,711 %	5,368 %	3,284 %	3,402 %	6,302 %
128	3,249 %	5,709 %	5,363 %	3,288 %	3,404 %	6,296 %
129	3,253 %	5,707 %	5,358 %	3,291 %	3,407 %	6,290 %
130	3,256 %	5,706 %	5,354 %	3,295 %	3,410 %	6,284 %
131	3,260 %	5,704 %	5,349 %	3,298 %	3,412 %	6,278 %
132	3,264 %	5,703 %	5,345 %	3,302 %	3,415 %	6,272 %
133	3,268 %	5,701 %	5,340 %	3,305 %	3,417 %	6,266 %
134	3,271 %	5,700 %	5,336 %	3,308 %	3,420 %	6,260 %
135	3,275 %	5,698 %	5,331 %	3,312 %	3,422 %	6,254 %
136	3,278 %	5,697 %	5,327 %	3,315 %	3,425 %	6,249 %
137	3,282 %	5,695 %	5,323 %	3,318 %	3,427 %	6,243 %
138	3,285 %	5,694 %	5,319 %	3,321 %	3,429 %	6,238 %
139	3,288 %	5,693 %	5,315 %	3,324 %	3,432 %	6,233 %
140	3,292 %	5,691 %	5,311 %	3,327 %	3,434 %	6,227 %
141	3,295 %	5,690 %	5,307 %	3,330 %	3,436 %	6,222 %
142	3,298 %	5,688 %	5,303 %	3,333 %	3,438 %	6,217 %
143	3,301 %	5,687 %	5,299 %	3,336 %	3,441 %	6,212 %
144	3,304 %	5,686 %	5,295 %	3,339 %	3,443 %	6,207 %
145	3,307 %	5,685 %	5,291 %	3,342 %	3,445 %	6,202 %
146	3,310 %	5,683 %	5,287 %	3,345 %	3,447 %	6,197 %
147	3,313 %	5,682 %	5,284 %	3,347 %	3,449 %	6,193 %
148	3,316 %	5,681 %	5,280 %	3,350 %	3,451 %	6,188 %
149	3,319 %	5,680 %	5,277 %	3,353 %	3,453 %	6,183 %
150	3,322 %	5,678 %	5,273 %	3,355 %	3,455 %	6,179 %

Term to maturity (in years)	Real	Renminbi-yuan	Ringgit	Russian rouble	Singapore dollar	South Korean won
1	3,067 %	1,559 %	2,196 %	5,638 %	0,340 %	0,682 %
2	4,144 %	1,631 %	2,359 %	5,946 %	0,486 %	0,707 %
3	5,176 %	1,761 %	2,545 %	6,108 %	0,615 %	0,732 %
4	5,965 %	1,887 %	2,691 %	6,187 %	0,705 %	0,763 %
5	6,586 %	1,983 %	2,819 %	6,252 %	0,774 %	0,773 %
6	7,035 %	2,048 %	2,929 %	6,294 %	0,832 %	0,767 %
7	7,375 %	2,099 %	3,028 %	6,326 %	0,879 %	0,773 %
8	7,636 %	2,146 %	3,126 %	6,361 %	0,914 %	0,800 %
9	7,834 %	2,196 %	3,219 %	6,400 %	0,937 %	0,820 %
10	8,001 %	2,250 %	3,312 %	6,450 %	0,948 %	0,814 %
11	8,116 %	2,312 %	3,407 %	6,538 %	0,949 %	0,774 %
12	8,184 %	2,376 %	3,502 %	6,651 %	0,945 %	0,718 %
13	8,218 %	2,443 %	3,593 %	6,771 %	0,942 %	0,658 %
14	8,226 %	2,509 %	3,679 %	6,881 %	0,943 %	0,604 %
15	8,214 %	2,574 %	3,757 %	6,971 %	0,949 %	0,559 %
16	8,189 %	2,637 %	3,826 %	7,030 %	0,962 %	0,528 %
17	8,153 %	2,698 %	3,886 %	7,062 %	0,981 %	0,511 %
18	8,109 %	2,757 %	3,937 %	7,074 %	1,007 %	0,509 %
19	8,059 %	2,813 %	3,980 %	7,071 %	1,041 %	0,523 %
20	8,006 %	2,868 %	4,015 %	7,054 %	1,083 %	0,551 %
21	7,950 %	2,919 %	4,043 %	7,029 %	1,132 %	0,595 %
22	7,892 %	2,969 %	4,064 %	6,996 %	1,186 %	0,648 %
23	7,834 %	3,016 %	4,080 %	6,957 %	1,243 %	0,709 %
24	7,776 %	3,061 %	4,092 %	6,915 %	1,302 %	0,775 %
25	7,718 %	3,104 %	4,101 %	6,870 %	1,361 %	0,842 %
26	7,661 %	3,145 %	4,106 %	6,824 %	1,421 %	0,912 %
27	7,605 %	3,185 %	4,110 %	6,776 %	1,480 %	0,981 %
28	7,551 %	3,222 %	4,111 %	6,728 %	1,538 %	1,050 %
29	7,498 %	3,258 %	4,111 %	6,680 %	1,594 %	1,117 %
30	7,446 %	3,292 %	4,109 %	6,632 %	1,649 %	1,184 %
31	7,396 %	3,324 %	4,107 %	6,585 %	1,703 %	1,248 %
32	7,348 %	3,355 %	4,104 %	6,539 %	1,754 %	1,311 %

Term to maturity (in years)	Real	Renminbi-yuan	Ringgit	Russian rouble	Singapore dollar	South Korean won
33	7,302 %	3,385 %	4,100 %	6,494 %	1,804 %	1,372 %
34	7,257 %	3,414 %	4,096 %	6,450 %	1,852 %	1,431 %
35	7,213 %	3,441 %	4,091 %	6,407 %	1,899 %	1,488 %
36	7,172 %	3,467 %	4,086 %	6,366 %	1,944 %	1,542 %
37	7,131 %	3,492 %	4,081 %	6,326 %	1,987 %	1,595 %
38	7,093 %	3,516 %	4,076 %	6,287 %	2,028 %	1,646 %
39	7,056 %	3,538 %	4,071 %	6,250 %	2,068 %	1,694 %
40	7,020 %	3,560 %	4,065 %	6,214 %	2,106 %	1,741 %
41	6,986 %	3,581 %	4,060 %	6,179 %	2,143 %	1,787 %
42	6,953 %	3,602 %	4,054 %	6,145 %	2,179 %	1,830 %
43	6,921 %	3,621 %	4,049 %	6,113 %	2,213 %	1,872 %
44	6,890 %	3,640 %	4,044 %	6,081 %	2,246 %	1,912 %
45	6,861 %	3,658 %	4,039 %	6,051 %	2,277 %	1,951 %
46	6,832 %	3,675 %	4,034 %	6,022 %	2,308 %	1,988 %
47	6,805 %	3,692 %	4,028 %	5,994 %	2,337 %	2,024 %
48	6,779 %	3,708 %	4,024 %	5,967 %	2,365 %	2,058 %
49	6,753 %	3,723 %	4,019 %	5,941 %	2,392 %	2,092 %
50	6,729 %	3,738 %	4,014 %	5,916 %	2,419 %	2,124 %
51	6,705 %	3,752 %	4,009 %	5,892 %	2,444 %	2,155 %
52	6,683 %	3,766 %	4,005 %	5,869 %	2,468 %	2,185 %
53	6,661 %	3,780 %	4,001 %	5,846 %	2,492 %	2,213 %
54	6,640 %	3,793 %	3,996 %	5,824 %	2,515 %	2,241 %
55	6,619 %	3,805 %	3,992 %	5,803 %	2,537 %	2,268 %
56	6,599 %	3,817 %	3,988 %	5,783 %	2,558 %	2,294 %
57	6,580 %	3,829 %	3,984 %	5,763 %	2,578 %	2,319 %
58	6,562 %	3,840 %	3,981 %	5,744 %	2,598 %	2,343 %
59	6,544 %	3,851 %	3,977 %	5,726 %	2,617 %	2,367 %
60	6,527 %	3,862 %	3,973 %	5,708 %	2,636 %	2,389 %
61	6,510 %	3,872 %	3,970 %	5,691 %	2,654 %	2,411 %
62	6,494 %	3,882 %	3,966 %	5,674 %	2,671 %	2,433 %
63	6,478 %	3,892 %	3,963 %	5,658 %	2,688 %	2,453 %
64	6,463 %	3,901 %	3,960 %	5,642 %	2,705 %	2,473 %

Term to maturity (in years)	Real	Renminbi-yuan	Ringgit	Russian rouble	Singapore dollar	South Korean won
65	6,448 %	3,910 %	3,957 %	5,627 %	2,721 %	2,493 %
66	6,434 %	3,919 %	3,954 %	5,612 %	2,736 %	2,512 %
67	6,420 %	3,927 %	3,951 %	5,597 %	2,751 %	2,530 %
68	6,406 %	3,936 %	3,948 %	5,584 %	2,766 %	2,548 %
69	6,393 %	3,944 %	3,945 %	5,570 %	2,780 %	2,565 %
70	6,380 %	3,952 %	3,942 %	5,557 %	2,794 %	2,582 %
71	6,368 %	3,959 %	3,940 %	5,544 %	2,807 %	2,598 %
72	6,356 %	3,967 %	3,937 %	5,532 %	2,820 %	2,614 %
73	6,344 %	3,974 %	3,934 %	5,520 %	2,833 %	2,630 %
74	6,333 %	3,981 %	3,932 %	5,508 %	2,845 %	2,645 %
75	6,322 %	3,988 %	3,930 %	5,496 %	2,857 %	2,659 %
76	6,311 %	3,995 %	3,927 %	5,485 %	2,869 %	2,673 %
77	6,300 %	4,001 %	3,925 %	5,474 %	2,880 %	2,687 %
78	6,290 %	4,008 %	3,923 %	5,464 %	2,891 %	2,701 %
79	6,280 %	4,014 %	3,921 %	5,453 %	2,902 %	2,714 %
80	6,270 %	4,020 %	3,918 %	5,443 %	2,912 %	2,727 %
81	6,261 %	4,026 %	3,916 %	5,433 %	2,923 %	2,740 %
82	6,251 %	4,031 %	3,914 %	5,424 %	2,933 %	2,752 %
83	6,242 %	4,037 %	3,912 %	5,414 %	2,943 %	2,764 %
84	6,233 %	4,043 %	3,910 %	5,405 %	2,952 %	2,775 %
85	6,225 %	4,048 %	3,909 %	5,396 %	2,961 %	2,787 %
86	6,216 %	4,053 %	3,907 %	5,388 %	2,971 %	2,798 %
87	6,208 %	4,058 %	3,905 %	5,379 %	2,980 %	2,809 %
88	6,200 %	4,063 %	3,903 %	5,371 %	2,988 %	2,820 %
89	6,192 %	4,068 %	3,901 %	5,363 %	2,997 %	2,830 %
90	6,184 %	4,073 %	3,900 %	5,355 %	3,005 %	2,840 %
91	6,177 %	4,078 %	3,898 %	5,347 %	3,013 %	2,850 %
92	6,169 %	4,082 %	3,896 %	5,339 %	3,021 %	2,860 %
93	6,162 %	4,087 %	3,895 %	5,332 %	3,029 %	2,869 %
94	6,155 %	4,091 %	3,893 %	5,325 %	3,037 %	2,879 %
95	6,148 %	4,095 %	3,892 %	5,318 %	3,044 %	2,888 %
96	6,141 %	4,100 %	3,890 %	5,311 %	3,051 %	2,897 %

Term to maturity (in years)	Real	Renminbi-yuan	Ringgit	Russian rouble	Singapore dollar	South Korean won
97	6,135 %	4,104 %	3,889 %	5,304 %	3,059 %	2,906 %
98	6,128 %	4,108 %	3,888 %	5,297 %	3,066 %	2,914 %
99	6,122 %	4,112 %	3,886 %	5,291 %	3,073 %	2,922 %
100	6,116 %	4,116 %	3,885 %	5,284 %	3,079 %	2,931 %
101	6,110 %	4,119 %	3,883 %	5,278 %	3,086 %	2,939 %
102	6,104 %	4,123 %	3,882 %	5,272 %	3,092 %	2,947 %
103	6,098 %	4,127 %	3,881 %	5,266 %	3,099 %	2,955 %
104	6,092 %	4,130 %	3,880 %	5,260 %	3,105 %	2,962 %
105	6,086 %	4,134 %	3,878 %	5,254 %	3,111 %	2,970 %
106	6,081 %	4,137 %	3,877 %	5,248 %	3,117 %	2,977 %
107	6,075 %	4,141 %	3,876 %	5,243 %	3,123 %	2,984 %
108	6,070 %	4,144 %	3,875 %	5,237 %	3,129 %	2,991 %
109	6,065 %	4,147 %	3,874 %	5,232 %	3,135 %	2,998 %
110	6,060 %	4,150 %	3,873 %	5,226 %	3,140 %	3,005 %
111	6,055 %	4,154 %	3,871 %	5,221 %	3,146 %	3,012 %
112	6,050 %	4,157 %	3,870 %	5,216 %	3,151 %	3,018 %
113	6,045 %	4,160 %	3,869 %	5,211 %	3,156 %	3,025 %
114	6,040 %	4,163 %	3,868 %	5,206 %	3,161 %	3,031 %
115	6,035 %	4,166 %	3,867 %	5,201 %	3,167 %	3,037 %
116	6,031 %	4,168 %	3,866 %	5,196 %	3,172 %	3,043 %
117	6,026 %	4,171 %	3,865 %	5,192 %	3,176 %	3,049 %
118	6,022 %	4,174 %	3,864 %	5,187 %	3,181 %	3,055 %
119	6,017 %	4,177 %	3,863 %	5,183 %	3,186 %	3,061 %
120	6,013 %	4,180 %	3,862 %	5,178 %	3,191 %	3,067 %
121	6,009 %	4,182 %	3,861 %	5,174 %	3,195 %	3,072 %
122	6,004 %	4,185 %	3,860 %	5,170 %	3,200 %	3,078 %
123	6,000 %	4,187 %	3,860 %	5,165 %	3,204 %	3,083 %
124	5,996 %	4,190 %	3,859 %	5,161 %	3,209 %	3,089 %
125	5,992 %	4,192 %	3,858 %	5,157 %	3,213 %	3,094 %
126	5,988 %	4,195 %	3,857 %	5,153 %	3,217 %	3,099 %
127	5,985 %	4,197 %	3,856 %	5,149 %	3,222 %	3,104 %
128	5,981 %	4,200 %	3,855 %	5,145 %	3,226 %	3,109 %

Term to maturity (in years)	Real	Renminbi-yuan	Ringgit	Russian rouble	Singapore dollar	South Korean won
129	5,977 %	4,202 %	3,854 %	5,141 %	3,230 %	3,114 %
130	5,973 %	4,204 %	3,854 %	5,137 %	3,234 %	3,119 %
131	5,970 %	4,206 %	3,853 %	5,134 %	3,238 %	3,124 %
132	5,966 %	4,209 %	3,852 %	5,130 %	3,242 %	3,129 %
133	5,963 %	4,211 %	3,851 %	5,126 %	3,245 %	3,133 %
134	5,959 %	4,213 %	3,851 %	5,123 %	3,249 %	3,138 %
135	5,956 %	4,215 %	3,850 %	5,119 %	3,253 %	3,143 %
136	5,952 %	4,217 %	3,849 %	5,116 %	3,256 %	3,147 %
137	5,949 %	4,219 %	3,848 %	5,113 %	3,260 %	3,151 %
138	5,946 %	4,221 %	3,848 %	5,109 %	3,264 %	3,156 %
139	5,943 %	4,223 %	3,847 %	5,106 %	3,267 %	3,160 %
140	5,939 %	4,225 %	3,846 %	5,103 %	3,270 %	3,164 %
141	5,936 %	4,227 %	3,846 %	5,099 %	3,274 %	3,168 %
142	5,933 %	4,229 %	3,845 %	5,096 %	3,277 %	3,172 %
143	5,930 %	4,231 %	3,844 %	5,093 %	3,281 %	3,176 %
144	5,927 %	4,233 %	3,844 %	5,090 %	3,284 %	3,180 %
145	5,924 %	4,235 %	3,843 %	5,087 %	3,287 %	3,184 %
146	5,921 %	4,237 %	3,842 %	5,084 %	3,290 %	3,188 %
147	5,918 %	4,238 %	3,842 %	5,081 %	3,293 %	3,192 %
148	5,916 %	4,240 %	3,841 %	5,078 %	3,296 %	3,196 %
149	5,913 %	4,242 %	3,840 %	5,075 %	3,299 %	3,199 %
150	5,910 %	4,244 %	3,840 %	5,072 %	3,302 %	3,203 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
1	10,448 %	0,509 %	-0,125 %
2	11,830 %	0,355 %	-0,140 %
3	12,604 %	0,328 %	-0,150 %
4	13,054 %	0,335 %	-0,166 %
5	13,313 %	0,365 %	-0,164 %
6	13,430 %	0,384 %	-0,156 %
7	13,444 %	0,456 %	-0,144 %
8	13,378 %	0,510 %	-0,125 %
9	13,261 %	0,545 %	-0,105 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
10	13,114 %	0,569 %	-0,085 %
11	12,948 %	0,590 %	-0,065 %
12	12,768 %	0,609 %	-0,048 %
13	12,579 %	0,630 %	-0,033 %
14	12,386 %	0,650 %	-0,020 %
15	12,190 %	0,668 %	-0,006 %
16	11,993 %	0,684 %	0,009 %
17	11,798 %	0,697 %	0,024 %
18	11,606 %	0,707 %	0,034 %
19	11,418 %	0,714 %	0,040 %
20	11,234 %	0,718 %	0,038 %
21	11,056 %	0,719 %	0,029 %
22	10,883 %	0,719 %	0,018 %
23	10,716 %	0,721 %	0,007 %
24	10,555 %	0,725 %	0,000 %
25	10,400 %	0,731 %	-0,002 %
26	10,252 %	0,741 %	0,002 %
27	10,109 %	0,750 %	0,013 %
28	9,973 %	0,756 %	0,031 %
29	9,843 %	0,754 %	0,057 %
30	9,718 %	0,744 %	0,091 %
31	9,598 %	0,724 %	0,134 %
32	9,484 %	0,699 %	0,182 %
33	9,375 %	0,670 %	0,235 %
34	9,271 %	0,641 %	0,291 %
35	9,171 %	0,612 %	0,349 %
36	9,076 %	0,586 %	0,408 %
37	8,985 %	0,563 %	0,467 %
38	8,898 %	0,543 %	0,526 %
39	8,815 %	0,528 %	0,584 %
40	8,735 %	0,516 %	0,642 %
41	8,659 %	0,508 %	0,699 %
42	8,586 %	0,504 %	0,754 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
43	8,516 %	0,504 %	0,808 %
44	8,449 %	0,507 %	0,861 %
45	8,384 %	0,515 %	0,913 %
46	8,323 %	0,526 %	0,963 %
47	8,263 %	0,541 %	1,011 %
48	8,206 %	0,560 %	1,059 %
49	8,151 %	0,582 %	1,104 %
50	8,098 %	0,607 %	1,149 %
51	8,048 %	0,637 %	1,192 %
52	7,999 %	0,669 %	1,233 %
53	7,952 %	0,704 %	1,274 %
54	7,906 %	0,740 %	1,313 %
55	7,862 %	0,777 %	1,351 %
56	7,820 %	0,815 %	1,388 %
57	7,779 %	0,853 %	1,423 %
58	7,740 %	0,892 %	1,458 %
59	7,702 %	0,930 %	1,491 %
60	7,665 %	0,969 %	1,524 %
61	7,629 %	1,007 %	1,555 %
62	7,595 %	1,044 %	1,586 %
63	7,561 %	1,082 %	1,616 %
64	7,529 %	1,118 %	1,644 %
65	7,497 %	1,154 %	1,672 %
66	7,467 %	1,190 %	1,699 %
67	7,437 %	1,225 %	1,726 %
68	7,409 %	1,259 %	1,752 %
69	7,381 %	1,292 %	1,777 %
70	7,354 %	1,325 %	1,801 %
71	7,327 %	1,357 %	1,824 %
72	7,302 %	1,389 %	1,847 %
73	7,277 %	1,419 %	1,870 %
74	7,253 %	1,450 %	1,891 %
75	7,229 %	1,479 %	1,913 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
76	7,206 %	1,508 %	1,933 %
77	7,184 %	1,536 %	1,953 %
78	7,162 %	1,563 %	1,973 %
79	7,141 %	1,590 %	1,992 %
80	7,120 %	1,616 %	2,011 %
81	7,100 %	1,642 %	2,029 %
82	7,081 %	1,667 %	2,047 %
83	7,061 %	1,692 %	2,064 %
84	7,043 %	1,716 %	2,081 %
85	7,024 %	1,739 %	2,098 %
86	7,007 %	1,762 %	2,114 %
87	6,989 %	1,784 %	2,130 %
88	6,972 %	1,806 %	2,145 %
89	6,955 %	1,828 %	2,160 %
90	6,939 %	1,849 %	2,175 %
91	6,923 %	1,869 %	2,190 %
92	6,908 %	1,890 %	2,204 %
93	6,892 %	1,909 %	2,218 %
94	6,878 %	1,929 %	2,231 %
95	6,863 %	1,948 %	2,244 %
96	6,849 %	1,966 %	2,257 %
97	6,835 %	1,984 %	2,270 %
98	6,821 %	2,002 %	2,283 %
99	6,808 %	2,020 %	2,295 %
100	6,794 %	2,037 %	2,307 %
101	6,782 %	2,054 %	2,319 %
102	6,769 %	2,070 %	2,330 %
103	6,756 %	2,086 %	2,341 %
104	6,744 %	2,102 %	2,352 %
105	6,732 %	2,118 %	2,363 %
106	6,721 %	2,133 %	2,374 %
107	6,709 %	2,148 %	2,384 %
108	6,698 %	2,163 %	2,395 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
109	6,687 %	2,177 %	2,405 %
110	6,676 %	2,191 %	2,415 %
111	6,665 %	2,205 %	2,424 %
112	6,655 %	2,219 %	2,434 %
113	6,645 %	2,232 %	2,443 %
114	6,635 %	2,246 %	2,453 %
115	6,625 %	2,259 %	2,462 %
116	6,615 %	2,271 %	2,471 %
117	6,605 %	2,284 %	2,479 %
118	6,596 %	2,296 %	2,488 %
119	6,587 %	2,308 %	2,496 %
120	6,578 %	2,320 %	2,505 %
121	6,569 %	2,332 %	2,513 %
122	6,560 %	2,343 %	2,521 %
123	6,551 %	2,355 %	2,529 %
124	6,543 %	2,366 %	2,537 %
125	6,534 %	2,377 %	2,544 %
126	6,526 %	2,388 %	2,552 %
127	6,518 %	2,399 %	2,559 %
128	6,510 %	2,409 %	2,567 %
129	6,502 %	2,419 %	2,574 %
130	6,494 %	2,429 %	2,581 %
131	6,487 %	2,440 %	2,588 %
132	6,479 %	2,449 %	2,595 %
133	6,472 %	2,459 %	2,602 %
134	6,464 %	2,469 %	2,608 %
135	6,457 %	2,478 %	2,615 %
136	6,450 %	2,487 %	2,621 %
137	6,443 %	2,497 %	2,628 %
138	6,436 %	2,506 %	2,634 %
139	6,430 %	2,514 %	2,640 %
140	6,423 %	2,523 %	2,646 %
141	6,416 %	2,532 %	2,652 %

Term to maturity (in years)	Turkish lira	US dollar	Yen
142	6,410 %	2,540 %	2,658 %
143	6,404 %	2,549 %	2,664 %
144	6,397 %	2,557 %	2,670 %
145	6,391 %	2,565 %	2,676 %
146	6,385 %	2,573 %	2,681 %
147	6,379 %	2,581 %	2,687 %
148	6,373 %	2,589 %	2,692 %
149	6,367 %	2,597 %	2,698 %
150	6,361 %	2,605 %	2,703 %

ANNEX II

Fundamental spreads for the calculation of the matching adjustment

The fundamental spreads set out in this Annex are expressed in basis points and do not include any increase in accordance with Article 77c(1)(c) of Directive 2009/138/EC.

1. Exposures to central governments and central banks

The fundamental spreads apply to exposures denominated in all currencies.

The fundamental spreads for durations from 11 to 30 years are equal to the fundamental spreads for duration 10 years.

Duration (in years)	Austria	Belgium	Bulgaria	Croatia	Czech Republic	Cyprus	Denmark
1	0	0	31	5	0	25	1
2	0	0	39	5	0	41	0
3	0	1	44	5	1	46	0
4	0	2	47	5	3	47	0
5	0	4	51	5	4	51	0
6	1	5	54	5	6	53	0
7	2	5	57	5	9	54	0
8	2	7	58	5	11	54	0
9	3	7	60	5	12	51	0
10	3	8	62	5	13	50	0

Duration (in years)	Estonia	Finland	France	Germany	Greece	Hungary	Ireland
1	0	0	0	0	391	4	16
2	0	0	0	0	242	4	22
3	1	0	0	0	215	4	25
4	2	0	0	0	188	4	26
5	4	0	0	0	172	4	27
6	5	0	0	0	169	4	28
7	5	0	0	0	166	4	29
8	7	0	1	0	170	2	30
9	7	0	2	0	172	1	31
10	8	0	3	0	174	4	31

Duration (in years)	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland
1	6	5	5	0	16	0	4

Duration (in years)	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland
2	14	11	11	0	22	0	4
3	19	14	15	0	25	0	4
4	21	16	17	0	26	0	4
5	24	18	19	0	27	0	4
6	25	19	20	0	28	0	4
7	27	21	22	0	29	0	4
8	28	22	23	1	30	0	4
9	30	23	24	2	31	0	4
10	31	24	25	3	31	0	4

Duration (in years)	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom
1	25	9	12	18	5	0	0
2	41	17	15	21	11	0	0
3	46	19	18	26	15	0	0
4	47	20	19	30	17	0	0
5	51	22	21	33	19	0	0
6	53	23	22	37	20	0	0
7	54	24	23	38	22	0	0
8	54	26	25	39	23	0	0
9	51	27	25	40	24	0	0
10	50	25	25	40	25	0	0

Duration (in years)	Liechtenstein	Norway	Switzerland	Australia	Brazil	Canada	Chile
1	0	0	0	0	12	0	17
2	0	0	0	0	12	0	19
3	0	0	0	0	12	0	18
4	0	0	0	0	12	0	17
5	0	0	0	0	12	0	16
6	0	0	0	0	12	0	15
7	0	0	0	0	12	0	14
8	0	0	0	0	12	0	15
9	0	0	0	0	12	0	16
10	0	0	0	0	12	0	13

Duration (in years)	China	Colombia	Hong Kong	India	Japan	Malaysia	Mexico
1	0	11	0	10	0	0	9
2	0	18	0	10	0	0	9
3	1	29	0	10	0	0	10
4	2	36	0	10	0	0	10
5	2	38	0	10	0	0	10
6	3	41	0	10	0	0	10
7	4	43	0	10	0	0	10
8	7	41	0	10	0	0	10
9	5	38	0	10	0	0	10
10	5	41	0	10	1	0	10

Duration (in years)	New Zealand	Russia	Singapore	South Africa	South Korea	Thailand	Taiwan
1	0	0	0	6	9	1	4
2	0	0	0	8	12	0	4
3	0	0	0	8	12	0	4
4	0	0	0	8	14	0	4
5	0	1	0	7	15	0	4
6	0	5	0	8	15	0	4
7	0	7	0	10	15	0	4
8	0	11	0	11	15	0	4
9	0	17	0	11	15	0	4
10	0	17	0	13	15	0	4

Duration (in years)	United States
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0

2. Exposures to financial institutions

2.1 Euro

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	6	20	45	119	232	551	1187
2	6	20	45	119	232	551	955
3	7	22	46	112	228	547	779
4	8	25	48	114	227	546	645
5	10	27	54	117	227	546	546
6	11	30	57	122	227	546	546
7	12	32	59	125	227	546	546
8	12	33	58	123	227	546	546
9	12	33	58	122	227	546	546
10	13	35	59	122	227	546	546
11	14	36	59	122	227	546	546
12	14	37	59	122	227	546	546
13	14	37	59	122	227	546	546
14	15	37	59	122	227	546	546
15	14	37	59	122	227	546	546
16	14	37	59	122	227	546	546
17	14	37	59	122	227	546	546
18	14	37	59	122	227	546	546
19	14	37	59	122	227	546	546
20	16	37	59	122	227	546	546
21	16	37	59	122	227	546	546
22	17	37	59	122	227	546	546
23	17	37	59	122	227	546	546
24	18	37	59	122	227	546	546
25	19	37	59	122	227	546	546
26	20	37	59	122	227	546	546
27	21	37	59	122	227	546	546
28	21	37	59	122	227	546	546
29	22	37	59	122	227	546	546
30	22	37	59	122	227	546	546

2.2 Czech koruna

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	13	27	52	126	239	558	1207
2	15	29	54	128	241	560	970
3	17	32	55	121	238	556	791
4	18	34	58	123	236	555	655
5	19	36	62	126	236	554	554
6	19	38	65	130	235	554	554
7	20	39	66	132	234	553	553
8	19	39	65	130	234	552	552
9	19	40	65	129	233	552	552
10	19	40	64	128	233	551	551
11	19	41	64	127	232	551	551
12	18	41	63	127	232	550	550
13	18	41	63	126	231	550	550
14	18	41	62	126	230	549	549
15	17	40	62	125	230	549	549
16	17	40	61	125	229	548	548
17	17	40	61	125	229	548	548
18	17	39	61	124	229	548	548
19	17	39	61	125	229	548	548
20	17	40	61	125	230	548	548
21	17	40	62	125	230	549	549
22	17	40	62	125	230	549	549
23	18	41	62	126	230	549	549
24	18	41	62	126	230	549	549
25	20	41	62	126	230	549	549
26	20	41	62	126	230	549	549
27	21	41	62	126	230	549	549
28	21	41	62	126	230	549	549
29	22	41	62	126	230	549	549
30	22	41	62	125	230	549	549

2.3 Danish krone

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	6	20	44	118	232	550	1186
2	6	20	44	118	232	550	955
3	7	22	46	112	228	547	779
4	8	25	48	114	227	546	645
5	10	27	53	117	227	546	546
6	11	29	57	122	227	546	546
7	12	32	59	124	227	546	546
8	12	32	58	123	227	546	546
9	12	33	58	122	227	546	546
10	13	34	58	122	227	546	546
11	13	36	59	122	227	546	546
12	14	36	59	122	227	546	546
13	14	37	59	122	227	546	546
14	14	37	59	122	227	546	546
15	14	37	59	122	227	546	546
16	14	37	59	122	227	546	546
17	14	37	59	122	227	546	546
18	14	37	59	122	227	546	546
19	14	37	59	122	227	546	546
20	16	37	59	122	227	546	546
21	16	37	59	122	227	546	546
22	17	37	59	122	227	546	546
23	17	37	59	122	227	546	546
24	18	37	59	122	227	546	546
25	19	37	59	122	227	546	546
26	20	37	59	122	227	546	546
27	21	37	59	122	227	546	546
28	21	37	59	122	227	546	546
29	22	37	59	122	227	546	546
30	22	37	59	122	227	546	546

2.4 Forint

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	80	94	118	192	306	624	1208
2	76	90	115	189	302	621	974
3	80	95	118	185	301	620	796
4	79	95	119	185	298	616	660
5	78	96	122	186	296	614	614
6	78	96	124	189	294	612	612
7	77	96	123	189	292	610	610
8	76	96	122	187	291	609	609
9	75	96	121	185	289	608	608
10	72	93	117	181	286	605	605
11	70	92	115	179	283	602	602
12	69	91	114	177	282	601	601
13	68	91	113	176	281	600	600
14	68	91	113	176	281	599	599
15	68	91	112	176	280	599	599
16	67	90	112	175	280	598	598
17	67	90	111	175	279	598	598
18	66	89	111	174	279	597	597
19	65	88	110	173	278	597	597
20	65	88	109	173	277	596	596
21	64	87	108	172	277	595	595
22	63	86	108	171	276	595	595
23	62	85	107	170	275	594	594
24	61	84	106	169	274	593	593
25	60	83	105	168	273	592	592
26	59	82	104	167	272	591	591
27	58	81	103	166	271	589	589
28	57	80	102	165	270	588	588
29	56	79	101	164	269	587	587
30	55	78	99	163	268	586	586

2.5 Krona

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	10	24	48	122	236	554	1195
2	12	26	50	124	237	556	962
3	14	29	52	118	235	553	784
4	16	32	55	121	234	553	650
5	17	35	61	124	234	553	553
6	18	37	64	129	234	553	553
7	19	39	66	131	234	553	553
8	19	39	65	130	234	552	552
9	18	39	64	128	233	552	552
10	18	40	64	128	233	551	551
11	19	41	64	128	232	551	551
12	19	42	64	127	232	551	551
13	19	42	64	127	232	551	551
14	19	42	64	127	232	550	550
15	19	42	63	127	232	550	550
16	19	42	63	127	231	550	550
17	19	42	63	127	231	550	550
18	19	42	63	127	231	550	550
19	19	42	63	127	232	550	550
20	19	42	64	127	232	551	551
21	20	43	64	128	232	551	551
22	20	43	64	128	233	551	551
23	20	43	65	128	233	551	551
24	20	43	65	128	233	551	551
25	20	43	65	128	233	551	551
26	20	43	65	128	233	551	551
27	21	43	65	128	233	551	551
28	21	43	64	128	233	551	551
29	22	43	64	128	233	551	551
30	22	43	64	128	233	551	551

2.6 Kuna

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	49	63	88	162	275	594	1197
2	53	67	91	165	279	597	964
3	58	73	97	163	279	598	788
4	62	78	102	167	280	599	653
5	64	81	108	171	281	600	600
6	65	84	111	176	281	600	600
7	66	85	112	178	281	599	599
8	65	85	111	176	280	598	598
9	64	85	110	174	278	597	597
10	63	84	108	172	277	596	596
11	62	84	107	171	275	594	594
12	61	83	106	169	274	593	593
13	60	83	104	168	273	591	591
14	59	82	103	167	271	590	590
15	58	80	102	165	270	589	589
16	57	79	101	164	269	588	588
17	56	79	100	164	268	587	587
18	55	78	99	163	268	586	586
19	54	77	99	162	267	586	586
20	54	77	98	162	267	585	585
21	53	76	98	161	266	585	585
22	52	75	97	160	265	584	584
23	52	75	96	160	264	583	583
24	51	74	95	159	264	582	582
25	50	73	94	158	263	581	581
26	49	72	94	157	262	581	581
27	48	71	93	156	261	580	580
28	48	71	92	155	260	579	579
29	47	70	91	155	259	578	578
30	46	69	90	154	259	577	577

2.7 Lev

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	5	19	44	118	231	550	1186
2	5	19	44	118	231	550	954
3	6	22	45	111	227	546	778
4	8	24	48	113	226	545	645
5	9	27	53	116	226	545	545
6	10	29	56	121	226	545	545
7	11	31	58	124	226	545	545
8	11	32	58	122	226	545	545
9	12	33	58	122	226	545	545
10	12	34	58	121	226	545	545
11	13	35	58	121	226	545	545
12	13	36	58	121	226	545	545
13	13	36	58	121	226	545	545
14	14	37	58	121	226	545	545
15	14	36	58	121	226	545	545
16	14	36	58	121	226	545	545
17	14	36	58	121	226	545	545
18	14	36	58	121	226	545	545
19	14	36	58	121	226	545	545
20	16	36	58	121	226	545	545
21	16	36	58	121	226	545	545
22	17	36	58	121	226	545	545
23	17	37	58	122	226	545	545
24	18	37	58	122	226	545	545
25	19	37	58	122	226	545	545
26	20	37	58	122	226	545	545
27	21	37	58	122	226	545	545
28	21	37	58	122	226	545	545
29	22	37	58	122	226	545	545
30	22	37	58	122	226	545	545

2.8 Pound sterling

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	7	24	55	150	250	569	1203
2	7	24	55	150	250	569	967
3	8	26	55	136	246	565	789
4	10	29	57	126	244	563	653
5	11	31	58	114	243	562	562
6	14	34	61	107	242	561	561
7	16	37	62	100	241	560	560
8	17	38	60	93	240	559	559
9	20	45	64	87	239	558	558
10	19	45	62	84	238	557	557
11	18	44	60	84	237	556	556
12	18	43	61	85	236	555	555
13	18	44	61	85	236	554	554
14	18	44	61	85	235	554	554
15	18	44	61	85	234	553	553
16	18	44	61	85	233	551	551
17	18	44	61	85	232	550	550
18	18	44	61	85	231	550	550
19	18	44	61	85	231	550	550
20	18	44	61	85	232	550	550
21	18	44	61	85	232	550	550
22	18	44	61	85	231	550	550
23	18	44	61	85	231	550	550
24	18	44	61	85	230	549	549
25	19	44	61	85	230	548	548
26	20	44	61	85	229	548	548
27	21	44	61	85	229	547	547
28	21	44	61	85	228	547	547
29	22	44	61	85	228	547	547
30	22	44	61	85	228	546	546

2.9 Romanian leu

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	86	100	124	198	312	630	1253
2	84	98	122	196	310	628	1012
3	83	98	122	188	304	623	828
4	82	99	122	188	301	620	688
5	81	99	125	188	298	617	617
6	80	99	126	191	296	615	615
7	79	98	125	191	294	612	612
8	76	97	123	187	291	610	610
9	74	95	120	184	289	608	608
10	73	95	119	183	287	606	606
11	72	94	118	181	286	604	604
12	71	94	116	179	284	603	603
13	70	93	114	178	283	601	601
14	69	91	113	176	281	600	600
15	67	90	112	175	280	598	598
16	66	89	110	174	279	597	597
17	65	88	109	173	278	596	596
18	64	87	108	172	277	595	595
19	63	86	108	171	276	594	594
20	62	85	107	170	275	594	594
21	61	84	106	169	274	593	593
22	60	83	105	168	273	592	592
23	59	82	104	167	272	591	591
24	58	81	103	166	271	590	590
25	57	80	102	165	270	589	589
26	56	79	101	164	269	588	588
27	55	78	100	163	268	586	586
28	54	77	99	162	267	585	585
29	53	76	98	161	266	584	584
30	52	75	97	160	265	583	583

2.10 Zloty

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	59	73	97	171	284	603	1206
2	58	72	96	170	283	602	972
3	58	73	96	162	279	597	794
4	58	74	98	163	277	595	658
5	57	75	101	165	275	593	593
6	57	75	103	168	273	592	592
7	57	76	103	169	271	590	590
8	55	75	101	166	270	589	589
9	54	75	100	164	268	587	587
10	53	75	99	162	267	586	586
11	52	75	98	161	266	585	585
12	52	75	97	160	265	584	584
13	52	74	96	160	264	583	583
14	51	74	96	159	264	582	582
15	51	73	95	158	263	582	582
16	50	72	94	157	262	581	581
17	49	72	93	157	262	580	580
18	48	71	93	156	261	580	580
19	48	71	92	156	261	579	579
20	48	71	92	156	260	579	579
21	47	70	92	155	260	579	579
22	47	70	91	155	260	578	578
23	46	69	91	154	259	578	578
24	46	69	90	154	258	577	577
25	45	68	90	153	258	576	576
26	44	67	89	152	257	576	576
27	44	67	88	152	256	575	575
28	43	66	88	151	256	574	574
29	42	65	87	150	255	574	574
30	42	65	86	150	254	573	573

2.11 Norwegian krone

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	31	45	70	144	257	576	1206
2	32	46	70	144	258	576	970
3	32	47	71	137	253	572	792
4	32	49	72	138	251	570	656
5	33	51	77	140	250	569	569
6	33	52	79	144	249	568	568
7	34	53	80	146	249	567	567
8	33	53	79	144	248	566	566
9	32	53	78	142	247	566	566
10	32	54	78	141	246	565	565
11	32	54	77	141	246	564	564
12	32	54	76	140	245	563	563
13	31	54	76	139	244	563	563
14	31	54	75	139	243	562	562
15	30	53	74	138	243	561	561
16	29	52	74	137	242	560	560
17	29	52	73	137	241	560	560
18	28	51	73	136	241	560	560
19	28	51	73	136	241	559	559
20	28	51	73	136	241	559	559
21	28	51	73	136	241	559	559
22	28	51	73	136	241	559	559
23	28	51	72	136	241	559	559
24	28	51	72	136	240	559	559
25	27	50	72	135	240	559	559
26	27	50	72	135	240	559	559
27	27	50	71	135	240	558	558
28	27	50	71	135	239	558	558
29	26	49	71	134	239	558	558
30	26	49	71	134	239	557	557

2.12 Swiss franc

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	3	25	99	213	531	1181
2	1	5	26	100	214	532	950
3	2	5	27	94	210	529	775
4	3	7	30	96	209	528	642
5	4	9	35	99	209	527	541
6	5	11	39	104	209	527	527
7	5	14	40	106	209	527	527
8	6	14	40	105	209	527	527
9	7	15	40	104	209	527	527
10	8	16	40	104	209	527	527
11	9	18	41	105	210	528	528
12	9	18	40	104	208	527	527
13	10	19	41	105	209	528	528
14	11	19	41	104	209	528	528
15	12	18	40	103	208	527	527
16	13	17	39	102	207	526	526
17	13	17	39	102	207	526	526
18	14	17	39	102	207	526	526
19	14	18	39	103	207	526	526
20	16	19	40	103	208	527	527
21	16	19	40	104	208	527	527
22	17	20	40	104	208	527	527
23	17	20	40	104	208	527	527
24	18	22	40	103	208	527	527
25	18	22	40	103	208	527	527
26	20	23	40	103	208	527	527
27	20	23	41	103	208	527	527
28	21	24	43	103	208	526	526
29	21	26	44	103	208	526	526
30	22	26	45	103	208	526	526

2.13 Australian dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	47	61	85	159	273	591	1199
2	47	61	85	159	273	591	965
3	47	62	86	152	268	587	787
4	48	64	88	153	266	585	652
5	48	66	92	155	265	584	584
6	48	67	94	159	264	583	583
7	48	68	95	161	263	582	582
8	47	68	93	158	262	581	581
9	46	67	92	156	261	580	580
10	46	68	92	155	260	579	579
11	46	68	91	155	259	578	578
12	45	68	90	154	259	577	577
13	45	68	90	153	258	576	576
14	45	67	89	152	257	576	576
15	44	67	88	152	257	575	575
16	43	66	87	151	256	574	574
17	42	65	87	150	255	574	574
18	42	65	86	150	255	573	573
19	41	64	86	149	254	573	573
20	41	64	86	149	254	573	573
21	41	64	85	149	254	572	572
22	41	64	85	149	253	572	572
23	40	63	85	148	253	571	571
24	40	62	84	147	252	571	571
25	39	62	83	147	252	570	570
26	38	61	83	146	251	570	570
27	38	61	82	146	250	569	569
28	37	60	81	145	250	568	568
29	36	59	81	144	249	568	568
30	36	59	80	144	248	567	567

2.14 Baht

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	17	31	55	129	243	561	1204
2	21	35	59	133	247	565	970
3	25	40	63	129	246	564	792
4	28	45	68	134	247	566	656
5	31	49	75	138	248	567	567
6	30	49	76	141	246	565	565
7	35	55	81	147	250	568	568
8	34	54	80	145	248	567	567
9	34	56	80	145	249	568	568
10	36	58	82	146	251	569	569
11	38	60	83	147	252	570	570
12	39	62	84	147	252	571	571
13	40	63	84	148	253	571	571
14	40	63	85	148	253	571	571
15	40	63	85	148	253	572	572
16	40	63	84	148	252	571	571
17	40	63	84	148	252	571	571
18	39	62	83	147	252	570	570
19	39	62	83	147	251	570	570
20	39	62	83	147	251	570	570
21	39	62	83	147	251	570	570
22	38	61	83	146	251	570	570
23	38	61	83	146	251	569	569
24	38	61	82	146	250	569	569
25	37	60	82	145	250	569	569
26	37	60	81	145	249	568	568
27	36	59	81	144	249	568	568
28	36	59	80	144	248	567	567
29	35	58	80	143	248	566	566
30	35	58	79	143	247	566	566

2.15 Canadian dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	16	30	55	129	242	561	1204
2	18	32	56	130	243	562	970
3	20	35	58	124	241	559	792
4	21	37	61	127	240	558	656
5	23	40	66	130	240	558	558
6	24	42	70	135	240	558	558
7	25	44	71	137	240	558	558
8	25	45	71	136	240	558	558
9	25	46	71	135	240	558	558
10	25	47	71	135	240	558	558
11	26	48	72	135	240	558	558
12	27	49	72	135	240	559	559
13	27	50	72	135	240	559	559
14	27	50	72	135	240	559	559
15	27	50	72	135	240	559	559
16	27	50	72	135	240	558	558
17	27	50	72	135	240	558	558
18	27	50	72	135	240	558	558
19	27	50	71	135	240	558	558
20	27	50	72	135	240	558	558
21	27	50	72	135	240	558	558
22	27	50	71	135	240	558	558
23	26	49	71	134	239	558	558
24	26	49	71	134	239	557	557
25	26	49	70	134	238	557	557
26	25	48	70	133	238	557	557
27	25	48	69	133	237	556	556
28	24	47	69	132	237	556	556
29	24	47	68	132	237	555	555
30	24	47	68	132	236	555	555

2.16 Chilean peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	51	64	89	163	276	595	1204
2	53	67	92	166	279	598	973
3	57	72	96	162	278	597	798
4	59	76	99	165	278	597	664
5	61	79	105	169	279	597	597
6	63	82	109	174	279	598	598
7	64	84	110	176	279	597	597
8	63	84	110	174	278	597	597
9	63	84	109	173	278	597	597
10	64	86	110	173	278	597	597
11	64	86	109	173	278	596	596
12	64	86	109	172	277	596	596
13	63	86	108	171	276	595	595
14	63	86	107	171	275	594	594
15	62	85	106	170	274	593	593
16	61	84	105	169	274	592	592
17	60	83	105	168	273	592	592
18	59	82	104	167	272	591	591
19	59	82	103	167	272	590	590
20	58	81	103	166	271	589	589
21	57	80	102	165	270	589	589
22	57	80	101	165	269	588	588
23	56	79	100	164	268	587	587
24	55	78	99	163	268	586	586
25	54	77	98	162	267	585	585
26	53	76	97	161	266	584	584
27	52	75	97	160	265	583	583
28	51	74	96	159	264	582	582
29	50	73	95	158	263	582	582
30	49	72	94	157	262	581	581

2.17 Colombian peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	82	96	120	194	308	626	1270
2	86	100	125	199	312	631	1031
3	88	103	126	192	309	627	847
4	88	105	128	194	307	626	705
5	92	109	135	199	309	627	627
6	93	112	139	204	309	628	628
7	95	115	141	207	310	628	628
8	96	116	142	207	311	629	629
9	97	118	143	207	311	630	630
10	97	119	143	207	311	630	630
11	97	120	143	206	311	630	630
12	97	119	142	205	310	629	629
13	96	119	141	204	309	627	627
14	95	118	139	203	307	626	626
15	93	116	138	201	306	625	625
16	92	115	136	200	304	623	623
17	90	113	135	198	303	622	622
18	89	112	134	197	302	620	620
19	88	111	132	196	300	619	619
20	86	109	131	194	299	618	618
21	85	108	129	193	298	616	616
22	83	106	128	191	296	615	615
23	82	105	126	190	295	613	613
24	80	103	125	188	293	612	612
25	79	102	123	187	291	610	610
26	77	100	122	185	290	608	608
27	76	98	120	183	288	607	607
28	74	97	118	182	287	605	605
29	72	95	117	180	285	604	604
30	71	94	115	179	284	602	602

2.18 Hong Kong dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	10	24	48	122	236	554	1211
2	13	27	52	125	239	557	972
3	17	32	55	121	238	556	793
4	19	36	59	125	238	557	657
5	22	39	65	129	239	558	558
6	23	42	69	134	240	558	558
7	25	45	71	137	240	558	558
8	25	45	71	136	240	558	558
9	25	46	71	135	240	558	558
10	26	47	71	135	240	558	558
11	26	48	71	135	240	558	558
12	26	49	71	135	239	558	558
13	26	49	70	134	239	557	557
14	25	48	70	133	238	557	557
15	25	48	69	133	237	556	556
16	24	47	68	132	236	555	555
17	23	46	68	131	236	555	555
18	23	46	68	131	236	554	554
19	23	46	67	131	236	554	554
20	23	46	67	131	236	554	554
21	23	46	68	131	236	554	554
22	23	46	68	131	236	554	554
23	23	46	68	131	236	554	554
24	23	46	67	131	236	554	554
25	23	46	67	131	236	554	554
26	23	46	67	131	235	554	554
27	23	45	67	130	235	554	554
28	22	45	67	130	235	554	554
29	22	45	67	130	235	553	553
30	22	45	66	130	235	553	553

2.19 Indian rupee

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	95	109	134	208	321	640	1279
2	96	110	134	208	321	640	1034
3	97	112	135	201	318	636	846
4	98	114	138	203	316	635	704
5	99	116	142	206	316	635	635
6	99	118	145	210	315	634	634
7	100	119	146	212	315	633	633
8	100	120	146	211	314	633	633
9	99	120	145	209	313	632	632
10	98	119	143	207	312	631	631
11	97	119	142	205	310	629	629
12	95	118	140	204	308	627	627
13	94	116	138	202	306	625	625
14	92	115	136	200	305	623	623
15	90	113	135	198	303	621	621
16	88	111	133	196	301	619	619
17	86	109	131	194	299	618	618
18	85	108	129	193	298	616	616
19	84	106	128	191	296	615	615
20	83	105	127	190	295	614	614
21	81	104	126	189	294	613	613
22	80	103	125	188	293	612	612
23	79	102	124	187	292	610	610
24	78	101	122	186	291	609	609
25	77	100	121	185	289	608	608
26	76	99	120	183	288	607	607
27	74	97	119	182	287	606	606
28	73	96	118	181	286	605	605
29	72	95	117	180	285	603	603
30	71	94	116	179	284	602	602

2.20 Mexican peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	333	346	371	445	558	877	1300
2	83	97	122	196	309	628	1046
3	87	102	125	191	308	626	855
4	90	106	130	196	309	627	710
5	92	110	136	200	310	628	628
6	94	113	140	205	310	629	629
7	96	115	142	208	311	629	629
8	96	117	143	207	311	630	630
9	97	118	143	207	311	630	630
10	97	119	143	206	311	630	630
11	97	120	143	206	311	630	630
12	98	121	143	206	311	630	630
13	99	121	143	207	311	630	630
14	99	122	144	207	312	631	631
15	100	123	144	208	313	631	631
16	101	124	145	209	314	632	632
17	102	125	146	210	315	633	633
18	103	126	147	211	316	634	634
19	104	127	148	212	316	635	635
20	104	127	149	212	317	636	636
21	104	127	149	212	317	636	636
22	104	127	149	212	317	635	635
23	104	126	148	211	316	635	635
24	103	126	147	211	315	634	634
25	102	125	146	210	314	633	633
26	100	123	145	208	313	632	632
27	99	122	144	207	312	630	630
28	98	121	142	206	310	629	629
29	96	119	141	204	309	628	628
30	95	118	139	203	308	626	626

2.21 New Taiwan dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	11	36	110	223	542	1198
2	1	11	36	110	223	542	964
3	2	13	37	103	219	538	786
4	3	15	39	104	217	536	651
5	4	17	43	106	216	535	548
6	5	18	45	110	215	534	534
7	5	20	47	112	215	533	533
8	7	20	45	110	214	533	533
9	7	19	44	108	213	532	532
10	8	20	44	108	213	531	531
11	9	21	44	108	212	531	531
12	9	22	44	108	212	531	531
13	11	22	44	108	212	531	531
14	11	23	44	108	213	531	531
15	12	23	45	108	213	531	531
16	13	23	45	108	213	531	531
17	13	24	45	109	213	532	532
18	14	24	46	109	214	532	532
19	15	25	46	110	214	533	533
20	16	26	47	111	215	534	534
21	17	26	48	111	216	535	535
22	17	27	49	112	217	535	535
23	18	28	49	113	217	536	536
24	18	28	50	113	218	536	536
25	20	29	50	114	218	537	537
26	20	29	50	114	219	537	537
27	21	29	51	114	219	538	538
28	21	30	51	114	219	538	538
29	22	30	51	115	220	538	538
30	22	30	52	115	220	538	538

2.22 New Zealand dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	53	67	91	165	278	597	1201
2	54	67	92	166	279	598	966
3	54	70	93	159	275	594	788
4	55	71	95	160	274	592	653
5	55	73	99	163	273	591	591
6	56	75	102	167	272	591	591
7	56	75	102	168	271	589	589
8	55	76	102	166	270	589	589
9	55	76	101	165	269	588	588
10	54	76	100	163	268	587	587
11	53	75	98	162	267	585	585
12	52	75	97	160	265	584	584
13	51	74	95	159	264	582	582
14	50	73	94	157	262	581	581
15	48	71	93	156	261	580	580
16	47	70	91	155	259	578	578
17	45	68	90	153	258	577	577
18	44	67	89	152	257	576	576
19	44	66	88	151	256	575	575
20	43	66	87	151	256	574	574
21	42	65	87	150	255	574	574
22	42	65	86	150	255	573	573
23	41	64	86	149	254	572	572
24	40	63	85	148	253	572	572
25	40	63	84	148	252	571	571
26	39	62	84	147	252	570	570
27	38	61	83	146	251	570	570
28	38	61	82	146	250	569	569
29	37	60	82	145	250	568	568
30	36	59	81	144	249	568	568

2.23 Rand

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	116	130	155	229	342	661	1283
2	117	131	156	230	343	662	1037
3	120	135	158	224	341	659	850
4	121	138	161	227	340	659	709
5	123	141	167	230	340	659	659
6	124	143	170	235	340	659	659
7	125	144	171	237	340	658	658
8	124	144	170	235	339	658	658
9	123	144	169	233	338	657	657
10	123	145	169	232	337	656	656
11	122	144	168	231	336	654	654
12	121	143	166	229	334	653	653
13	119	142	164	227	332	651	651
14	117	140	162	225	330	649	649
15	115	138	160	223	328	647	647
16	113	136	157	221	325	644	644
17	111	134	155	219	323	642	642
18	108	131	153	216	321	640	640
19	106	129	151	214	319	638	638
20	105	128	149	213	317	636	636
21	103	126	148	211	316	634	634
22	101	124	146	209	314	633	633
23	99	122	144	207	312	631	631
24	98	121	142	206	310	629	629
25	96	119	140	204	308	627	627
26	94	117	138	202	307	625	625
27	92	115	137	200	305	624	624
28	91	114	135	198	303	622	622
29	89	112	133	197	302	620	620
30	87	110	132	195	300	619	619

2.24 Real

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	170	184	208	282	396	714	1252
2	179	193	217	291	405	723	1021
3	185	200	223	289	406	724	843
4	187	203	227	293	406	724	724
5	188	206	232	296	406	724	724
6	188	207	234	299	404	723	723
7	188	208	235	301	403	722	722
8	187	207	233	298	402	720	720
9	185	207	231	296	400	719	719
10	185	206	230	294	399	717	717
11	183	206	229	292	397	716	716
12	181	204	226	290	394	713	713
13	179	202	223	287	392	710	710
14	176	199	220	284	389	707	707
15	173	196	217	281	385	704	704
16	170	193	214	278	382	701	701
17	166	189	211	274	379	698	698
18	163	186	208	271	376	695	695
19	160	183	205	268	373	692	692
20	157	180	202	265	370	689	689
21	154	177	199	262	367	686	686
22	151	174	196	259	364	683	683
23	148	171	193	256	361	680	680
24	145	168	190	253	358	676	676
25	142	165	186	250	355	673	673
26	139	162	183	247	352	670	670
27	136	159	181	244	349	667	667
28	133	156	178	241	346	665	665
29	131	153	175	238	343	662	662
30	128	151	172	236	340	659	659

2.25 Renminbi-yuan

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	30	44	69	143	256	575	1223
2	31	45	70	144	257	576	985
3	32	48	71	137	254	572	805
4	33	50	73	139	252	571	668
5	34	52	78	142	251	570	570
6	35	53	81	146	251	569	569
7	35	55	82	147	250	569	569
8	34	54	80	145	249	567	567
9	33	54	79	143	248	567	567
10	33	55	79	142	247	566	566
11	33	55	78	142	246	565	565
12	33	55	77	141	246	564	564
13	32	55	77	140	245	564	564
14	32	55	76	140	245	563	563
15	32	55	76	140	244	563	563
16	32	54	76	139	244	563	563
17	31	54	76	139	244	563	563
18	31	54	76	139	244	563	563
19	32	54	76	139	244	563	563
20	32	55	76	140	244	563	563
21	32	55	76	140	244	563	563
22	32	55	76	140	244	563	563
23	31	54	76	139	244	563	563
24	31	54	76	139	244	563	563
25	31	54	75	139	244	562	562
26	31	54	75	139	243	562	562
27	30	53	75	138	243	562	562
28	30	53	74	138	243	561	561
29	30	53	74	138	242	561	561
30	29	52	74	137	242	561	561

2.26 Ringgit

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	28	41	66	140	253	572	1235
2	29	43	68	142	255	574	996
3	32	47	70	136	253	571	814
4	34	50	74	140	253	571	676
5	36	54	80	144	253	572	572
6	38	56	83	148	254	572	572
7	39	59	86	151	254	573	573
8	39	59	85	150	254	573	573
9	39	60	85	149	254	573	573
10	40	62	86	150	254	573	573
11	41	63	86	150	255	573	573
12	42	64	87	150	255	574	574
13	42	65	87	150	255	573	573
14	42	65	86	150	255	573	573
15	42	65	86	150	254	573	573
16	41	64	86	149	254	573	573
17	41	64	86	149	254	573	573
18	41	64	86	149	254	573	573
19	41	64	86	149	254	573	573
20	42	65	86	150	254	573	573
21	42	65	86	150	255	573	573
22	42	65	86	150	254	573	573
23	42	64	86	149	254	573	573
24	41	64	86	149	254	572	572
25	41	64	85	149	253	572	572
26	40	63	85	148	253	572	572
27	40	63	84	148	252	571	571
28	39	62	84	147	252	571	571
29	39	62	83	147	251	570	570
30	38	61	83	146	251	569	569

2.27 Russian rouble

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	126	140	165	239	352	671	1301
2	125	139	163	237	351	669	1051
3	125	140	163	230	346	664	860
4	125	142	165	231	344	663	713
5	126	143	169	233	343	662	662
6	125	144	171	236	341	660	660
7	126	145	172	238	340	659	659
8	125	145	171	236	340	658	658
9	123	145	169	234	338	657	657
10	123	145	169	233	338	656	656
11	123	145	169	232	337	655	655
12	122	145	167	231	336	654	654
13	122	144	166	230	334	653	653
14	120	143	165	228	333	652	652
15	118	141	163	226	331	649	649
16	116	139	160	224	329	647	647
17	113	136	158	221	326	645	645
18	111	134	156	219	324	642	642
19	109	132	153	217	322	640	640
20	107	130	151	215	320	638	638
21	105	127	149	212	317	636	636
22	102	125	147	210	315	634	634
23	100	123	145	208	313	631	631
24	98	121	142	206	311	629	629
25	96	119	140	204	308	627	627
26	94	117	138	201	306	625	625
27	92	114	136	199	304	623	623
28	89	112	134	197	302	621	621
29	87	110	132	195	300	619	619
30	86	109	130	193	298	617	617

2.28 Singapore dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	12	37	111	224	543	1201
2	1	14	39	112	226	545	968
3	3	18	41	107	224	542	791
4	5	21	45	110	224	542	655
5	7	25	51	114	224	543	552
6	9	27	55	120	225	543	543
7	10	30	57	122	225	544	544
8	10	30	56	121	225	544	544
9	10	31	56	120	225	543	543
10	11	32	56	120	225	543	543
11	11	33	56	120	224	543	543
12	11	34	56	119	224	543	543
13	11	34	56	119	224	543	543
14	11	34	55	119	224	542	542
15	12	34	55	119	224	542	542
16	13	33	55	118	223	542	542
17	13	33	55	118	223	542	542
18	14	33	55	118	223	542	542
19	15	34	55	119	223	542	542
20	16	34	56	119	224	543	543
21	17	35	56	120	224	543	543
22	17	35	56	120	225	543	543
23	18	35	57	120	225	544	544
24	18	35	57	120	225	544	544
25	20	36	57	121	225	544	544
26	20	36	57	121	225	544	544
27	21	36	57	121	226	544	544
28	21	36	57	121	226	544	544
29	22	36	57	121	226	544	544
30	22	36	58	121	226	544	544

2.29 South Korean won

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	36	50	74	148	261	580	1207
2	36	50	74	148	262	580	972
3	36	51	75	141	257	576	793
4	36	52	76	142	255	574	657
5	37	54	80	144	254	572	572
6	39	57	85	150	255	574	574
7	37	56	83	149	251	570	570
8	40	60	86	151	255	574	574
9	39	60	85	149	254	573	573
10	34	56	80	143	248	567	567
11	30	52	75	139	244	562	562
12	27	50	72	136	240	559	559
13	25	48	70	133	238	556	556
14	23	46	68	131	236	555	555
15	22	45	66	130	234	553	553
16	20	43	65	128	233	552	552
17	19	42	64	127	232	551	551
18	19	42	63	127	231	550	550
19	18	41	63	126	231	550	550
20	18	41	63	126	231	550	550
21	18	41	63	126	231	550	550
22	18	41	63	126	231	550	550
23	18	41	63	126	231	550	550
24	18	41	63	126	231	549	549
25	20	41	62	126	231	549	549
26	20	41	62	126	231	549	549
27	21	41	62	126	230	549	549
28	21	41	62	126	230	549	549
29	22	41	62	125	230	549	549
30	22	40	62	125	230	549	549

2.30 Turkish lira

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	201	215	239	313	426	745	1395
2	197	211	235	309	422	741	1141
3	193	208	231	297	414	732	940
4	189	205	229	295	408	726	783
5	185	203	229	293	403	721	721
6	182	200	228	293	398	716	716
7	178	198	225	290	393	712	712
8	174	194	220	285	389	707	707
9	170	191	216	280	384	703	703
10	166	188	211	275	380	699	699
11	162	184	208	271	376	694	694
12	159	181	203	267	372	690	690
13	155	178	199	263	368	686	686
14	151	174	196	259	364	682	682
15	148	171	192	256	360	679	679
16	144	167	189	252	357	675	675
17	141	164	185	249	354	672	672
18	138	161	182	246	351	669	669
19	135	158	179	243	348	666	666
20	132	155	177	240	345	664	664
21	130	153	174	238	342	661	661
22	127	150	171	235	340	658	658
23	124	147	169	232	337	656	656
24	122	145	166	230	334	653	653
25	119	142	164	227	332	650	650
26	117	140	161	225	329	648	648
27	114	137	159	222	327	646	646
28	112	135	156	220	325	643	643
29	110	133	154	218	322	641	641
30	108	131	152	216	320	639	639

2.31 US dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	8	26	50	105	241	560	1204
2	8	26	50	105	241	560	967
3	10	29	52	101	239	558	788
4	12	33	55	98	239	558	653
5	16	40	61	101	240	559	559
6	18	43	65	97	241	559	559
7	19	45	64	91	241	560	560
8	17	44	63	91	241	560	560
9	18	45	65	94	241	560	560
10	20	48	68	98	241	560	560
11	22	50	70	101	241	560	560
12	23	53	71	102	241	560	560
13	25	54	71	102	241	560	560
14	25	55	72	102	241	560	560
15	25	55	72	102	241	560	560
16	25	55	72	102	241	560	560
17	25	55	72	102	241	560	560
18	25	55	72	102	241	560	560
19	25	55	72	102	241	560	560
20	25	55	72	102	241	560	560
21	25	55	72	102	242	560	560
22	25	55	72	102	242	560	560
23	25	55	72	102	242	560	560
24	25	55	72	102	242	560	560
25	25	55	72	102	242	560	560
26	25	55	72	102	241	560	560
27	25	55	72	102	241	560	560
28	25	55	72	102	241	560	560
29	25	55	72	102	241	559	559
30	25	55	72	102	241	559	559

2.32 Yen

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	3	14	88	202	520	1192
2	1	5	13	87	200	519	959
3	2	5	12	79	195	514	782
4	3	6	14	80	193	511	647
5	4	6	18	82	192	511	544
6	5	8	21	86	192	510	510
7	5	9	23	89	191	510	510
8	6	9	22	87	191	510	510
9	7	10	22	86	191	510	510
10	8	10	23	86	191	510	510
11	9	12	23	87	191	510	510
12	9	12	23	87	192	510	510
13	10	13	24	87	192	510	510
14	11	13	26	87	192	511	511
15	12	15	27	88	192	511	511
16	13	16	28	88	192	511	511
17	13	16	30	88	193	511	511
18	14	17	31	89	193	512	512
19	14	18	32	89	194	512	512
20	16	19	33	90	194	513	513
21	16	19	34	90	195	514	514
22	17	20	36	91	195	514	514
23	17	21	37	91	196	514	514
24	18	22	38	91	196	515	515
25	18	22	39	91	196	515	515
26	20	23	40	91	196	515	515
27	20	23	41	91	196	515	515
28	21	24	43	91	196	515	515
29	22	26	44	91	196	515	515
30	22	26	45	91	196	515	515

3. Other exposures

3.1 Euro

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	1	15	21	43	163	294	3032
2	1	15	21	43	163	333	2257
3	1	15	23	48	158	347	1703
4	1	16	26	52	155	346	1315
5	2	18	30	54	155	338	1042
6	3	21	32	57	155	325	845
7	5	23	34	59	155	309	698
8	5	24	35	62	155	293	587
9	5	25	37	65	155	276	500
10	6	26	38	67	155	260	430
11	6	26	39	68	155	249	373
12	6	26	39	68	155	249	327
13	6	26	39	68	155	249	288
14	6	26	39	68	155	249	255
15	6	26	39	68	155	249	249
16	6	26	40	68	155	249	249
17	6	26	43	68	155	249	249
18	6	26	45	68	155	249	249
19	7	26	47	68	155	249	249
20	7	26	50	68	155	249	249
21	7	26	52	68	155	249	249
22	7	26	54	68	155	249	249
23	8	26	57	68	155	249	249
24	8	26	59	68	155	249	249
25	9	26	61	68	155	249	249
26	9	26	63	68	155	249	249
27	9	26	66	68	155	249	249
28	10	26	68	70	155	249	249
29	10	26	71	72	155	249	249
30	10	26	73	74	155	249	249

3.2 Czech koruna

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	9	22	28	50	170	299	3086
2	10	24	30	52	172	338	2296
3	10	24	33	57	167	352	1732
4	10	25	35	61	164	351	1338
5	10	27	38	62	164	343	1059
6	11	28	40	65	163	329	859
7	12	30	41	66	162	314	709
8	12	31	42	68	162	297	596
9	11	31	43	71	161	280	507
10	11	31	44	73	161	263	436
11	11	31	44	73	160	254	378
12	10	30	43	72	160	254	331
13	10	30	43	72	159	253	292
14	9	29	42	71	159	253	258
15	9	29	42	71	158	252	252
16	8	28	41	70	158	252	252
17	8	28	43	70	157	251	251
18	8	28	46	70	157	251	251
19	8	28	48	70	157	251	251
20	8	29	50	70	158	252	252
21	9	29	53	71	158	252	252
22	9	29	55	71	158	252	252
23	9	29	57	71	158	252	252
24	9	29	60	71	158	252	252
25	9	29	62	71	158	253	253
26	9	29	65	71	158	253	253
27	9	29	67	71	158	252	252
28	10	29	69	71	158	252	252
29	10	29	72	73	158	252	252
30	10	29	74	74	158	252	252

3.3 Danish krone

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	1	14	21	43	163	294	3032
2	1	14	21	43	163	333	2256
3	1	15	23	48	157	347	1702
4	1	16	26	52	155	346	1315
5	2	18	30	54	155	338	1042
6	3	20	32	57	155	324	845
7	5	23	34	59	155	309	698
8	5	24	35	62	155	293	587
9	5	25	37	65	155	276	500
10	6	25	38	67	155	260	430
11	6	26	39	68	155	249	373
12	6	26	39	68	155	249	327
13	6	26	39	68	155	249	288
14	6	26	39	68	155	249	255
15	6	26	39	68	155	249	249
16	6	26	40	68	155	249	249
17	6	26	43	68	155	249	249
18	6	26	45	68	155	249	249
19	7	26	47	68	155	249	249
20	7	26	50	68	155	249	249
21	7	26	52	68	155	249	249
22	7	26	54	68	155	249	249
23	8	26	57	68	155	249	249
24	8	26	59	68	155	249	249
25	9	26	61	68	155	249	249
26	9	26	63	68	155	249	249
27	9	26	66	68	155	249	249
28	10	26	68	70	155	249	249
29	10	26	71	72	155	249	249
30	10	26	73	74	155	249	249

3.4 Forint

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	75	88	95	117	237	333	3090
2	72	85	91	113	233	340	2305
3	74	88	96	121	230	354	1742
4	72	86	97	122	226	354	1348
5	70	86	98	122	224	346	1070
6	70	87	99	124	222	334	869
7	70	88	99	124	220	318	719
8	68	87	99	125	219	313	605
9	68	87	99	127	218	312	516
10	64	84	97	126	214	308	445
11	62	82	95	124	211	305	387
12	61	81	94	123	210	304	339
13	60	80	93	122	209	303	303
14	60	80	92	122	209	303	303
15	59	79	92	121	208	303	303
16	59	79	92	121	208	302	302
17	58	78	91	120	207	302	302
18	58	78	90	120	207	301	301
19	57	77	90	119	206	300	300
20	56	76	89	118	205	300	300
21	56	76	88	118	205	299	299
22	55	75	88	117	204	298	298
23	54	74	87	116	203	297	297
24	53	73	86	115	202	296	296
25	52	72	85	114	201	295	295
26	51	71	84	113	200	294	294
27	50	70	83	112	199	293	293
28	49	69	82	111	198	292	292
29	48	68	80	110	197	291	291
30	47	67	79	109	196	290	290

3.5 Krona

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	5	18	25	47	167	297	3056
2	7	20	26	48	169	335	2274
3	7	21	30	55	164	349	1716
4	8	23	33	59	162	348	1325
5	9	25	37	61	162	340	1050
6	10	28	39	64	162	327	851
7	12	30	41	66	162	311	703
8	11	30	42	68	162	295	591
9	11	31	43	71	161	278	503
10	11	31	44	72	161	261	433
11	11	31	44	73	160	254	376
12	11	31	44	73	160	254	330
13	11	31	44	73	160	254	291
14	11	31	44	73	160	254	258
15	11	31	43	72	160	254	254
16	10	30	43	72	159	253	253
17	10	30	43	72	159	254	254
18	10	30	46	72	159	254	254
19	10	30	49	72	160	254	254
20	11	31	50	73	160	254	254
21	11	31	53	73	160	255	255
22	11	31	56	73	161	255	255
23	12	32	58	74	161	255	255
24	12	32	60	74	161	255	255
25	12	32	62	74	161	255	255
26	12	32	65	74	161	255	255
27	12	32	67	74	161	255	255
28	12	32	70	73	161	255	255
29	11	31	72	74	161	255	255
30	11	31	74	76	161	255	255

3.6 Kuna

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	44	58	64	86	206	302	3060
2	48	61	68	90	210	336	2281
3	52	66	74	99	209	351	1723
4	54	69	79	105	208	350	1332
5	56	72	84	108	209	342	1056
6	57	75	86	111	209	329	857
7	58	77	87	113	209	314	709
8	57	76	88	114	208	302	596
9	56	76	88	116	206	300	508
10	55	75	88	117	205	299	438
11	54	74	87	116	203	298	380
12	53	73	86	115	202	296	333
13	51	71	84	113	201	295	295
14	50	70	83	112	199	293	293
15	49	69	82	111	198	292	292
16	48	68	81	110	197	291	291
17	47	67	80	109	196	291	291
18	47	67	79	109	196	290	290
19	46	66	79	108	195	289	289
20	45	65	78	107	195	289	289
21	45	65	78	107	194	288	288
22	44	64	77	106	193	287	287
23	43	63	76	105	192	286	286
24	42	62	75	104	192	286	286
25	42	62	74	104	191	285	285
26	41	61	74	103	190	284	284
27	40	60	73	102	189	283	283
28	39	59	72	101	188	282	282
29	38	58	72	100	187	282	282
30	37	57	75	99	187	281	281

3.7 Lev

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	1	14	20	42	162	294	3030
2	1	14	20	42	162	333	2255
3	1	14	22	47	157	346	1701
4	1	15	25	51	154	346	1314
5	1	17	29	53	154	337	1041
6	2	20	31	56	154	324	844
7	4	22	33	58	154	309	698
8	4	23	34	61	154	293	586
9	4	24	36	64	154	276	499
10	5	25	37	66	154	260	430
11	5	25	38	67	154	248	373
12	5	25	38	67	154	248	327
13	5	25	38	67	154	248	288
14	5	25	38	67	154	248	255
15	5	25	38	67	154	248	248
16	6	25	40	67	154	248	248
17	6	25	43	67	154	248	248
18	6	25	45	67	154	248	248
19	7	25	47	67	154	248	248
20	7	25	50	67	154	248	248
21	7	25	52	67	154	248	248
22	7	25	54	67	154	248	248
23	8	25	57	67	154	248	248
24	8	25	59	67	154	248	248
25	9	25	61	67	154	248	248
26	9	25	63	67	154	248	248
27	9	25	66	68	154	248	248
28	10	25	68	70	154	248	248
29	10	25	70	72	154	248	248
30	10	25	73	74	154	249	249

3.8 Pound sterling

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	11	22	45	181	298	3076
2	0	11	22	45	181	337	2288
3	1	11	24	50	176	351	1726
4	1	13	26	56	172	350	1333
5	1	16	28	59	171	342	1056
6	2	18	33	60	170	328	856
7	3	21	36	60	169	313	707
8	5	24	37	60	168	296	594
9	8	31	42	59	167	279	505
10	10	34	42	57	166	262	435
11	9	33	41	57	165	259	377
12	8	32	41	56	164	258	330
13	7	31	42	57	164	258	291
14	7	31	42	57	163	257	257
15	7	31	42	57	162	256	256
16	7	31	43	57	161	255	255
17	7	31	43	57	160	254	254
18	7	31	46	57	159	253	253
19	7	31	47	57	159	253	253
20	7	31	50	57	160	254	254
21	7	31	53	57	160	254	254
22	8	31	54	59	160	254	254
23	8	31	57	61	159	253	253
24	8	31	59	62	158	253	253
25	9	31	62	64	158	252	252
26	9	31	64	66	157	251	251
27	9	31	66	68	157	251	251
28	10	31	68	70	156	251	251
29	10	31	70	72	156	250	250
30	10	31	73	74	156	250	250

3.9 Romanian leu

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	81	94	101	123	243	339	3212
2	79	92	99	121	241	352	2402
3	77	91	99	124	234	368	1818
4	75	90	100	126	229	369	1408
5	73	89	101	125	226	361	1118
6	72	90	101	126	224	348	909
7	71	90	101	126	222	333	753
8	69	88	99	126	219	316	633
9	67	87	99	127	217	311	540
10	66	86	99	127	215	310	466
11	65	85	98	126	214	308	405
12	63	83	96	125	212	306	355
13	61	82	94	123	211	305	313
14	60	80	93	122	209	303	303
15	59	79	92	121	208	302	302
16	57	78	90	119	207	301	301
17	56	76	89	118	206	300	300
18	55	75	88	117	205	299	299
19	55	75	87	117	204	298	298
20	54	74	87	116	203	297	297
21	53	73	86	115	202	296	296
22	52	72	85	114	201	295	295
23	51	71	84	113	200	294	294
24	50	70	83	112	199	293	293
25	49	69	82	111	198	292	292
26	48	68	81	110	197	291	291
27	47	67	80	109	196	290	290
28	46	66	79	108	195	289	289
29	45	65	78	107	194	288	288
30	44	64	78	106	193	287	287

3.10 Zloty

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	54	67	73	96	216	312	3086
2	53	66	72	94	214	339	2301
3	51	65	74	98	208	353	1738
4	50	65	76	101	205	353	1344
5	49	65	77	101	203	345	1066
6	49	66	78	103	201	332	865
7	49	67	78	103	199	317	716
8	48	67	78	104	198	300	602
9	47	66	78	106	196	290	513
10	46	66	78	107	195	289	442
11	45	65	78	107	194	288	384
12	44	64	77	106	193	287	336
13	43	63	76	105	193	287	296
14	43	63	76	105	192	286	286
15	42	62	75	104	191	285	285
16	41	61	74	103	190	284	284
17	40	60	73	102	190	284	284
18	40	60	73	102	189	283	283
19	39	59	72	101	189	283	283
20	39	59	72	101	188	282	282
21	39	59	72	101	188	282	282
22	38	58	71	100	188	282	282
23	38	58	71	100	187	281	281
24	37	57	70	99	187	281	281
25	37	57	70	99	186	280	280
26	36	56	69	98	185	279	279
27	35	55	68	97	184	279	279
28	35	55	71	97	184	278	278
29	34	54	73	96	183	277	277
30	33	53	76	95	182	276	276

3.11 Norwegian krone

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	27	40	46	68	188	299	3085
2	27	40	47	69	189	338	2297
3	26	40	48	73	183	352	1733
4	25	40	50	76	179	352	1338
5	25	41	53	77	178	343	1060
6	26	43	54	79	177	330	859
7	26	45	55	81	177	314	710
8	26	44	56	82	176	297	597
9	25	45	57	85	175	281	508
10	25	45	57	86	174	268	437
11	24	44	57	86	174	268	380
12	24	44	56	86	173	267	333
13	23	43	56	85	172	266	293
14	22	42	55	84	171	265	265
15	21	41	54	83	171	265	265
16	21	41	54	83	170	264	264
17	20	40	53	82	169	263	263
18	20	40	53	82	169	263	263
19	20	40	52	82	169	263	263
20	20	40	53	82	169	263	263
21	20	40	53	82	169	263	263
22	20	40	56	82	169	263	263
23	19	39	58	81	169	263	263
24	19	39	61	81	168	263	263
25	19	39	62	81	168	262	262
26	19	39	65	81	168	262	262
27	18	38	67	80	168	262	262
28	18	38	70	80	167	261	261
29	18	38	72	80	167	261	261
30	18	38	74	80	167	261	261

3.12 Swiss franc

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	0	3	24	144	293	3017
2	0	1	6	25	145	331	2245
3	1	1	8	30	139	345	1694
4	1	3	11	34	137	345	1309
5	1	4	14	36	137	336	1038
6	2	4	16	39	137	323	842
7	2	6	19	41	137	308	696
8	2	6	22	43	137	292	585
9	2	7	23	46	137	275	498
10	4	8	26	48	137	259	429
11	4	9	29	50	138	243	372
12	4	9	30	49	136	231	326
13	4	10	33	50	137	232	287
14	4	11	36	50	137	231	254
15	5	12	38	49	136	230	230
16	6	12	40	48	135	229	229
17	6	14	43	49	135	229	229
18	6	14	45	50	135	229	229
19	7	15	47	53	135	230	230
20	7	16	49	54	136	230	230
21	7	17	52	57	136	230	230
22	7	17	54	59	136	231	231
23	8	19	57	60	136	230	230
24	8	19	58	62	136	230	230
25	8	20	61	64	136	230	230
26	9	21	63	66	136	230	230
27	9	22	66	68	136	230	230
28	10	22	68	70	136	230	230
29	10	24	70	72	136	230	230
30	10	24	73	74	136	230	230

3.13 Australian dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	42	55	62	84	204	300	3066
2	42	55	62	84	204	336	2282
3	41	55	63	88	198	350	1722
4	40	55	65	91	194	350	1331
5	40	56	68	92	193	341	1055
6	40	58	69	94	192	328	855
7	41	59	70	95	191	313	707
8	40	59	70	97	190	296	594
9	39	59	71	99	189	283	506
10	39	59	71	100	188	282	436
11	38	58	71	100	187	281	378
12	37	57	70	99	187	281	331
13	37	57	70	99	186	280	292
14	36	56	69	98	185	279	279
15	35	55	68	97	185	279	279
16	34	55	67	96	184	278	278
17	34	54	67	96	183	277	277
18	33	53	66	95	183	277	277
19	33	53	66	95	182	276	276
20	33	53	66	95	182	276	276
21	33	53	65	95	182	276	276
22	32	52	65	94	181	275	275
23	32	52	65	94	181	275	275
24	31	51	64	93	180	274	274
25	30	50	63	92	180	274	274
26	30	50	64	92	179	273	273
27	29	49	67	91	178	272	272
28	28	48	68	90	178	272	272
29	28	48	71	90	177	271	271
30	27	47	74	89	176	270	270

3.14 Baht

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	12	25	32	54	174	299	3079
2	16	29	36	58	178	338	2295
3	19	33	41	66	175	352	1733
4	21	36	46	72	175	352	1339
5	23	39	51	75	176	344	1062
6	22	40	51	76	174	331	861
7	28	46	57	82	178	315	712
8	26	45	57	83	177	299	599
9	27	47	59	87	177	282	510
10	29	49	62	90	179	273	439
11	30	50	63	92	180	274	381
12	31	51	64	93	180	274	334
13	31	51	64	93	181	275	294
14	32	52	65	94	181	275	275
15	32	52	65	94	181	275	275
16	31	51	64	93	180	275	275
17	31	51	64	93	180	275	275
18	31	51	63	93	180	274	274
19	30	50	63	92	179	273	273
20	30	50	63	92	179	274	274
21	30	50	63	92	179	273	273
22	30	50	63	92	179	273	273
23	30	50	62	92	179	273	273
24	29	49	62	91	178	272	272
25	29	49	62	91	178	272	272
26	28	48	65	90	177	272	272
27	28	48	67	90	177	271	271
28	27	47	70	89	176	270	270
29	27	47	72	89	176	270	270
30	26	46	75	88	175	269	269

3.15 Canadian dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	12	25	31	53	173	299	3079
2	13	26	32	54	174	338	2294
3	13	27	36	60	170	352	1732
4	14	28	39	64	168	352	1339
5	14	30	42	66	168	343	1061
6	16	33	45	70	168	330	860
7	17	36	46	72	168	315	711
8	17	36	48	74	168	298	597
9	18	37	49	77	168	281	508
10	18	38	51	79	168	264	437
11	19	39	51	80	168	262	380
12	19	39	52	81	168	262	332
13	19	39	52	81	168	262	293
14	19	39	52	81	168	262	262
15	19	39	52	81	168	262	262
16	19	39	52	81	168	262	262
17	19	39	52	81	168	262	262
18	19	39	52	81	168	262	262
19	19	39	51	81	168	262	262
20	19	39	52	81	168	262	262
21	19	39	53	81	168	262	262
22	18	38	55	80	168	262	262
23	18	38	57	80	167	261	261
24	18	38	60	80	167	261	261
25	17	37	62	79	166	260	260
26	17	37	64	79	166	260	260
27	16	36	67	78	166	260	260
28	16	36	69	78	165	259	259
29	16	36	72	77	165	259	259
30	15	35	74	77	164	258	258

3.16 Chilean peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	46	59	65	87	207	303	3080
2	49	62	68	90	210	339	2303
3	51	65	73	98	208	355	1746
4	52	67	77	103	206	356	1355
5	53	69	81	105	207	349	1077
6	55	72	84	109	207	337	876
7	57	75	86	111	207	322	726
8	56	75	86	113	206	306	612
9	56	76	88	116	206	300	522
10	57	76	89	118	206	300	450
11	56	76	89	118	206	300	391
12	56	76	89	118	205	299	343
13	55	75	88	117	204	298	302
14	54	74	87	116	203	297	297
15	53	73	86	115	202	297	297
16	52	72	85	114	202	296	296
17	52	72	85	114	201	295	295
18	51	71	84	113	200	294	294
19	50	70	83	112	200	294	294
20	50	70	83	112	199	293	293
21	49	69	82	111	198	292	292
22	48	68	81	110	197	291	291
23	47	67	80	109	196	291	291
24	46	66	79	108	196	290	290
25	45	65	78	107	195	289	289
26	45	65	77	106	194	288	288
27	44	64	76	106	193	287	287
28	43	63	76	105	192	286	286
29	42	62	75	104	191	285	285
30	41	61	77	103	190	284	284

3.17 Colombian peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	77	90	97	119	239	335	3258
2	81	95	101	123	243	359	2449
3	81	95	104	129	238	377	1860
4	81	96	106	132	235	378	1444
5	83	100	111	135	237	371	1148
6	86	103	114	139	237	358	933
7	88	106	117	142	238	342	773
8	89	108	119	145	239	333	651
9	90	109	121	149	239	333	555
10	90	110	123	151	239	334	478
11	90	110	123	151	239	333	415
12	89	109	122	151	238	332	364
13	88	108	120	150	237	331	331
14	86	106	119	148	235	329	329
15	85	105	118	147	234	328	328
16	83	103	116	145	233	327	327
17	82	102	115	144	231	325	325
18	81	101	113	143	230	324	324
19	79	99	112	141	228	323	323
20	78	98	111	140	227	321	321
21	77	97	109	138	226	320	320
22	75	95	108	137	224	318	318
23	73	93	106	135	223	317	317
24	72	92	105	134	221	315	315
25	70	90	103	132	219	314	314
26	69	89	102	131	218	312	312
27	67	87	100	129	216	310	310
28	65	85	98	127	215	309	309
29	64	84	97	126	213	307	307
30	62	83	95	124	212	306	306

3.18 Hong Kong dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	5	18	25	47	167	300	3097
2	8	21	28	50	170	339	2302
3	10	24	33	57	167	353	1736
4	12	27	37	63	166	352	1341
5	14	30	42	66	167	343	1062
6	16	33	45	69	168	330	860
7	18	36	47	72	168	314	711
8	18	37	48	74	168	298	597
9	18	37	49	77	168	281	508
10	18	38	51	79	168	264	437
11	18	38	51	80	168	262	379
12	18	38	51	80	167	261	332
13	18	38	50	80	167	261	292
14	17	37	50	79	166	260	260
15	16	36	49	78	165	259	259
16	15	35	48	77	165	259	259
17	15	35	48	77	164	258	258
18	15	35	47	77	164	258	258
19	14	34	48	76	164	258	258
20	15	35	50	77	164	258	258
21	15	35	53	77	164	258	258
22	15	35	55	77	164	258	258
23	15	35	57	77	164	258	258
24	14	35	60	76	164	258	258
25	14	34	62	76	164	258	258
26	14	34	65	76	163	257	257
27	14	34	67	76	163	257	257
28	14	34	69	76	163	257	257
29	14	34	72	76	163	257	257
30	13	33	74	75	163	257	257

3.19 Indian rupee

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	90	104	110	132	252	348	3284
2	91	104	111	133	253	360	2456
3	90	104	113	137	247	376	1860
4	90	105	116	141	244	377	1442
5	91	107	118	143	244	369	1145
6	91	109	120	145	243	356	930
7	93	111	122	147	243	340	770
8	92	111	122	149	242	337	647
9	92	111	123	151	241	336	551
10	91	110	123	152	240	334	474
11	89	109	122	151	238	332	412
12	87	107	120	149	236	330	360
13	85	105	118	147	235	329	329
14	83	103	116	145	233	327	327
15	82	102	115	144	231	325	325
16	80	100	112	142	229	323	323
17	78	98	111	140	227	321	321
18	76	96	109	138	226	320	320
19	75	95	108	137	224	318	318
20	74	94	107	136	223	317	317
21	73	93	106	135	222	316	316
22	72	92	105	134	221	315	315
23	71	91	104	133	220	314	314
24	69	89	102	131	219	313	313
25	68	88	101	130	217	312	312
26	67	87	100	129	216	310	310
27	66	86	99	128	215	309	309
28	65	85	98	127	214	308	308
29	64	84	97	126	213	307	307
30	63	83	96	125	212	306	306

3.20 Mexican peso

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	328	341	347	369	489	585	3340
2	78	91	98	120	240	364	2489
3	80	94	103	127	237	379	1881
4	82	97	108	133	237	380	1457
5	84	100	112	136	238	372	1157
6	86	104	115	140	238	359	939
7	88	107	117	143	239	342	777
8	89	108	119	146	239	333	653
9	90	109	121	149	240	334	556
10	90	110	122	151	239	333	479
11	90	110	123	152	239	333	416
12	90	110	123	152	239	333	364
13	90	110	123	152	240	334	334
14	91	111	124	153	240	334	334
15	92	112	124	153	241	335	335
16	92	112	125	154	242	336	336
17	93	113	126	155	243	337	337
18	94	114	127	156	244	338	338
19	95	115	128	157	244	339	339
20	96	116	129	158	245	339	339
21	96	116	129	158	245	339	339
22	96	116	129	158	245	339	339
23	95	115	128	157	244	338	338
24	94	114	127	156	243	337	337
25	93	113	126	155	242	336	336
26	92	112	125	154	241	335	335
27	91	111	124	153	240	334	334
28	89	109	122	151	239	333	333
29	88	108	121	150	237	331	331
30	86	106	119	148	236	330	330

3.21 New Taiwan dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	6	12	34	154	297	3063
2	0	6	12	34	154	336	2281
3	1	6	14	39	149	350	1721
4	1	6	16	42	145	349	1329
5	1	7	19	43	144	341	1052
6	2	9	20	45	144	327	853
7	2	11	22	47	143	312	705
8	2	11	22	49	142	295	592
9	2	11	24	51	141	278	504
10	4	11	26	52	141	262	434
11	4	11	29	53	140	246	377
12	4	11	32	53	140	234	330
13	4	11	33	53	140	235	291
14	4	11	36	53	141	235	257
15	5	12	39	54	141	235	235
16	6	13	40	54	141	235	235
17	6	14	43	54	141	235	235
18	6	14	46	55	142	236	236
19	7	15	48	55	142	237	237
20	7	16	50	56	143	237	237
21	7	17	53	57	144	238	238
22	8	17	55	60	145	239	239
23	8	19	57	62	145	239	239
24	8	20	60	64	146	240	240
25	9	20	62	65	146	240	240
26	9	22	65	67	147	241	241
27	9	22	67	69	147	241	241
28	10	23	69	71	147	241	241
29	10	24	72	73	148	242	242
30	10	24	74	74	148	242	242

3.22 New Zealand dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	48	61	67	90	210	306	3070
2	49	62	68	90	210	337	2286
3	48	62	70	95	205	351	1725
4	47	62	73	98	202	350	1333
5	47	63	75	99	201	342	1056
6	48	66	77	102	200	328	856
7	49	67	78	103	199	313	708
8	48	67	78	105	198	296	595
9	48	67	79	107	198	292	506
10	47	67	79	108	196	290	436
11	45	65	78	107	195	289	379
12	44	64	77	106	193	287	332
13	43	63	75	104	192	286	292
14	41	61	74	103	190	284	284
15	40	60	73	102	189	283	283
16	38	58	71	100	187	281	281
17	37	57	70	99	186	280	280
18	36	56	69	98	185	279	279
19	35	55	68	97	184	278	278
20	35	55	67	97	184	278	278
21	34	54	67	96	183	277	277
22	33	53	66	95	183	277	277
23	33	53	66	95	182	276	276
24	32	52	65	94	181	275	275
25	31	51	64	93	181	275	275
26	31	51	65	93	180	274	274
27	30	50	67	92	179	273	273
28	29	49	70	91	178	273	273
29	29	49	72	91	178	272	272
30	28	48	74	90	177	271	271

3.23 Rand

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	111	125	131	153	273	369	3295
2	113	126	132	154	274	370	2464
3	113	127	136	160	270	378	1869
4	114	129	139	165	268	380	1452
5	115	131	143	167	268	373	1157
6	116	134	145	170	268	362	943
7	117	136	146	172	268	362	784
8	117	136	147	174	267	361	662
9	116	136	148	176	266	360	565
10	116	136	148	177	265	359	488
11	115	135	147	176	264	358	425
12	113	133	146	175	262	356	372
13	111	131	144	173	260	354	354
14	109	129	142	171	258	352	352
15	107	127	140	169	256	350	350
16	104	124	137	166	254	348	348
17	102	122	135	164	251	345	345
18	100	120	133	162	249	343	343
19	98	118	131	160	247	341	341
20	96	116	129	158	246	340	340
21	95	115	127	157	244	338	338
22	93	113	126	155	242	336	336
23	91	111	124	153	240	334	334
24	89	109	122	151	238	332	332
25	87	107	120	149	236	331	331
26	85	106	118	147	235	329	329
27	84	104	117	146	233	327	327
28	82	102	115	144	231	325	325
29	80	100	113	142	230	324	324
30	79	99	112	141	228	322	322

3.24 Real

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	165	178	185	207	327	423	3209
2	174	187	194	216	336	432	2422
3	178	192	201	225	335	431	1849
4	180	194	205	230	334	429	1441
5	180	196	208	232	334	428	1148
6	181	198	209	234	332	427	935
7	181	199	210	235	331	425	775
8	179	198	210	236	330	424	653
9	178	198	210	238	328	422	557
10	177	197	210	239	327	421	480
11	176	196	209	237	325	419	419
12	173	193	206	235	322	417	417
13	170	190	203	232	320	414	414
14	167	187	200	229	317	411	411
15	164	184	197	226	313	408	408
16	161	181	194	223	310	404	404
17	158	178	191	220	307	401	401
18	155	175	188	217	304	398	398
19	152	172	185	214	301	395	395
20	149	169	182	211	298	392	392
21	146	166	179	208	295	389	389
22	143	163	176	205	292	386	386
23	140	160	173	202	289	383	383
24	137	157	169	199	286	380	380
25	134	154	166	195	283	377	377
26	131	151	163	192	280	374	374
27	128	148	160	190	277	371	371
28	125	145	158	187	274	368	368
29	122	142	155	184	271	365	365
30	119	139	152	181	269	363	363

3.25 Renminbi-yuan

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	26	39	45	67	187	303	3132
2	26	40	46	68	188	343	2335
3	26	40	49	73	183	358	1764
4	26	41	51	77	180	358	1364
5	26	42	54	78	180	350	1081
6	27	44	56	81	179	336	877
7	28	46	57	82	178	320	725
8	27	46	57	83	177	303	609
9	26	46	58	85	176	286	518
10	26	46	58	87	175	269	446
11	25	45	58	87	174	269	387
12	25	45	57	87	174	268	339
13	24	44	57	86	173	267	299
14	24	44	56	85	173	267	267
15	23	43	56	85	172	266	266
16	23	43	56	85	172	266	266
17	23	43	56	85	172	266	266
18	23	43	56	85	172	266	266
19	23	43	56	85	172	266	266
20	23	43	56	85	172	266	266
21	23	43	56	85	172	266	266
22	23	43	57	85	172	266	266
23	23	43	58	85	172	266	266
24	23	43	61	85	172	266	266
25	22	42	64	84	172	266	266
26	22	42	66	84	171	265	265
27	22	42	68	84	171	265	265
28	22	42	71	84	171	265	265
29	21	41	73	83	170	265	265
30	21	41	76	83	170	264	264

3.26 Ringgit

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	23	36	42	64	184	306	3164
2	24	38	44	66	186	347	2362
3	25	39	48	72	182	362	1786
4	26	41	52	77	181	362	1381
5	28	44	56	80	182	354	1095
6	30	47	59	83	182	341	888
7	32	50	61	86	182	325	735
8	32	51	62	89	182	308	618
9	32	52	64	92	182	290	526
10	33	53	66	94	183	277	453
11	34	54	66	95	183	277	393
12	34	54	67	96	183	277	344
13	34	54	67	96	183	277	304
14	33	53	66	95	183	277	277
15	33	53	66	95	182	277	277
16	33	53	66	95	182	276	276
17	33	53	66	95	182	276	276
18	33	53	66	95	182	276	276
19	33	53	66	95	182	276	276
20	33	53	66	95	182	277	277
21	33	53	66	95	183	277	277
22	33	53	66	95	182	277	277
23	33	53	66	95	182	276	276
24	33	53	66	95	182	276	276
25	32	52	65	94	181	276	276
26	32	52	67	94	181	275	275
27	31	51	70	93	181	275	275
28	31	51	72	93	180	274	274
29	30	50	75	92	179	274	274
30	30	50	77	92	179	273	273

3.27 Russian rouble

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	122	135	141	163	283	379	3343
2	120	133	140	162	282	378	2502
3	119	133	141	166	275	382	1892
4	118	133	143	169	272	382	1462
5	118	134	146	170	271	373	1158
6	118	135	146	171	269	364	938
7	118	136	147	172	268	362	775
8	117	136	148	174	268	362	651
9	116	136	148	176	266	360	554
10	116	136	149	177	266	360	477
11	116	136	148	177	265	359	414
12	114	134	147	176	264	358	362
13	113	133	146	175	262	356	356
14	112	132	145	174	261	355	355
15	110	130	143	172	259	353	353
16	108	128	140	169	257	351	351
17	105	125	138	167	254	348	348
18	103	123	136	165	252	346	346
19	100	121	133	162	250	344	344
20	98	118	131	160	248	342	342
21	96	116	129	158	245	339	339
22	94	114	127	156	243	337	337
23	92	112	125	154	241	335	335
24	89	109	122	151	239	333	333
25	87	107	120	149	236	331	331
26	85	105	118	147	234	328	328
27	83	103	116	145	232	326	326
28	81	101	114	143	230	324	324
29	79	99	112	141	228	322	322
30	77	97	110	139	226	320	320

3.28 Singapore dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	7	13	35	155	298	3070
2	0	8	15	37	157	337	2290
3	1	10	19	43	153	352	1730
4	1	12	23	48	152	352	1337
5	1	15	27	51	152	343	1060
6	2	18	30	55	153	330	859
7	3	21	32	57	153	314	710
8	3	22	33	60	153	298	597
9	3	23	35	62	153	281	508
10	4	23	36	64	153	264	437
11	4	23	36	65	153	248	379
12	4	23	36	65	152	246	332
13	4	23	36	65	152	246	292
14	4	23	36	65	152	246	259
15	5	22	39	64	152	246	246
16	6	22	41	64	151	245	245
17	6	22	43	64	151	245	245
18	6	22	46	64	151	245	245
19	7	22	48	64	151	246	246
20	7	23	50	65	152	246	246
21	7	23	53	65	152	246	246
22	8	24	55	65	153	247	247
23	8	24	57	66	153	247	247
24	8	24	60	66	153	247	247
25	9	24	62	66	153	247	247
26	9	24	65	67	154	248	248
27	9	24	67	69	154	248	248
28	10	25	69	71	154	248	248
29	10	25	72	73	154	248	248
30	10	25	74	74	154	248	248

3.29 South Korean won

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	31	44	50	73	193	299	3087
2	31	44	51	73	193	339	2299
3	30	44	52	77	186	353	1735
4	29	44	54	80	183	352	1340
5	28	45	56	80	182	343	1062
6	31	48	60	85	183	330	860
7	29	47	58	83	179	314	711
8	33	52	63	90	183	298	597
9	32	52	64	91	182	281	508
10	27	47	59	88	176	270	437
11	22	42	55	84	172	266	379
12	19	39	52	81	168	262	331
13	17	37	50	79	166	260	292
14	15	35	48	77	164	258	258
15	13	33	46	75	162	257	257
16	12	32	45	74	161	255	255
17	11	31	44	73	160	254	254
18	10	30	46	72	159	254	254
19	10	30	47	72	159	253	253
20	10	30	50	72	159	253	253
21	10	30	53	72	159	253	253
22	10	30	54	72	159	253	253
23	10	30	57	72	159	253	253
24	10	30	59	72	159	253	253
25	10	30	62	72	159	253	253
26	9	29	64	71	159	253	253
27	9	29	67	71	159	253	253
28	10	29	69	71	158	252	252
29	10	29	72	72	158	252	252
30	10	29	74	74	158	252	252

3.30 Turkish lira

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	196	209	215	237	357	454	3599
2	192	205	212	234	354	450	2730
3	186	200	209	233	343	439	2079
4	182	197	207	233	336	431	1613
5	177	193	205	229	331	425	1280
6	174	191	203	228	326	420	1038
7	171	189	200	225	321	415	857
8	166	185	197	223	317	411	719
9	162	182	194	222	312	406	611
10	159	178	191	220	308	402	524
11	155	175	187	216	304	398	454
12	150	171	183	212	300	394	396
13	146	167	179	208	296	390	390
14	143	163	176	205	292	386	386
15	139	159	172	201	288	382	382
16	136	156	169	198	285	379	379
17	132	152	165	194	282	376	376
18	129	149	162	191	279	373	373
19	127	147	159	189	276	370	370
20	124	144	157	186	273	367	367
21	121	141	154	183	270	364	364
22	118	138	151	180	268	362	362
23	116	136	149	178	265	359	359
24	113	133	146	175	262	356	356
25	111	131	143	173	260	354	354
26	108	128	141	170	257	351	351
27	106	126	139	168	255	349	349
28	103	123	136	165	253	347	347
29	101	121	134	163	250	345	345
30	99	119	132	161	248	342	342

3.31 US dollar

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	14	26	52	172	299	3078
2	0	14	26	52	172	337	2288
3	1	17	28	56	169	351	1725
4	1	20	32	61	167	350	1332
5	2	23	36	67	168	341	1055
6	4	27	39	69	169	328	855
7	7	31	42	71	169	313	707
8	9	34	46	74	169	296	594
9	11	37	50	76	169	279	506
10	12	38	51	77	169	263	435
11	13	40	52	78	169	263	378
12	14	41	54	79	169	263	331
13	14	43	54	80	169	263	291
14	15	43	55	80	169	263	263
15	15	43	55	80	169	263	263
16	15	43	55	80	169	263	263
17	15	43	55	80	169	263	263
18	15	43	55	80	169	263	263
19	15	43	55	80	169	263	263
20	15	43	55	80	169	264	264
21	15	43	55	80	170	264	264
22	15	43	55	80	170	264	264
23	15	43	57	80	170	264	264
24	15	43	59	80	170	264	264
25	15	43	62	80	170	264	264
26	15	43	64	80	169	264	264
27	15	43	67	80	169	263	263
28	15	43	69	80	169	263	263
29	15	43	71	80	169	263	263
30	15	43	74	80	169	263	263

3.32 Yen

Duration (in years)	Credit quality step 0	Credit quality step 1	Credit quality step 2	Credit quality step 3	Credit quality step 4	Credit quality step 5	Credit quality step 6
1	0	0	3	13	133	296	3046
2	0	1	6	14	131	334	2267
3	1	1	9	16	124	348	1710
4	1	3	11	19	121	347	1320
5	1	4	14	22	120	339	1046
6	2	4	16	25	120	325	847
7	2	6	19	27	119	310	700
8	2	6	22	30	119	293	588
9	2	7	24	31	119	277	501
10	4	8	26	34	119	260	431
11	4	9	29	36	119	244	374
12	4	9	31	38	120	229	327
13	4	10	33	41	120	214	288
14	4	11	36	43	120	214	255
15	5	12	38	44	120	214	227
16	6	12	40	47	120	215	215
17	6	14	43	49	121	215	215
18	6	14	45	50	121	215	215
19	7	15	47	53	122	216	216
20	7	16	50	54	122	217	217
21	7	17	52	57	123	217	217
22	7	17	54	59	124	218	218
23	8	19	57	60	126	218	218
24	8	19	59	62	128	218	218
25	8	20	61	64	129	218	218
26	9	21	63	66	129	218	218
27	9	22	66	68	131	218	218
28	10	22	68	70	132	218	218
29	10	24	70	72	133	218	218
30	10	24	73	74	133	218	218

ANNEX III

Volatility adjustment to the relevant risk-free interest rate term structure

Currency	National insurance market	Volatility adjustment (in bps)
Euro	Austria	46
Euro	Belgium	46
Euro	Cyprus	46
Euro	Estonia	46
Euro	Finland	46
Euro	France	46
Euro	Germany	46
Euro	Greece	46
Euro	Ireland	46
Euro	Italy	46
Euro	Latvia	46
Euro	Lithuania	46
Euro	Luxembourg	46
Euro	Malta	46
Euro	Netherlands	46
Euro	Portugal	46
Euro	Slovakia	46
Euro	Slovenia	46
Euro	Spain	46
Czech koruna	Czech Republic	37
Danish krone	Denmark	54
Forint	Hungary	12
Krona	Sweden	36
Kuna	Croatia	11
Lev	Bulgaria	0
Pound sterling	United Kingdom	50
Romanian leu	Romania	13
Zloty	Poland	24
Króna	Iceland	31
Norwegian krone	Norway	71
Swiss franc	Liechtenstein	32

Currency	National insurance market	Volatility adjustment (in bps)
Swiss franc	Switzerland	32
Australian dollar	Australia	23
Canadian dollar	Canada	51
Renminbi-yuan	China	79
Hong Kong dollar	Hong Kong	16
US dollar	United States	100
Yen	Japan	20

COMMISSION IMPLEMENTING REGULATION (EU) 2020/642**of 12 May 2020****approving the basic substance L-cysteine in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Commission Implementing Regulation (EU) No 540/2011****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC ⁽¹⁾, and in particular Article 23(5) in conjunction with Article 13(2) thereof,

Whereas:

- (1) On 9 February 2018 the Commission received an application from Soleo-EcoSolutions, for the approval of L-cysteine as a basic substance. That application was accompanied by the information required by the second subparagraph of Article 23(3).
- (2) The Commission asked the European Food Safety Authority ('the Authority') for scientific assistance. The Authority provided the Commission with a technical report on L-cysteine on 29 January 2019 ⁽²⁾. The Commission presented the review report ⁽³⁾ and a draft of this Regulation to the Standing Committee on Plants, Animals, Food and Feed on 17 July 2019.
- (3) The information provided by the applicant shows that L-cysteine fulfils the criteria of a foodstuff as defined in Article 2 of Regulation (EC) No 178/2002 of the European Parliament and of the Council ⁽⁴⁾. Moreover, it is not predominantly used for plant protection purposes but nevertheless is useful in plant protection in a product consisting of the substance. Consequently, it is to be considered as a basic substance.
- (4) It has appeared from the examinations made that L-cysteine may be expected to satisfy, in general, the requirements laid down in Article 23 of Regulation (EC) No 1107/2009, in particular with regard to the uses which were examined and detailed in the Commission review report. It is therefore appropriate to approve L-cysteine as a basic substance.
- (5) In accordance with Article 13(2) of Regulation (EC) No 1107/2009 in conjunction with Article 6 thereof and in the light of current scientific and technical knowledge, it is, however, necessary to include certain conditions for the approval which are detailed in Annex I to this Regulation.
- (6) In accordance with Article 13(4) of Regulation (EC) No 1107/2009, the Annex to Commission Implementing Regulation (EU) No 540/2011 ⁽⁵⁾ should be amended accordingly.
- (7) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

⁽¹⁾ OJ L 309, 24.11.2009, p. 1.

⁽²⁾ EFSA (European Food Safety Authority), 2019. Technical report on the outcome of the consultation with Member States and EFSA on the basic substance application for L-cysteine for use in plant protection as insecticide. EFSA supporting publication 2019: EN-1562. 46 pp. doi:10.2903/sp.efsa.2019.EN-1562.

⁽³⁾ Final Review report for the basic substance L-cysteine finalised in the Standing Committee on Plants, Animals, Food and Feed at its meeting on 24 March 2020 in view of the approval of L-cysteine as basic substance in accordance with Regulation (EC) No 1107/2009 (SANTE/11056/2019).

⁽⁴⁾ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1).

⁽⁵⁾ Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the list of approved active substances (OJ L 153, 11.6.2011, p. 1).

HAS ADOPTED THIS REGULATION:

Article 1

Approval of a basic substance

The substance L-cysteine is approved as a basic substance as laid down in Annex I.

Article 2

Amendments to Implementing Regulation (EU) No 540/2011

Implementing Regulation (EU) No 540/2011 is amended in accordance with Annex II to this Regulation.

Article 3

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2020.

For the Commission
The President
Ursula VON DER LEYEN

—

ANNEX I

Common Name, Identification Numbers	IUPAC Name	Purity ⁽¹⁾	Date of approval	Specific provisions
L-cysteine (E 920) CAS No: 52-89-1 EINECS: 200-157-7 (L-cysteine hydrochloride) CAS No: 7048-04-6 EINECS: 615-117-8 (L-cysteine hydrochloride monohydrate)	L-cysteine hydrochloride (1:1)	Min. 98,0 % L-cysteine hydrochloride (on anhydrous basis) Food grade in conformity with Commission Regulation (EU) No 231/2012 ⁽²⁾ . max. 1,5 mg/kg As max. 5 mg/kg Pb	2.6.2020	L-cysteine (E 920) shall be used as a mixture with matrix (flour, food grade) at a concentration of maximum 8% (of L-cysteine hydrochloride, on anhydrous basis) in accordance with the specific conditions included in the conclusions of the review report on L-cysteine (SANTE/11056/2019) and in particular Appendices I and II thereto.

⁽¹⁾ Further details on identity, specification and manner of use of the basic substance are provided in the review report.

⁽²⁾ Commission Regulation (EU) No 231/2012 of 9 March 2012 laying down specifications for food additives listed in Annexes II and III to Regulation (EC) No 1333/2008 of the European Parliament and of the Council (OJ L 83, 22.3.2012, p. 1).

ANNEX II

In Part C of the Annex to Implementing Regulation (EU) No 540/2011, the following entry is added:

Number	Common Name, Identification Numbers	IUPAC Name	Purity ⁽¹⁾	Date of approval	Specific provisions
'21	L-cysteine (E 920) CAS No: 52-89-1 EINECS: 200-157-7 (L-cysteine hydrochloride) CAS No: 7048-04-6 EINECS: 615-117-8 (L-cysteine hydrochloride monohydrate)	L-cysteine hydrochloride (1:1)	Min. 98,0 % L-cysteine hydrochloride (on anhydrous basis) Food grade in conformity with Commission Regulation (EU) No 231/2012. max. 1,5 mg/kg As max. 5 mg/kg Pb	2.6.2020	L-cysteine (E 920) shall be used as a mixture with matrix (flour, food grade) at a concentration of maximum 8% (of L-cysteine hydrochloride, on anhydrous basis) in accordance with the specific conditions included in the conclusions of the review report on L-cysteine (SANTE/11056/2019) and in particular Appendices I and II thereto.'

⁽¹⁾ Further details on identity, specification and manner of use of basic substance are provided in the review report.

COMMISSION IMPLEMENTING REGULATION (EU) 2020/643**of 12 May 2020****concerning the non-approval of *Saponaria officinalis* L. roots as a basic substance in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC ⁽¹⁾, and in particular Article 13(2) in conjunction with Article 23(5) thereof,

Whereas:

- (1) On 9 October 2015, the Commission received an application from the Crop Research Institute (Czech Republic) for the approval of *Saponaria officinalis* L. roots as a basic substance. That application was accompanied by the information required under the second subparagraph of Article 23(3) of Regulation (EC) No 1107/2009.
- (2) The Commission asked the European Food Safety Authority ('the Authority') for scientific assistance. The Authority provided the Commission with a technical report on *Saponaria officinalis* L. roots on 19 June 2017 ⁽²⁾. The Commission presented the review report ⁽³⁾ and a draft Regulation on the non-approval of *Saponaria officinalis* L. roots to the Standing Committee on Plants, Animals, Food and Feed on 6 December 2017.
- (3) The documentation provided by the applicant shows that *Saponaria officinalis* L. roots fulfils the criteria of a foodstuff, as defined in Article 2 of Regulation (EC) No 178/2002 of the European Parliament and of the Council ⁽⁴⁾, being used as a traditional emulsifier.
- (4) However, the technical report of the Authority identified specific concerns regarding the presence of substances of concern (e.g. triterpenoid saponins, saporin) in extracts of *Saponaria officinalis* L. roots when used for plant protection purposes. Insufficient information was available to establish a safe level of intake for consumers and the consumer risk assessment could not be completed for the uses of *Saponaria officinalis* L. roots in cucumber, tomato and hops. Furthermore, there was insufficient information to reach a conclusion regarding the risk to non-target organisms.
- (5) No other, relevant evaluation, carried out in accordance with other Union legislation as referred to in Article 23(2) of Regulation (EC) No 1107/2009, was available.
- (6) The Commission invited the applicant to submit its comments on the technical report of the Authority and on the draft review report. The applicant submitted its comments, which have been carefully examined.
- (7) Consequently, as laid down in the Commission review report, it has not been established that the requirements laid down in Article 23 of Regulation (EC) No 1107/2009 are satisfied. It is therefore appropriate not to approve *Saponaria officinalis* L. roots as a basic substance.
- (8) This Regulation does not prejudice the submission of a further application for the approval of *Saponaria officinalis* L. roots as a basic substance in accordance with Article 23(3) of Regulation (EC) No 1107/2009.
- (9) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

⁽¹⁾ OJ L 309, 24.11.2009, p. 1.

⁽²⁾ EFSA (European Food Safety Authority), 2017. Technical report on the outcome of the consultation with Member States and EFSA on the basic substance application for *Saponaria officinalis* L. roots for use in plant protection as acaricide and elicitor. EFSA supporting publication 2017:EN-1263. 44 pp.

⁽³⁾ <http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=activesubstance.selection&language=EN>

⁽⁴⁾ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31, 1.2.2002, p. 1).

HAS ADOPTED THIS REGULATION:

Article 1

The substance *Saponaria officinalis* L. roots is not approved as a basic substance.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 12 May 2020.

For the Commission
The President
Ursula VON DER LEYEN

ACTS ADOPTED BY BODIES CREATED BY INTERNATIONAL AGREEMENTS

DECISION No 2/2020 OF THE EU-SINGAPORE TRADE COMMITTEE

of 27 April 2020

on the interpretation, pursuant to Article 16.1(4)(d), of Articles 10.17 and 10.22 of the Free Trade Agreement between the European Union and the Republic of Singapore as regards changes to the protection of geographical indications for wines, spirits, agricultural products and foodstuffs registered in Singapore [2020/644]

THE TRADE COMMITTEE,

Having regard to the Free Trade Agreement between the European Union and the Republic of Singapore, and in particular Article 10.17, Article 10.22 and of Article 16.1(4)(d) thereof,

Whereas:

- (1) The Free Trade Agreement between the European Union and the Republic of Singapore ('the Agreement') entered into force on 21 November 2019.
- (2) Article 16.1 of the Agreement establishes a Trade Committee, which, inter alia, supervises and facilitates the implementation and application of the Agreement, and may adopt interpretations of the provisions thereof.
- (3) Article 10.17(3) of the Agreement provides for geographical indications originating in the territory of a Party registered in the other Party under its domestic legislation to be listed in Annex 10-B to the Agreement.
- (4) Article 10.18 of the Agreement provides for the possibility of amending the list of geographical indications for wines, spirits, agricultural products and foodstuffs listed in Annex 10-B to the Agreement to be protected by each Party under Sub-Section C (Geographical Indications).
- (5) Article 10.17(2) of the Agreement lays down, inter alia, an objection procedure and legal means that permit the rectification and cancellation of entries on the domestic register so as to allow for the legitimate interests of third parties to be taken into account.
- (6) Article 10.22 of the Agreement sets out the general rules regarding the protection of geographical indications, including those listed in Annex 10-B to the Agreement.
- (7) It is appropriate to clarify the manner in which the provisions of Articles 10.17 and 10.22 operate together. Specifically, through the adoption of a decision on the present binding interpretation, it is necessary to clarify the relationship between the level of protection established under Article 10.22 of the Agreement and the system for the registration and protection of geographical indications established by each Party under Article 10.17 of the Agreement upon the entry into force of the Agreement.
- (8) In this context, it is the shared understanding of Singapore and the Union that requests, filed through Qualification of Rights applications, for changes to the protection of geographical indications registered in Singapore that are filed on or after 21 November 2019 on the grounds set out in Article 10.22(5) of the Agreement or on grounds other than those referred to in Article 10.22 of the Agreement should not alter the protection afforded to the geographical indications listed in Annex 10-B to the Agreement before the Trade Committee is given the opportunity to discuss the appropriateness of the changes that the acceptance of such requests might entail for the listing of geographical indications in Annex 10-B to the Agreement.
- (9) The Parties understand that the present binding interpretation constitutes an interpretation applicable as of the entry into force of the Agreement,

HAS ADOPTED THIS DECISION:

Article 1

Any changes to the protection of geographical indications for wines, spirits, agricultural products and foodstuffs registered in Singapore and listed in Annex 10-B to the Agreement, that arise from any Qualification of Rights application on the grounds set out in Article 10.22(5) of the Agreement and requested on or after 21 November 2019 may not take place in the absence of a positive decision of the Trade Committee, regarding the corresponding amendment of Annex 10-B to the Agreement.

Article 2

The interpretation provided for in Article 1 shall also apply to changes to the protection of geographical indications for wines, spirits, agricultural products and foodstuffs registered in Singapore and listed in Annex 10-B to the Agreement that arise from any Qualification of Rights application requested on or after 21 November 2019 on grounds other than those referred to in Article 10.22 of the Agreement.

Article 3

This Decision shall enter into force on the date of its adoption.

ISSN 1977-0677 (electronic edition)
ISSN 1725-2555 (paper edition)



Publications Office of the European Union
2985 Luxembourg
LUXEMBOURG

EN