

---

*Courtesy translation – only the Italian text is authentic*

*Annex A to Decision No 16 of 18 February 2019*

**Toll charging system concerning the concessions under Article 43 of Decree-Law No 201/2011 as referred to in Article 37 thereof.**

## **CONTENTS**

<b>Part 1.....</b>	<b>3</b>
1. General principles .....	3
2. Definitions .....	3
3. Identification of relevant activities .....	5
4. Purpose of toll charging system and application of price cap method .....	5
5. Average unit charge .....	6
6. Modulation of charges .....	8
7. Further charge variations .....	8
8. Additional charges.....	9
<b>Part 2.....</b>	<b>10</b>
9. General criteria for eligibility of costs .....	10
10. Eligibility criteria of operating costs .....	10
11. Treatment of margins from commercial activities.....	11
12. Net invested capital (NIC).....	11
13. Eligibility criteria of investments .....	12
14. Principles for quantification of investments in reversible assets.....	12
15. Criteria for determination of capital costs for charging purposes .....	13
16. Rate of return on invested capital.....	14
<b>Part 3.....</b>	<b>17</b>
17. Dynamics of operational charge component .....	17
18. Planned inflation rate .....	18
19. Targeted productivity gain from improved efficiency.....	18
20. Dynamics of construction charge component .....	19
21. Dynamics of charge component for concession fees (if any).....	21
22. Adjustment of average unit charge.....	21
23. Reward/penalty systems for assessment of service quality .....	22
24. Charge adjustment related to realised investments .....	25
25. Notional items .....	26
26. System for containment of extra revenue through revenue sharing.....	26
27. Annual monitoring of quality and investment .....	27
<b>Part 4.....</b>	<b>28</b>
28. Accounting separation obligations.....	28
29. Information obligations to the grantor of the concession and to the Authority .....	29
<b>ANNEXES .....</b>	<b>30</b>
Table 1 Regulatory accounting format based on motorway section and activity .....	30
Table 2 Regulatory Financial Plan format .....	31
<b>ADDENDUM.....</b>	<b>32</b>

## **Part 1**

### **1. General principles**

- 1.1 Pursuant to Article 37 (2) (g) of Decree-Law No 201/2011, the charging system is based on the price cap method, with determination of the five-year productivity indicator X.
- 1.2 The charging system established by the Transport Regulation Authority (hereinafter: Authority) is characterised as follows:
  - a) five-year regulatory period;
  - b) differentiation of activities between:
    - b.1) activities which are directly subject to charging regulation;
    - b.2) activities which are not directly subject to charging regulation, but are relevant for the purpose of allocating the extra profitability from the performance of ancillary activities (cf. paragraph 3.1.b);
    - b.3) activities which are not relevant for the charging system;
  - c) identification of the methods for determination of toll charges, through:
    - c.1) identification of the perimeter of the concessionaire's eligible costs and related evaluation;
    - c.2) identification of the initial maximum charging level, to be determined *ex ante* by using the references and criteria specified below, in relation to each charge component and to the associated estimated traffic volumes;
    - c.3) application of the price cap method, with determination of the productivity factor X every five years, as established by the Authority (cf. paragraph 19), for the operational charge component;
  - d) effective safeguard system, that is in line with the approach of the model based on the price-cap method, aimed at directly transferring, in terms of reduced charges, any 'extra-revenues' that may result from final traffic volumes that are overly beyond than the (potentially underestimated) traffic forecasts;
  - e) comprehensive penalty/premium system for the quality of the services offered, aimed at providing to the grantor of the concession, at least within pre-defined thematic areas, the possibility of identifying the indicators and the related quality targets, monitoring their achievement, assessing the motorway concessionaire's performance, and consequently immediately applying a penalty/premium system with a direct effect on the user charges;
  - f) accounting separation obligations for the concessionaire and provision of the related regulatory accounting system.

### **2. Definitions**

- 2.1 **Base year:** last financial year for which approved financial statements are available, drafted according to statutory requirements and certified by an external audit firm, on the basis of which the concessionaire may draw up the regulatory accounting data.
- 2.2 **Bridge Year:** year between base year and first year of the regulatory period, during which the concessionaire fulfils the requirements concerning the preparation and the submission to the grantor

of the concession and to the Transport Regulation Authority of the proposal for revision of the Business Plan and of the Financial Regulatory Plan.

- 2.3 **Concession charges:** any specific charges to be paid by the concessionaire to the State or other entities as previously identified, in accordance with pre-determined procedures and timing, which result from any contractual obligations related to the concession of the motorway sections in question.
- 2.4 **Concession period:** duration of the concession, which serves as a basis for drawing up the Business Plan and the Regulatory Financial Plan.
- 2.5 **Non-reversible asset:** assets - largely consisting of tangible assets such as buildings, vehicles, furniture, office furniture, office equipment - which cannot be transferred free of charge to the grantor of the concession upon expiration of the concession period and are depreciated in each year on the basis of their residual use, taking into account their life span and residual value, if any.
- 2.6 **Notional items:** positive or negative notional charge components, which are targeted at ensuring gradual price changes, also for the purpose of avoiding imbalances in the system, including the lack of coordination of the cash flows generated by motorway operation and financing needs for realisation of new investments.
- 2.7 **Price cap:** method used to determine and update charges, that identifies an upper constraint to the dynamics of the operational charge component (as defined in paragraph 5.2), for each year of the regulatory period, and a realignment thereof, by applying the productivity factor X.
- 2.8 **productivity factor X:** percentage factor of annual adjustment of the operational charge component to be applied to each regulatory period (and, where appropriate, modulated within the same period), that is set by the Authority also on the basis of the "minimum efficiency gain target" resulting from the econometric model referred to in paragraph 2.13. The factor is re-determined at the end of each regulatory period.
- 2.9 **Regulatory Financial Plan (RFP):** unified financial and regulatory planning model which is drawn up by the concessionaire in accordance with the format adopted by the Authority (Annex - Table 2), to be attached to the concession scheme and annually updated for verification of compliance of the charging system adopted.
- 2.10 **Regulatory period:** a five-year period, at the end of which both the Business Plan and the Regulatory Financial Plan are updated, in compliance with the principles and criteria set out in this document, also with regard to the revision of the price cap parameters (including costs - which are better defined in paragraph 5.5 - that are referred to base year, traffic forecasts and the productivity factor X) and of the WACC.
- 2.11 **Revenue sharing:** safeguard system, based on the deviations of estimated traffic volumes from the relevant final values, aimed at limiting the realization by the concessionaire of extra-revenues resulting from underestimating the traffic volumes indicated in the RFP.
- 2.12 **Reversible assets:** assets to be transferred free of charge to the grantor of the concession upon expiry of the concession, that are depreciated in each year on the basis of their residual use, taking into account the duration of the concession.
- 2.13 **Stochastic frontier efficiency model:** model adopted by the Authority to identify - on the basis of benchmarking analyses built on the historical dataset of national motorway concessionaires - the efficient costs thereof as a function of technical and economic variables, including the length (km) of

the operated motorway sections. This model, that was first used in ART Decision No 70/2016 on the definition of optimal concession size in terms of network, has been later applied by the Authority to determine the productivity factor X every five years as of Decision No 119/2017.

- 2.14 **Takeover value:** for approved works already that have been already executed by the concessionaire and have not been yet amortized upon expiry of the concession, the outgoing concessionaire is entitled to a compensation of such investment items by the incoming concessionaire. This compensation shall be equal to the cost actually borne, net of depreciation, of the reversible assets as resulting from the financial statements on the date of the year in which the concession expires, and net of the necessary changes made for regulatory purposes. The amount of the takeover value shall be borne by the incoming concessionaire.

### 3. Identification of relevant activities

- 3.1 For the purpose of regulating the charging system, the activities of the concessionaire are divided into:
- a) **Motorway activities:** activities related to design, construction, operation, ordinary and extraordinary maintenance of motorway sections intended for road traffic;
  - b) **Ancillary activities:** activities linked to the commercial exploitation of motorway areas and related appurtenances, that are not pertinent to road traffic, including (i) fuel and lubricant distribution services and commercial and catering services in rest areas, (ii) ducts; (iii) road signs and information boards; (iv) technology and information services;
  - c) **Non-relevant activities:** activities other than those referred to under (a) and (b).
- 3.2 The toll charging system relates to motorway activities only, without prejudice to the takeover of extra-profits from ancillary activities, as referred to under paragraph 11.

### 4. Purpose of toll charging system and application of price cap method

- 4.1 The toll charging system is aimed at ensuring:
- a) an annual dynamics of the operational charge component as per paragraph 5.2 which is based on the application of the price cap method and is consistent with the achievement of the productivity recovery target;
  - b) that, with reference to the concession period, the concessionaire achieves, in accordance with the cost-orientation principle as recognised by the grantor of the concession on the basis of the principles and criteria laid down by the Authority (cf. Part 2), a return on invested capital equal to the pre-tax rate of return referred to under paragraph 16<sup>1</sup>, with respect to the investments:
    - made on (reversible) assets covered by concession, including the takeover value actually paid to the outgoing concessionaire, consisting of the value of approved works, that have already been already executed and have not been not yet amortized upon expiry of the previous concession, net of:
      - (i) pre-established reserves for late investments, subject to assessments of the grantor of the concession concerning:

---

<sup>1</sup> To assess profitability, the concessionaire, depending on the option chosen (see paragraph 12.3), may refer to one of the following values of the rate of return on invested capital (WACC):

- real WACC referred to in paragraph 16.6 (a), in case of option for revalued net invested capital (NIC);
- nominal WACC referred to in paragraph 16.6 (b), in case of option for accounting net invested capital (NIC).

- pre-existing contractual arrangements, regarding the quantification of the takeover value;
- asset transferability under the new concession contract, including for the purpose of the criteria for determining any future takeover value;
- (ii) “debt of notional items”, allocated to the provisions for risks and charges, consisting of toll revenues exceeding the costs allowed as remuneration by the grantor of the concession;
  - made on the concessionaire’s (non-reversible) operating assets, where relevant and efficient.

4.2 The correct application of the charging system is checked by the Authority annually in the exercise of its responsibilities. In particular, after transmission of the Regulatory Financial Plan by the grantor of the concession, the Authority verifies the following:

- a) correct application of the price cap method, referred to under paragraph 17, to the operational charge component as per paragraph 5.2;
- b) equivalence of discounted value of expected toll revenues, related to the construction charge component, and of expected eligible costs related to investments, obtained by discounting the relevant amounts at the nominal rate of return on capital as referred under paragraph 16.6 (b);
- c) congruity of any notional items, referred to under paragraph 25 and zeroing of the relevant overall amount, obtained by discounting the relevant amounts at the nominal rate of return on capital as provided for under paragraph 16.6 (b);
- d) compliance with the principles and criteria for eligibility referred to in Part 2.

## 5. Average unit charge

5.1 The **average unit charge** is the average unit price, expressed in euro per vehicle\*km, of the tolls charged by the concessionaire on the different classes of vehicles and types of motorway sections, weighted by traffic volumes.

5.2 The average unit charge is the sum of two separate components:

- a) **“operational charge” component ( $T_G$ )**: in compliance with the charge dynamics under paragraph 17, including the productivity gain from efficiency, it is aimed at allowing the recovery of: (i) operating costs, including those for ordinary maintenance and use, averaged on a five-year basis, of the provision for cyclical maintenance of the motorway infrastructure, as estimated with reference to the base year for each regulatory period, as well as of incremental operating costs associated with new investments and new laws and regulations; (ii) capital costs (depreciation and return on invested capital) related to the operating assets for concession management, which are not reversible upon expiry of the concession;
- b) **“Construction charge” component ( $T_K$ )**: aimed at allowing the recovery of capital costs (depreciation and return on capital) related to those assets which are reversible upon expiry of the concession, including takeover value to be paid to the outgoing concessionaire (i.e. residual value of investments made and not yet amortized, as approved by the grantor), the cost of works executed in connection with the investment plans covered by the concession, including planned extraordinary maintenance.

This average unit charge, for each year  $t$  of the concession period, can be represented as follows:

$$T_t = T_{G,t} + T_{K,t}$$

- 5.3 Where the grantor of the concession, with reference to the concession in question, provides for the payment of a concession fee, the average unit charge shall be supplemented by a **charge component for concession fees ( $T_{OC,t}$ )**, aimed at recovering such fees by identifying a constant annual nominal fee throughout the period of the concession (i.e. not subject to the price cap dynamics).

The average unit charge, possibly supplemented by the above component (hereinafter: “**integrated average unit charge**”) is as follows:

$$T'_t = T_t + T_{OC,t}$$

- 5.4 For the purpose of charge modulation, the following relationship must be satisfied for the integrated average unit charge  $T'_t$  for year  $t$ :

$$T'_t = \frac{\sum_{i=1}^n p_i^t q_i^t}{\sum_{i=1}^n q_i^t}$$

with  $p_i^t$  and  $q_i^t$  as kilometre charges applied to and kilometres relating to the vehicles belonging to the  $i$ -th of  $n$  elementary charging classes in year  $t$ , respectively.

- 5.5 For the correct calculation, for each year of the charging period, of the charging components referred to under paragraph 5.2 and 5.3:

- the level of operational costs  $C_G$  (to apply within the charging formula under paragraph 17 below and in relation to the base year) is determined according to the following formula:

$$C_G = (C_o - E_{aa}) + C_{a,nr} + C_{rc,nr}$$

- the level of construction costs  $C_K$  is determined as follows:

$$C_K = C_{a,r} + C_{rc,r}$$

- the level of costs for any concession fees  $C_{OC}$  is determined according to the following formula:

$$C_{OC} = C_{vc}$$

with:

- $C_o$  operating costs as referred to in paragraph 5.2 (a);
- $E_{aa}$  extra profits from ancillary activities, as specified in paragraph 11;
- $C_{a,nr}$  depreciation costs related to the operating assets for the concession management, which are not reversible upon its expiry;
- $C_{rc,nr}$  costs related to the return on capital pertaining to the operating assets for the concession management which are not reversible upon its expiry.
- $C_{a,r}$  depreciation costs related to reversible assets upon expiry of the concession;
- $C_{rc,r}$  costs related to the return on capital related to reversible assets upon expiry of the concession;
- $C_{vc}$  annual share of concession value, that may be set by the grantor of the concession.

The above cost components are defined in Part 2.

- 5.6 The integrated average unit charge, separately for each of the charge components referred to in paragraphs 5.2 and 5.3, is estimated *ex ante*, on an annual basis and for each regulatory period, in accordance with paragraphs 17, 20 and 21.

- 5.7 For the purposes of determining the charge components referred to in paragraph 5, the analytic method used for traffic forecasts shall be characterised by transparency and reproducibility. Further, it shall be such to allow the entities entitled thereto to make simulation, sensitivity and risk analyses.
- 5.8 The above forecasts are updated at the end of each regulatory period.

## **6. Modulation of charges**

- 6.1 Based on the integrated average unit charge for each year of the concession period, the concessionaire, in compliance with existing legislation and at equal total revenue, determines the tolls for the different classes of vehicles and types of the motorway section. The modulation of the charge according to class of vehicle, to be applied with regard to its environmental impact, is determined in accordance with the relevant legislation.
- 6.2 The concessionaire may be authorized by the grantor of the concession to apply further modulation of charges in addition to those referred to under paragraph 6.1, still at equal total revenue, that may include, but are not limited to:
- a) different and/or more segmented classification of vehicles, also gradually overriding the “axle-gauge” principle, as provided for by inter-ministerial decree no. 2691 of 19 December 1990;
  - b) classification of motorway sections based on assessment criteria concerning predominant use, incidence of construction and/or maintenance costs, traffic level;
  - c) breakdown by time slots (e.g.: peak/off-peak hours);
  - d) daily differentiation (e.g.: working days/holidays);
  - e) type of freight traffic (e.g.: modal/intermodal);
  - f) reductions for frequent users.
- 6.3 Without prejudice to the application of the relation described under paragraph 5.4 concerning the integrated average unit charge, the charge modulation shall be governed by the principles of transparency, equity and non-discrimination.
- 6.4 The Authority verifies in advance the compliance of charge modulation, and any following changes thereof, with the charging system described herein.

## **7. Further charge variations**

- 7.1 The grantor of the concession may introduce upward or downward adjustments in the integrated average unit charge, as defined above, as a result of relevant provisions of the law.
- 7.2 If the grantor of the concession intends to apply this option, the overall charging levels defined by the concessionaire - including any changes under paragraph 7.1 - in addition to ensuring full compliance with the criteria contained in the relevant legal provisions, are subject to the compliance with the following principles, in accordance with Article 37 (2) (a) of Legislative Decree No 201/2011:
- a) management production efficiency, including strict compliance with the purposes of the charging system, as defined in paragraph 4.1 and in compliance with paragraph 5;
  - b) cost containment for users, businesses and consumers;
  - c) transparency, equity and non-discrimination of users.
- 7.3 Any income resulting from the variations referred to in paragraph 7.1 may in no way contribute to the concessionaire’s profitability.



7.4 Prior to their application, the Authority verifies the compliance of the charge variations referred to in paragraph 7.1, and of any changes thereof, with the charging system described herein.

## **8. Additional charges**

8.1 The charge, that is determined in accordance with the preceding paragraphs 5, 6 and 7, shall be supplemented as follows:

- a) any payment that the concessionaire is required to pay to qualified entities, namely:
  - a.1) annual fee within the meaning of Article 1 (1020) of Law No 296 of 27 December 2006, set at 2.40 % of the net toll revenue;
  - a.2) additional fee referred to in Article 19 (9-b) of Decree-Law No 78/2009, converted into Law No 102/2009, as amended by Article 15 (4) of Decree-Law No 78/2010, converted into Law No 122/2010;
  - a.3) taxes and any other charges required by law;
- b) additional charges payable by OTM for road infrastructure upgrading referred to in Article 34 (2) of Legislative Decree No 285 of 30 April 1992.

## **Part 2**

### **9. General criteria for eligibility of costs**

- 9.1 The eligibility of operating and capital costs for charging purposes, as regulated by this charging system, is subject to the following general criteria:
- a) **relevance:** costs and other negative economic components shall be considered to be eligible if, and to the extent that, they are related to motorway activities and additional activities referred to under paragraph 3.1 (a) and (b);
  - b) **proportionality:** costs and other negative economic components are considered eligible if, and to the extent that, it is verified that they are proportional for pre-established purposes. The proportionality is assessed on a case-by-case basis, with respect to planned targets, historical patterns and impact of multiannual commitments in the concession period;
  - c) **accrual basis:** costs and other negative economic components are eligible if they are related to the relevant accrual period;
  - d) **allocation to income statement:** operating costs and other negative economic components are eligible if, and to the extent that, they are allocated to the income statement of the relevant accrual period, without prejudice to the specific eligibility criteria illustrated below;
  - e) **separation:** the different elements included in the individual cost items shall be reported separately;
  - f) **comparable values:** the values reported in the regulatory accounting documents referred to in Part 4 shall be comparable with the items included in the Regulatory Financial Plan;
  - g) **verifiable data:** the costs indicated in the regulatory accounting documents, referred to in Part 4, shall be verifiable through reconciliation with the data resulting from general accounting and financial statements.

### **10. Eligibility criteria of operating costs**

- 10.1 For the purpose of the allocation and eligibility of operating costs, with reference to the concessionaire's financial statements, there shall be taken into consideration the costs that are attributable to items 6, 7, 8, 9, 11 and 14 referred to in Article 2425 of the Civil Code, or similar items in case of adoption of IAS/IFRS international accounting standards or in case of direct management of the concession by local authorities.
- 10.2 Likewise eligible are the provisions for cyclical maintenance of the motorway infrastructure, based on the average amount thereof in the five years preceding the bridge year.
- 10.3 In addition to the costs that are attributable to the activities referred to in paragraph 3.1 (c) above, the costs specified here below are non-eligible costs for regulatory purposes and under no circumstances may they be considered within the perimeter of operating costs:
- a) financial charges;
  - b) taxes, except for regional tax on productive activities (*Imposta Regionale sulle Attività Produttive - IRAP*) on labour cost and local taxes;
  - c) provisions of any kind;
  - d) value adjustments in respect of tangible and intangible assets;

- e) extraordinary charges, i.e. charges which, in the light of the criterion of relevance, are not attributable to the ordinary production process of motorway activities as referred to under paragraph 3.1 (a);
- f) charges of any kind arising from non-compliance with rules and regulations.

## **11. Treatment of margins from commercial activities**

- 11.1 The amount of operating costs, with reference to the initial level of the operational charge component, is calculated after deduction of the extra profits arising from the ancillary activities referred to under paragraph 3.1 (b).
- 11.2 The extra profit is determined by the difference, minus a reasonable profit, which is approximated as equal to the rate of return on invested capital under paragraph 16.6, between the following economic components that are valued at the base year:
  - a) revenues arising from such activities;
  - b) sum of operating costs and any depreciation allocated to the same activities, that are eligible under the criteria set out herein.

## **12. Net invested capital (NIC)**

- 12.1 The net invested capital (NIC) is given by the amounts of the following tangible and intangible fixed assets, net of depreciation, provided they are recognised by the grantor of the concession:
  - a) **non-reversible assets**, related to initial allocation or acquired during the concession, as quantified as at the 1<sup>st</sup> of January of the base year of each regulatory period, provided they are necessary for the motorway operation;
  - b) **reversible assets**, related to investments made in the concession period, as quantified as at the 1<sup>st</sup> of January of each year of the regulatory period, including the takeover value to be paid to the outgoing concessionaire, i.e. the value of approved works that have been already executed and not yet amortized upon expiry of the previous concession, net of pre-established reserves for late investments.
- 12.2 Subject to the conditions laid down in this Part, in order to determine the net invested capital, the following items are eligible for charging purposes, with reference to the entire concession period:
  - a) costs that may be charged to items B-I (1. formation expenses; 2. development costs; 3. industrial patent rights and rights of use of intellectual property; 4. concessions, licenses, trade-marks and similar rights; 6. fixed assets under construction and advances; 7. other) and B-II (1. land and buildings; 2. plant and machinery; 3. industrial and commercial equipment; 4. other assets; 5. assets under construction and advances) of article 2424 of the Civil Code, after deduction of any residual value upon expiry of the concession or at the end of the useful life;
  - b) net working capital given by the balance of inventories, trade receivables and trade payables.
- 12.3 As regards the valuation of the assets to be attributed to the NIC at the base year, the grantor of the concession may opt, alternatively:
  - a) for the net current value (revalued NIC), expressed on the basis of the revaluation index referred to in paragraph 12.6;
  - a) for the net book value (accounting NIC).

- 12.4 The choice between the two options referred to in paragraph 12.3, that is made for the first regulatory period of application of this charging system, shall be binding also for the following regulatory periods, too.
- 12.5 The option for revalued NIC is associated with the actual rate of return on capital referred to in paragraph 16.6 (a); viceversa, the option for accounting NIC is associated with the nominal rate of return on capital referred to in paragraph 16.6 (b).
- 12.6 Where the grantor opts for a valuation of revalued NIC, the following revaluation indices are used:
- a) deflator of gross fixed investments, to evaluate non-reversible assets, at the beginning of each concession period;
  - b) planned inflation rate referred to under measure 16.1 to evaluate assets within each regulatory period.

### **13. Eligibility criteria of investments**

- 13.1 With reference to the whole regulatory period, eligible for charging purposes are the following investments which are made/contributed and entered into the financial statements:
- a) investments in reversible assets covered by the concession, including the activities for planned extraordinary maintenance, as quantified in the Financial Regulatory Plan;
  - b) investments in non-reversible assets, which are strictly necessary for motorway activities, as quantified in the Financial Regulatory Plan;
  - c) further investments in reversible assets, which are included in addendums to the concession agreement, as agreed upon with the grantor of the concession.
- 13.2 The following eligibility criteria shall apply to the components here below:
- a) fixed financial assets are not recognised;
  - b) value of goodwill is not recognised (item B.I (5) of Article 2424 of Civil Code);
  - c) expenses for research and development, as well as industrial patent rights and intellectual works are recognised only for the part which can be referred to commitments deriving from the concession, provided they are approved by the grantor;
  - d) costs for concessions, licences and trademarks are recognised only if they are related to items directly pertaining to motorway activities;
  - e) non-reversible tangible assets are recognised only if they are related to expenses that are necessary for the operation of motorway activities, provided they are approved by the grantor;
  - f) fixed assets and work in progress are eligible for remuneration depending on the respective degree of completion;
  - g) design and planning costs as defined on the basis of demand are recognised only after approval of the detailed design.

### **14. Principles for quantification of investments in reversible assets**

- 14.1 As regards the quantification of the investments in reversible assets that are eligible for charging purposes, the following principles shall apply:

- a) the investment should be enhanced consistently with the “Guidelines for valuation of investments in public works in the areas covered by the Ministry of Infrastructure and Transport” as adopted by ministerial decree no. 300/2017;
- b) the investment costs resulting from detailed design, that is determined net of any public contributions and assessed on account of proportionality and reasonableness of the proposed technical and economic solutions, represent, without prejudice to any cost differences provided for by the grantor upon approval of the final design, the reference value for the concessionaire, in order to identify the maximum eligible expenditure;
- c) for each investment, where the final expenditure is higher than the value resulting from detailed design, the extra cost can be considered as eligible only if it is due to eligible design changes pursuant to article 106 of Civil Code. The evidence of existing supporting circumstances is borne by the concessionaire, while the grantor verifies, on a case-by-case basis, that such circumstances are true;
- d) with regard to the approval of the final design by the grantor, for the sole purpose of eligibility of the expenditure, the amount indicated in the detailed design shall remain binding, with the exception of the changes approved by the grantor pursuant to the law.

## **15. Criteria for determination of capital costs for charging purposes**

15.1 The following capital costs are recognised for charging purposes:

- a) cost of capital repayments related to direct investments in motorway activities, according to the related depreciation expenses;
- b) cost of return on invested capital.

15.2 For the purpose of determining the cost of capital, the following criteria shall apply:

- a) depreciation of reversible assets is recognised, alternatively:
  - i. by the financial method, in relation to the residual period of the concession, taking into account any residual value at the expiry thereof;
  - ii. on the basis of economic and technical rates that are established in accordance with the principles laid down in the Civil Code, taking into account the useful life of the assets and any residual value at the end of the concession (only for assets whose useful life, by reason of their nature, does not extend beyond the expiry date of the concession);
- b) depreciation of non-reversible assets is recognised on the basis of economic and technical rates established in accordance with the principles of the Civil Code, taking into account useful life and any residual value upon expiry of the concession.

15.3 Cost related to the return on capital is equal to the rate of return on invested capital referred to under paragraph 16, multiplied by the net invested capital, net of the related depreciation allowance. Return on net invested capital, net invested capital and related depreciation allowance are expressed in line with the arrangements provided for by the grantor under paragraph 4.1. Therefore, a real pre-tax return corresponds to enhancement of (nominal) net invested capital and related (nominal) depreciation at revalued values; conversely, a nominal pre-tax return corresponds to enhancement of net invested capital and related depreciation at not revalued values.

## 16. Rate of return on invested capital

16.1 The rate of return due to the concessionaire on net invested capital, referred to in paragraph 12, is determined according to the method based on the weighted average cost of the capital (equity and debt capital), that are commonly estimated by applying the Capital Asset Pricing Model (CAPM), and is given by the following formula:

$$R = g \cdot \frac{R_d (1 - t)}{1 - T} + (1 - g) \cdot \frac{R_e}{1 - T}$$

with:

$R_d$  cost of debt;

$R_e$  cost of equity;

$g$  % of financial debt (gearing);

$(1-g)$  % of equity;

$t$  tax shield, i.e. corporate income tax (IRES) rate;

$T$  income tax rate, i.e. IRES+IRAP (corporate income tax + regional tax on productive activities);

$R$  nominal pre-tax Weighted Average Cost of Capital (**WACC**), i.e. rate of return on capital (before tax); this rate is converted into real terms by applying the Fisher formula:

$$R_{real} = \frac{1 + R}{1 + \bar{P}} - 1$$

with:

$P$  arithmetic average of the planned inflation rates for each year of the regulatory period as resulting from the last available Government's Business Planning Document.

16.2 The cost of equity is determined according to the following relation:

$$R_e = rfr + \beta_e \cdot erp$$

with

$R_e$  cost of equity;

$rfr$  risk-free rate;

$\beta_e$  equity beta (measure of non-diversifiable systematic risk of equity);

$erp$  equity risk premium.

16.3 The average cost of debt is what would be paid by a company based on market conditions to obtain financing. This indicator has two components, risk-free rate and debt risk premium, which takes account of the default risk and is associated to corporate rating, based on the following relation:

$$R_d = rfr + dp$$

with:

$R_d$  cost of debt;

$rfr$  risk-free rate;

$dp$  debt premium.

16.4 WACC variables are differentiated into endogenous and exogenous variables to the motorway sector, i.e. variables that depend wholly or partly from the financial and economic choices of the companies operating in the sector and variables which do not depend on these choices, but rather on the dynamics of national and international markets.

Included in the first category are financial structure, debt-risk premium, *beta* coefficient, whereas the second category includes risk-free rate, equity risk premium and tax rate. Actually, risk-free rate and tax rate result from cost of public debt and from tax policies of the national government, whereas market premium is derived from the overall performance of the market in which the company operates.

16.5 For the quantification of the above variables the following criteria shall apply:

a) financial structure (gearing)

The main indicator of the financial structure, used for WACC calculation, is the gearing which measures the ratio of financial debt to total financing sources. The gearing of the sector is calculated on the basis of the average of the last five years of all Italian motorway concessionaires. The value of *gearing g* is \_\_\_\_.

b) cost of debt

The cost of debt in the sector is determined on the basis of the ratio of financial costs to financial debt of all motorway concessionaires. The reference period considered is five years; account is taken of the average gross financial debt of the period with reference to financial debts, excluding intra-group entries and relations with partners. With regard to financial costs, the income statement item "interest income and other financial charges" is considered, with reference to the financial debt under examination. The cost of debt is given by the sum of risk-free rate and debt premium (the latter up to a maximum of 2%), as shown in the formula referred to in paragraph 16.3. The cost of debt  $R_d$  is \_\_\_\_%.

c) *beta* coefficient ( $\beta$ ) as a measure of systematic risk

*Beta* coefficient measures systematic, non-diversifiable risk of a company operating in a given market.

This value is determined through a comparative analysis of so-called comparables, i.e. *beta* coefficients of other comparable companies or industries.

Having identified the *beta equities*, they have been netted of the specific financial leverage (*delevering*) in favour of a notional leverage measure, so as to take into account an efficient financial structure. For this purpose, the *beta assets* ( $\beta_a$ ) of each company considered were derived by using the delevering standard methodology referred to in the following formula:

$$\beta_a = \frac{\beta_e}{(1 + (1 - t) D/E)}$$

with:

$\beta_a$  *beta asset*;

$\beta_e$  *beta equity*;

$t$  corporate tax rate of comparable company (tax shield);

$D/E$  financial leverage.

The *beta* asset is given by the arithmetic mean of *beta* asset of each comparable company. In order to apply the notional leverage, the *beta* assets as identified above were then ‘re-levered’ so as to obtain the *beta equity* to be attributed to the motorway industry.

The re-levering is carried out based on D/E ratio defined with the notional parameters related to the motorway sector, according to the following formula:

$$\beta_e = \beta_a * [1 + (1 - t) * \left(\frac{D}{E}\right)]$$

The *beta equity* so calculated is \_\_\_\_.

d) risk-free rate (rfr)

The risk-free rate (rfr) is given by the arithmetic mean of the daily gross returns of the ten-year BTP (long-term Italian Treasury bond), as collected by the Bank of Italy with reference, for each regulatory period, to the last twelve months available.

The risk-free rate at the time of writing is \_\_\_\_%.

e) equity risk premium (erp) - increased market performance compared to risk-free rate

The equity risk premium (*erp*) is the premium, compared to the return on a risk-free activity, of an investment in the stock market. The Authority confirms an *erp* value of 5.5%.

f) tax rates (t, T)

With reference to the impact of taxation, two parameters, t and T, are considered:

- t is the tax shield and is represented by the corporate income tax (IRES) rate;
- T is the overall tax rate for companies resulting from the sum of IRES and IRAP, that are available under the existing legislation.

At present: t = 24 % and T = 28.82 %.

16.6 The application of the above parameters (with values estimated as at the month of \_\_) determines the following values of the rate of return on invested capital, that apply to the first regulatory period of application of this charging system:

a) Real WACC  $R_r$ : \_\_%;

b) Nominal WACC  $R$ : \_\_%.

For the following regulatory periods, each component will be re-determined, without prejudice to the method described. The relevant values in Business Plan and Regulatory Financial Plan will be updated accordingly.



## Part 3

### 17. Dynamics of operational charge component

17.1 The annual estimate of the operational charge component shall not exceed the value resulting from the following dynamics:

$$T_{G,t+1} \leq T_{G,t} \cdot (1 + \hat{P}_{t+1} - X_{t+1})$$

with:

$T_{G,t+1}$  level of operational charge component, as pre-determined by reference to the year  $t + 1$ ; in particular, for  $t = 0$  in relation to each regulatory period (i.e. the year corresponding to the bridge year), it is assumed:

$$T_{G,t} = \frac{C_{G,ap}}{V_{m,1-5}}$$

with:

$C_{G,ap}$  level of operating costs with reference to the bridge year, defined as:

$$C_{G,ap} = C_{G,ab} \cdot (1 + P_{ap})$$

with:

$P_{ap}$  planned inflation rate for the bridge year, as resulting from the last available Economic and Financial Document (DEF);

$C_{G,ab}$  level of operating costs with reference to the base year;

$V_{m,1-5}$  average annual traffic volume, that can be calculated as the arithmetic mean of the traffic volumes estimated *ex ante* for each year of the regulatory period, as indicated in the Regulatory Financial Plan;

$T_{G,t}$  level of operational charge component in force in year  $t$ ;

$\hat{P}_{t+1}$  planned inflation rate for year  $t + 1$ , as determined according to paragraph 18;

$X_{t+1}$  productivity gain factor from efficiency improvement for year  $t + 1$ , as referred under paragraph 19.

17.2 For the application of the indications under paragraph 5.2, where the relevant conditions are met, the operational charge component  $T_{G,t+1}$  referred to in paragraph 17.1 shall be understood to include the sub-component  $T_{i,G,t+1}$ , which is linked to the incremental costs referred to each year of the regulatory period, as estimated *ex ante*. Once consolidated into the charge component  $T_{G,t+1}$ , this sub-component follows its dynamics for the following years until the end of the regulatory period.

In particular, it is assumed:

$$T_{i,G,t+1} = \frac{\Delta C_{i,G,k,t+1} + \Delta C_{i,G,v,t+1}}{V_{m,(t+1)-5}}$$

with:

$\Delta C_{i,G,k,t+1}$  annual incremental level of operating costs, relating to assets which entered into operation in the year  $t$ ; in line with the system outlined in paragraph 20 with regard to

capital costs, the incremental operating costs linked to the entry into operation of new investments can be calculated as from the year following that of entry into operation;

$\Delta C_{i,G,v,t+1}$  incremental level of operating costs, relating to the entry into force of new laws and regulations in year  $t$ ;

$V_{m,(t+1)-5}$  average annual traffic volume, which can be calculated as the arithmetic mean of the traffic volumes estimated *ex ante* for each year, between: (i) year  $t + 1$  concerning the first inclusion of the above incremental costs in the charge; (ii) last year of the regulatory period.

For  $t = 0$  in relation to each regulatory period (i.e. the year corresponding to the bridge year), for the above sub-component it is assumed:

$$T_{i,G,t} = \frac{\Delta C_{i,G,k,ap} + \Delta C_{i,G,v,ap}}{V_{m,1-5}}$$

with:

$\Delta C_{i,G,k,ap}$  incremental level of operating costs, estimated in the bridge year compared to the base year, relating to assets which entered into operation during the bridge year;

$\Delta C_{i,G,v,ap}$  incremental level of operating costs, estimated in the bridge year compared to the base year, relating to the entry into force of new laws and regulations;

$V_{m,1-5}$  average annual traffic volume, that can be calculated as the arithmetic mean of the traffic volumes estimated *ex ante* for each year of the regulatory period, as indicated in the Regulatory Financial Plan.

## 18. Planned inflation rate

- 18.1 With reference to the formula for charge updating under paragraph 17, the variable  $\hat{P}_{t+1}$  corresponds to the planned inflation rate for the year of application of the charge, as resulting from the last available Economic and Financial Document at the beginning of each regulatory period.
- 18.2 Where the available data do not cover the entire life of each regulatory period, reference can be made to the data of the last available year, to be used as an estimate for the remaining years of the regulatory period.

## 19. Targeted productivity gain from improved efficiency

- 19.1 With regard to the charge updating formula referred to in paragraph 17,  $X_{t+1}$  is the annual productivity gain factor, to be determined every five years, in accordance with the provisions of article 37 (2) (g) of Decree-Law No. 201/2011.
- 19.2 In order to calculate the annual productivity factor, the Authority preliminarily quantifies, on the basis of benchmark analyses on efficient costs based on the concessionaires' historical data, in accordance with the method of analysis under ART Decision No. 70/2016, the targeted recovery of production efficiency, if any. Based on this analysis, the Authority has identified, with reference to the motorway sections covered by the concession, the overall percentage of recovery  $X^*$  which applies for the first five years and has to be subdivided into yearly efficiency rates  $X_t$  so that:

$$\prod_{t=1}^5 (1 - X_t) = 1 - X^*, X_t > 0, \forall t$$

The Authority determined that the value of the productivity factor  $X_t$  is \_\_\_% for the first regulatory period of application of this charging system.

- 19.3 The criteria and methodologies referred to in paragraph 19.2 will be applied to the following regulatory periods, by carrying out new estimates based on the dataset as updated with the latest available figures, including on the basis of the regulatory accounting reports referred to in Part 4, according to the same formula. The relevant values in Business Plan and Regulatory Financial Plan will be updated accordingly.
- 19.4 Where the last regulatory period, as a result of the overall period of the concession, consists of a number of years  $n$  of less than 5, the grantor of the concession, having consulted with the Authority, may distribute the overall percentage of recovery  $X^*$ , as determined for the previous five years, based on the following formula:

$$\prod_{t=1}^{5+n} (1 - X_t) = 1 - X^*, X_t \geq 0, \forall t$$

## 20. Dynamics of construction charge component

- 20.1 In the case of option for revalued NIC, the annual estimate of the construction charge component is based on the following formula:

$$T_{K,t+1} = \frac{C_{a,r,(t+1)} + C_{rc,r,(t+1)} + PF_{K,t+1}}{V_{t+1}}$$

with:

- $C_{a,r,(t+1)}$  depreciation costs, referred to year  $t + 1$ , related to the reversible assets at the end of the concession, as set out in the Regulatory Financial Plan, that are determined in accordance with the provisions of paragraph 15.2 (a);
- $C_{rc,r,(t+1)}$  costs related to the return on capital, referred to year  $t + 1$ , pertaining to reversible assets at the end of the concession, as set out in the Regulatory Financial Plan, that are determined in accordance with the provisions of paragraph 15.3;
- $PF_{K,t+1}$  (positive or negative) notional items referred to in paragraph 2.6, as defined *ex ante*, so as to ensure gradual price changes in the concession period, in compliance with the principle of financial neutrality;
- $V_{t+1}$  traffic volumes as per *ex ante* forecasts, referred to year  $t + 1$ , as set out in the Regulatory Financial Plan.

The level of the components  $C_{a,r,(t+1)}$  and  $C_{rc,r,(t+1)}$  derives from the application of the relevant criteria (described in paragraph 15) to the regulatory net invested capital, as calculated as at the 1<sup>st</sup> of January of each year, as follows:

$$C_{a,r,(t+1)} = C_{a,r,f(t+1)} + C_{a,r,t(t+1)}$$

$$C_{rc,r,(t+1)} = CIN_{r,(t+1)} \cdot R_r$$

with:

- $C_{a,r,t}$  depreciation cost related to reversible assets at the end of the concession period, that are subject to depreciation by financial method, as referred to in paragraph 15.215.3 (a)-(i), that is determined as at the 1<sup>st</sup> of January of year  $t + 1$ ;
- $C_{a,r,f(t+1)}$  depreciation cost related to reversible assets at the end of the concession period, that are subject to depreciation with technical and economic rates, as referred to in paragraph 15.2 (a)-(ii), that is determined as at the 1<sup>st</sup> of January of year  $t + 1$ ;
- $CIN_{r,(t+1)}$  value of regulatory net invested capital, related to reversible assets at the end of the concession period, as at the 1<sup>st</sup> of January of year  $t + 1$ , that is determined on the basis of the indications below;
- $R_r$  real rate of return on net invested capital (WACC), as referred to in paragraph 16.6 (a).

The dynamics of net invested capital over the concession period is determined as follows:

$$CIN_{r,(t+1)} = (CIN_{r,t} - C_{a,r,t} + I_t) \cdot (1 + \hat{P}_t)$$

with:

- $CIN_{r,(t+1)}$  value of regulatory net invested capital, related to reversible assets at the end of the concession period, as at the 1<sup>st</sup> of January of year  $t + 1$ ;
- $CIN_{r,t}$  value of regulatory net invested capital, related to reversible assets at the end of the concession period, as at the 1<sup>st</sup> of January of year  $t$ ;
- $C_{a,r,t}$  depreciation expense, referred to year  $t$ , related to reversible assets at the end of the concession period, as at the 1<sup>st</sup> of January of the same year  $t$  and as entered in the Regulatory Financial Plan; the annual investment share planned for year  $t$  does not determine any depreciation in the same year;
- $I_t$  planned annual investment for year  $t$ , with reference to the works covered by investment plans, as indicated in the Regulatory Financial Plan, that are allowed according to the criteria under paragraph 12.3;
- $\hat{P}_t$  planned inflation rate for year  $t$ , as determined in accordance with the procedures set out in paragraph 17.2;

For  $t = 0$  (i.e. at the beginning of the concession period), the value of  $CIN_{r,t}$  corresponds to the takeover value, if any, paid to the outgoing concessionaire, or to the costs for approved works that have been already executed and not yet amortized upon expiry of the concession period, net of pre-established reserves for late investments.

20.2 The annual estimate of the construction charge component, in the case of option for accounting NIC, is based on the same formula as set out in paragraph 20.1, subject to the adjustments specified below.

The level of the component  $C_{rc,r,(t+1)}$  is determined as follows:

$$C_{rc,r,(t+1)} = CIN_{r,(t+1)} \cdot R$$

with

- $R$  nominal rate of return on invested capital (WACC) referred to in paragraph 16.6 (b).

The dynamics of net invested capital over the concession period is determined as follows:

$$CIN_{r,(t+1)} = (CIN_{r,t} - C_{a,r,t} + I_t)$$

## 21. Dynamics of charge component for concession fees (if any)

21.1 The annual estimate of the charge component for concession fees is the value resulting from the following dynamics:

$$T_{OC,t+1} = \frac{C_{vc}}{V_{t+1}}$$

with:

- $T_{OC,t+1}$  level of charge component for concession fees, pre-determined with reference to year  $t + 1$ ;
- $C_{vc}$  annual share of concession value, if any, as defined in paragraph 5.5;
- $V_{t+1}$  traffic volumes planned *ex ante* and referred to year  $t + 1$ , as indicated in the Regulatory Financial Plan.

## 22. Adjustment of average unit charge

22.1 The average unit charge referred to in paragraph 5.2, which is determined *ex ante* in accordance with the procedures under paragraphs 17 and 20, is annually adjusted as a result of the annual monitoring referred to in paragraph 27, on the quality of services and the implementation of investments, as follows:

$$T_{t+1}^* = T_{G,t+1}^* + T_{K,t+1}^*$$

with:

$$T_{G,t+1}^* = T_{G,t+1} \cdot (1 - \Delta T_{G,t+1}) \cdot (1 + Q_t) \qquad T_{K,t+1}^* = T_{K,t+1} + \Delta T_{K,t+1}$$

where:

- $T_{G,t+1}^*$  level of operational charge component referred to in paragraph 17, as calculated in year  $t$  and actually applicable by the concessionaire for year  $t + 1$ ;
- $T_{G,t+1}$  level of operational charge component, as determined upon conclusion of the concession agreement with reference to year  $t + 1$ ;
- $\Delta T_{G,t+1}$  variation of operational charge component resulting from any not incurred operating costs, if any, estimated *ex ante* and pertaining to planned investments and new laws and regulations, on account of non-implementation or late implementation thereof;
- $Q_t$  positive or negative factor of adjustment of operational charge component, calculated in year  $t$  and deriving from the application of the reward/penalty systems referred to in paragraph 23, with reference to the assessment of service quality;
- $T_{K,t+1}^*$  level of construction charge component calculated in year  $t$  and actually applicable by the concessionaire for year  $t + 1$ ;

- $T_{K,t+1}$  level of construction charge component referred to in paragraph 20, as determined upon conclusion of the concession agreement with reference to year  $t + 1$ ;
- $\Delta T_{K,t+1}$  level of (positive or negative) additional construction charge component, calculated in year  $t$  and related to the application of:
- the system referred to in paragraph 24, with respect to the implementation of investments, which takes into account the share of investments actually made compared to those planned, and any related penalties;
  - any necessary variations of notional items referred to in paragraph 25, aimed at ensuring, in accordance with the principle of financial neutrality, gradual price changes over the concession period.

22.2 In order to take account of the provisions under paragraph 5.3, the adjustment of the integrated average unit charge derives from the application of the following formula:

$$T_{t+1}^{*'} = T_{t+1}^* + T_{OC,t+1}$$

$T_{OC,t+1}$  level of charge component for concession fees, referred to in paragraph 21.1.

22.3 Without prejudice to the reward/penalty systems referred to in paragraphs 23 and 24, the grantor of the concession may impose additional sanctions and penalties on the concessionaire, by providing appropriate evidence thereof in the concession agreement, to be related to the failure to carry out ordinary and extraordinary maintenance activities or to the late implementation of such activities.

### 23. Reward/penalty systems for assessment of service quality

23.1 With regard to the charge updating formula referred to in paragraph 22, variable  $Qt$  is the positive or negative coefficient of adjustment of the operational charge component  $T_{G,t+1}$  to be applied for year  $t + 1$ , as calculated in year  $t$ .

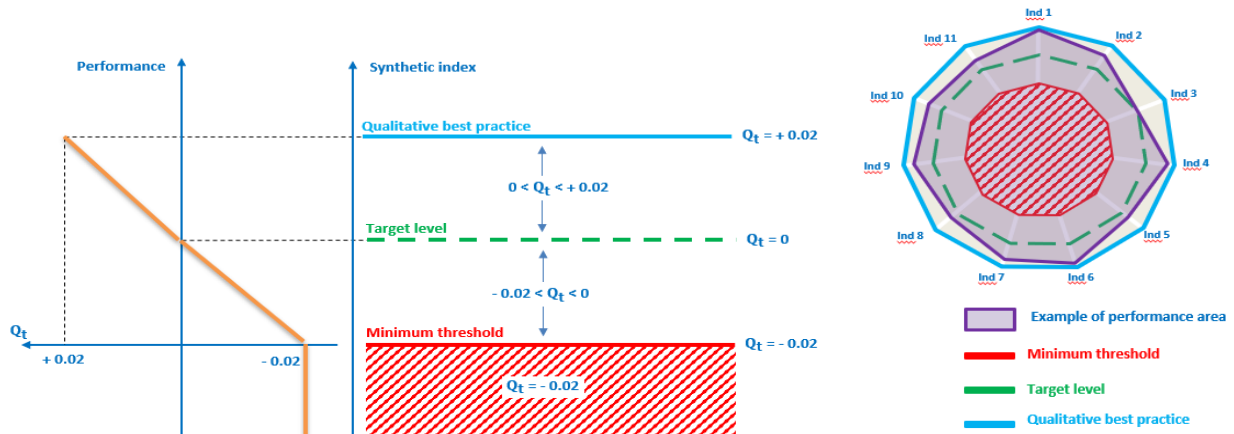
23.2 The reward/penalty system is based on a panel of indicators, as described in the following paragraphs.

23.3 The price change associated with variable  $Qt$  shall fall within the following lower and upper limits:

$$\min (Q_t) = - 0.02$$

$$\max (Q_t) = + 0.02$$

23.4 The reward/penalty system and associated quality standards are showed in the following figure concerning the synthetic index which is calculated as a weighted average of all  $j$ -th factors (cf. paragraph 23.8).



23.5 With reference to the above figure, three different quality levels (hereinafter, quality thresholds) are defined for each  $j$ -th factor ( $lq_j$ ):

- minimum threshold ( $lq_{\text{Minimum threshold}, j}$ ): threshold where the reward/penalty system assumes a minimum value of  $\min(Q_t) = -0.02$ .

This threshold shall be determined by the grantor of the concession on the basis of the minimum quality standards for the  $j$ -th factor, which in no case may be lower than the corresponding values observed in the past. The threshold is aimed at discouraging the concessionaire to assume performance levels falling below the minimum standards that are required and acceptable to users;

- target level ( $lq_{\text{target}, j}$ ): threshold identifying the frontier where the reward/penalty system is reversed and does not impact on the charge.

This threshold shall be determined by the grantor of the concession on the basis of the average quality standards which are required for the  $j$ -th factor;

- qualitative *best practice* ( $lq_{\text{Best practice}, j}$ ): threshold identifying the maximum frontier where the quality-related price change assumes the maximum value  $\text{MAX}(Q_t) = +0.02$ . This threshold shall either be determined by the grantor of the concession on the basis of the highest quality standards for the  $j$ -th factor that may be identified on the international motorway market, or shall be equal to 100% for indicators defined on a percentage basis.

The threshold is therefore aimed at achieving performance representing optimal levels of reference for the motorway sector; for such achievement the motorway concessionaire receives an additional reward over the price change that is determined with the price cap system.

23.6 The quality thresholds shall be established by the grantor, with reference to each regulatory period - *ex ante* and on an annual basis – by taking into account the above-mentioned principles, without prejudice to:

- the provision by the grantor of the concession of an initial transitional period that is aimed at preliminarily identifying and objectively measuring the different levels of quality indicators, with a maximum duration of 24 months;
- the existence of any state of emergency, resulting from relevant specific measures taken by the competent bodies, concerning the sections managed by the concessionaire, in defining quality thresholds.

23.7 The grantor of the concession shall annually verify the achievement of the target indicators over the regulatory period, by applying the following approach:

- each performance dimension shall be assigned by the grantor of the concession a weight  $P_{q,j}$ , with  $\sum_j P_{q,j}=1$ ;
- should all dimensions  $l_{q,j}$  not fall one by one above the minimum threshold, the concessionaire shall be subject to penalties through a price adjustment based on the application of the 2% upper limit of the operational charge component;
- if all dimensions  $l_{q,j}$  are above the minimum threshold and, at the same time, not all of them are above the “target level”, for each  $j$ -th factor the following inequality shall be complied with:

$$-0,02 \leq Q_{t,j} \leq 0$$

where the value of  $Q_{t,j}$  is determined based on the positioning of  $l_{q,j}$  value between  $l_{q_{\text{Minimum threshold},j}}$  and  $l_{q_{\text{target},j}}$  values, by linear interpolation;

- if all dimensions  $l_{q,j}$  are above the target level, for each  $j$ -th factor, the following inequality shall be complied:

$$0 \leq Q_{t,j} \leq + 0,02$$

where  $Q_{t,j}$  value is determined based on the positioning of  $l_{q,j}$  value between  $l_{q_{\text{target},j}}$  and  $l_{q_{\text{Best practice},j}}$  values, by linear interpolation;

23.8 For the total price change linked to the quality of the synthetic indicator, the following equation shall apply:

$$Q_t = \sum_{j=1}^{\text{no. indicators}} P_{q,j} \cdot Q_{t,j}$$

23.9 The quality monitoring system shall provide for the identification, by the grantor of the concession, of at least one  $j$ -th factor for each of the following thematic areas:

- average travelling speed of traffic flow;
- available infrastructures (construction sites, particularly in peak hours and holiday periods);
- traffic flow at toll stations (e.g. availability of automatic toll booths and efficiency of automatic toll collection with DSRC, i.e. Telepass system);
- road surface conditions (defects);



- dynamic update of information on variable message signs<sup>2</sup>;
- provision of appropriate rest areas (as compared to the total area) for road haulage vehicles<sup>3</sup>;
- use of *Intelligent Transportation Systems* (ITS), including to secure greater efficiency of logistics and optimise the use of the infrastructure by light and heavy vehicles;
- available connectivity services (radio-mobile) and radio coverage on motorway network, that are interoperable, open and in line with advanced and consolidated telecom technologies;
- use of automatic systems for structural monitoring of infrastructures (in particular, overpasses, retaining walls, embankments and motorway tunnels);
- use of free-flow technologies for motorway toll collection evolving towards interoperable solutions at Community level;
- customer satisfaction as to the levels of overall service and specific service for areas of interest as defined by the grantor of the concession;
- use of roadside safety barriers on account of their compliance with current technical regulations;
- use of noise barriers, for the implementation of the environmental Noise Action Plan provided for by Law No 447/95 and following implementing decrees.

23.10 The concessionaire shall report at least annually to the grantor of the concession and to the Transport Regulation Authority on the results of the monitoring and on the data collection methods.

## 24. Charge adjustment related to realised investments

24.1 With regard to the charge adjustment formula referred to in paragraph 22.1, the component  $\Delta T_{K,(t+1)}$  consists of two sub-components, as follows:

$$\Delta T_{K,(t+1)} = \Delta T_{I,K,(t+1)} + H_{K,(t+1)}$$

The sub-components meet different objectives:

- the first sub-component ( $\Delta T_{I,K,(t+1)}$ ) is related to the amount of unrealised investments and is calculated as follows:

$$\Delta T_{I,K,(t+1)} = -(1 - \alpha_t) \cdot T_{K,(t+1)}$$

with

$$\alpha_t = \sum_{a=1}^t (I_{R,a}) / \sum_{a=1}^t (I_{P,a})$$

where:

- $T_{K,t+1}$  level of charge construction component, as determined at the time of conclusion of the concession agreement with reference to year  $t + 1$ ;
- $\alpha_t$  share of actually realised investments, accumulated up to year  $t$ , compared to the amount of planned investments in the same period;

<sup>2</sup> This information shall comply with the minimum standards required by Regulations (EU) No. 885/2013 and (EU) No. 886/2013. In this respect the Transport Regulation Authority performs the function of an independent national body referred to, respectively, in articles 8 and 9 of the a.m. Regulations.

<sup>3</sup> Thematic area identified also with regard to article 24 (1a) of Road Code, as adopted by Law No 120 of 29 July 2010 (Official Gazette No 175 of 29 July 2010).

$I_{R,a}$  amount of eligible costs for charging purposes, for year  $t + 1$ , relating to actually realised investments, including any takeover value paid to the outgoing concessionaire, or costs of approved works that have been already executed and not yet amortized upon expiry of the previous concession period, net of pre-established reserves for late investments;

$I_{P,a}$  amount of eligible costs for charging purposes, for year  $t + 1$ , relating to planned investments upon conclusion of the concession agreement, including any takeover value paid to the outgoing concessionaire, or costs for approved works that have been already executed and not yet amortized upon expiry of the previous concession period, net of the pre-established reserve for late investments;

- the second sub-component ( $H_{K,(t+1)}$ ) is the applicable penalty where the delay in making the investments is attributable to the concessionaire, in order to discourage the postponement of the investments, without prejudice to the penalty systems provided for in the concession agreement, which can go as far as its withdrawal, and shall be determined as follows:

$$H_{K,(t+1)} = -(\gamma_t \cdot R_c) \cdot |\Delta T_{I,K,(t+1)}|$$

with:

$\gamma_t$  share of unrealised investments due to the concessionaire's liability, accumulated up to year  $t$ , compared to the total unrealised investments in the same period;

$R_c$  rate of return on invested capital (WACC), as determined in accordance with the provisions of paragraph 16.

## 25. Notional items

- 25.1 To ensure gradual price changes, it is possible to provide, *ex ante* and for each year of the concession period, for the inclusion of positive or negative notional items, so as to anticipate or postpone the calculation of the eligible costs with respect to the year of actual accrual, provided that the principle of economic and financial neutrality within the concession period referred to under paragraph 4.2 is complied with. These *ex ante* notional items are included in the formula referred to in paragraph 20.
- 25.2 In order to ensure that economic and financial neutrality is maintained, the level of notional items, for the years from  $t + 1$  to the end of the concession period, shall be recalculated annually on the basis of the systems of annual adjustment of the construction charge component. The component  $\Delta TK_{I,(t+1)}$  under paragraph 24 shall be further adjusted as a result of this recalculation.

## 26. System for containment of extra revenue through revenue sharing

- 26.1 Starting from the regulatory period following the first regulatory period of application of this charging system, if the variation in the final traffic volumes resulting at the end of the past regulatory period is positive and above a pre-determined threshold of +2%, a percentage (increasing from 50 % to 100 % with the increasing deviation from +2% to + 10%) of the annual average amount of extra revenue, which is attributable to the traffic volume exceeding the threshold, shall be entered as a deduction of the eligible costs allowed for the following regulatory period or, for the last regulatory period, allowed as a decrease of the takeover value, if any.

- 26.2 This extra revenue will be calculated as the difference between:

- revenue<sup>4</sup> derived from the charge in force in each year, as applied to actual traffic volumes;
- revenue<sup>5</sup> derived from the charge in force in each year, as applied to *ex ante* planned traffic volumes plus 2% (threshold revenue).

26.3 For regulatory periods following the first regulatory period of application of this charging system, in order to correctly determine the operating costs, due account shall be taken of the revenue sharing system provided for in paragraph 26.1.

## **27. Annual monitoring of quality and investment**

27.1 Based on the final and pre-final data available as at 30 September each year, the concessionaire shall provide to the grantor of the concession, and send to the Transport Regulation Authority for information, the proposed annual charge update, including any necessary information to determine the additional charge component referred to under paragraph 22, with the relevant proposed update of the Regulatory Financial Plan.

27.2 By 31 October each year the grantor of the concession carries out the necessary checks concerning:

- a) coefficients referred to in paragraph 23;
- b)  $\alpha_t$  and  $\gamma_t$  coefficients referred to in paragraph 24;
- c) re-calculation of notional items referred to in paragraph 25.

The results of these checks are communicated to the concessionaire and to the Authority.

27.3 Within the following fifteen days, the concessionaire shall provide for any ensuing update of the Regulatory Financial Plan, and send it to the grantor of the concession and to the Authority.

27.4 Within fifteen days of receipt of the documentation referred to in paragraph 27.3, the Authority shall provide comments to the grantor of the concession concerning the issues within its remit.

---

<sup>4</sup> Net of the charges referred to in paragraph 8;

<sup>5</sup> Net of the charges referred to in paragraph 8.

## **Part 4**

### **28. Accounting separation obligations**

- 28.1 From the first year of application of this charging system, the concessionaire, by adopting the cost criteria defined in Part 2 and the attached regulatory accounting format, is required to allocate the income statement and balance sheet items, consistently with the financial statements:
- a) to each motorway section, as identified in the scope of the concession;
  - b) to each activity as defined under paragraph 3, specifying ordinary and extraordinary maintenance activities, as well as transactions with related parties.
- 28.2 The motorway section-activity pair is the basic unit of reference for the concessionaire for the purpose of fulfilling the accounting separation obligations.
- 28.3 For regulatory accounting purposes, the above-mentioned income statement and balance sheet items may be relevant:
- a) directly and exclusively for a specific activity and motorway section;
  - b) for a number of motorway sections and/or activities, in this case to be allocated on the basis of specific drivers;
  - c) for all motorway sections and activities (including overhead expenses), in this case to be allocated on the basis of aggregate drivers.
- 28.4 The concessionaire provides for direct and exclusive allocation of the income statement and balance sheet items which, based on documentary evidence, can be allocated objectively and exclusively to specific activities or motorway sections.
- 28.5 For income statement and balance sheet items which are relevant for a number of motorway sections and/or activities, the allocation to each of them should be made as objectively and analytically as possible, based on drivers chosen on the basis of their adequacy to measure the consumption of resources or allocation of assets in the context of a specific activity or section. The drivers used shall be described in the explanatory notes to regulatory accounting.
- 28.6 As a general rule and in the absence of other equally transparent and objective criteria, the pro-rata allocation per each section shall be based on one or more of the following parameters:
- Recorded traffic volume;
  - transit;
  - length (km);
  - structural and altitude-related features of motorway infrastructure;
  - degree of obsolescence of motorway infrastructure and related facilities.
- 28.7 The income statement and balance sheet items which are attributable to the overall motorway sections and activities of the concessionaire, and those that cannot be otherwise assigned to the different activities and/or motorway sections on the basis of relevant and objective drivers, are allocated to the different activities and/or motorway sections in proportion to the quantities that have been previously allocated directly and on a pro-rata basis.

## **29. Information obligations to the grantor of the concession and to the Authority**

- 29.1 As from the first year of application of this charging system, the concessionaire is required to draw up and deliver annually to the grantor of the concession and to the Authority, no later than 30 days after approval of the financial statements:
- a) the regulatory accounting scheme, that is drawn up according to the attached format and the criteria set out in paragraph 28;
  - b) an explanatory report describing in detail the accounting methodologies adopted for determination of cost and allocation of income statement and balance sheet items.
- 29.2 The documents referred to in paragraph 29.1 shall be accompanied by a report, drawn up by an independent audit company, certifying their compliance with the criteria outlined in this Part (“Audit certificate”).
- 29.3 The Authority considers the documents referred to in paragraphs 29.1 and **Errore. L'origine riferimento non è stata trovata.** as confidential.
- 29.4 The concessionaire is required to draw up, before conclusion of the concession agreement, and to annually update, the Regulatory Financial Plan in compliance with the attached format.

## ANNEXES

**Table 1 Regulatory accounting format based on motorway section and activity**

CONCESSIONAIRE				MOTORWAY ACTIVITIES				ANCILLARY ACTIVITIES				Not relevant amounts	TOTAL	TOTAL - related parties	Values from financial statements
Year		Operation		Construction		Service areas			Technology and information services	Other ancillary activities					
Section		1		Total	of which for ordinary maintenance of which: to related parties	Total	of which for extraordinary maintenance of which: to related parties	Refuelling			Rest areas	Other			
1.a	Gross revenue														
1.b	Charge share returned for concession or sub-concession (fee)														
1.c	Charge share returned for ANAS additional fee														
1.d	Charges for movement of OTMs on motorways (Article 34 of Highway Code)														
1.e	Other revenue returned by law														
1.f	Grants related to income														
1.g	Grants for expenditure on plant and equipment														
1.h	Revenue from price changes (paragraph 7 of toll charging system)														
1	Net revenue														
2.a	Raw materials, consumables and goods														
2.b	Costs for services														
2.c	Costs for use of third party's assets														
2.d	Costs of staff														
2.f	Other operating costs														
2.g	Changes in inventories of raw materials, consumables and goods														
2.h	Other operating expenses														
2.h.@@	of which for value of the concession														
2.h.II	of which for concession fee														
2.i	Provisions														
	Use of provisions														
2.l	Capitalised costs														
2	Total operating costs														
2.1	Total operating expenses, net of revenue returned by law														
3 = 1-2.1	Gross Operating Profit														
4.a	Depreciation of self-financed tangible fixed assets														
4.a.i	of which: depreciation of self-financed tangible fixed assets - transferable														
4.a.ii	of which: depreciation of self-financed tangible fixed assets - not transferable														
4.b	Depreciation of self-financed intangible fixed assets														
4.b.i	of which: depreciation of self-financed intangible fixed assets - transferable														
4.b.ii	of which: depreciation of self-financed intangible fixed assets - non transferable														
4.c	Depreciation of fixed assets financed by public grants for expenditure on plant and equipment														
4	Total depreciation														
5 = 3-4	Earnings before cost of Net Invested Capital														
6.a	Value of self-financed Net Invested Capital														
6.b	Value of Net Invested Capital financed by public contributions														
6.c	WACC used for assessment of Net Invested Capital cost														
6 = 6.a * 6.c	Cost of self-financed Net Invested Capital														
7 = 5-6	Earnings after cost of Net Invested Capital														
(8) = (2) + (4) + (6) Total Costs															
9	Operating units (vehicle-km)														
10 = 8/9	Total costs per operating unit														
11	Total eligible costs gross of commercial margin														
12	Total commercial margin														
13	Share of commercial margin to be deducted from eligible costs														
14 = 11-12 * 13	Total eligible costs net of commercial margin														
15 = 14/9	Total eligible costs net of commercial margin per operating unit														
Composition of self-financed Net Invested Capital															
IMM.1	Formation expenses														
IMM.2	Development costs														
IMM.3	Industrial patent rights and rights to use intellectual property														
IMM.4	Concessions, licences, trademarks and similar rights														
IMM.5	Goodwill														
IMM.6	Assets under construction and advances														
IMM.7	Others														
MAT.1	Land and buildings														
MAT.2	Plant and machinery														
MAT.3	Industrial and commercial equipment														
MAT.4	Other goods														
MAT.5	Assets under construction and advances														
CCN	Net working capital														
Reclassification of self-financed net invested capital															
IMM.A	Transferable intangible fixed assets														
IMM.B	Non transferable intangible fixed assets														
MAT.A	Transferable tangible fixed assets														
MAT.B	Non transferable tangible fixed assets														
Reporting of investment expenses															
INV.IMM.DEV	Investments in transferable intangible fixed assets														
V.IMM.DEV.P	of which: share financed by public contributions														
INV.IMM.NDEV	Investments in non-transferable intangible fixed assets														
V.IMM.NDEV.P	of which: share financed by public contributions														
INV.MAT.DEV	Investments in transferable fixed tangible assets														
V.MAT.DEV.P	of which: share financed by public contributions														
— INV. MATIC DE	Investment in non-transferable tangible fixed assets														
YOURS FAITHFUL	of which: share financed by public contributions														

Table 2 Regulatory Financial Plan format

	Base Year	P1 - First regulatory period							P5						P6 - Sixth regulatory period																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		1	2	3	4	5	6	7	24	25	26	27	28	29	30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Expected traffic volumes (000 vehicles/km)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

## ADDENDUM<sup>6</sup>

	Concession agreement (Convenzione)	Motorway section	Concessionaire	Date of signature of convention	Date of expiry of last regulatory period
1	Convenzione Unica ANAS S.p.A. - Raccordo Autostradale Valle d'Aosta S.p.A.	A5 Aosta - Traforo del Monte Bianco	Raccordo Autostradale della Valle d'Aosta S.p.A. (RAV)	29/12/2009	31/12/2013
2	Convenzione Unica ANAS S.p.A. - Società Autostrada Tirrenica p.A.	A12 Livorno - San Pietro in Palazzi A12 Civitavecchia - Tarquinia (lotto 6A)	Società Autostrada Tirrenica S.p.A. (SAT)	11/03/2009	31/12/2013
3	Convenzione Unica ANAS S.p.A. - Strada dei Parchi S.p.A.	A24 Roma - Teramo A24 Diramazione GRA - Tangenziale Est di Roma A25 Torano - Pescara	Strada dei Parchi S.p.A.	18/11/2009	31/12/2013
4	Convenzione ANAS S.p.A. - Concessioni Autostradali Venete - CAV S.p.A.	A4 Padova Est - bivio A4/A57 A4 bivio A4/A57 - Quarto d'Altino A57 bivio A4/A57 - Mestre- Terraglio A57 Diramazione per l'aeroporto Marco Polo	Concessioni Autostradali Venete S.p.A. (CAV)	23/03/2010	31/12/2014
5	Convenzione Unica ANAS S.p.A. - Società SATAP Tronco A4	A4 Torino - Milano	Società Autostrada Torino- Alessandria-Piacenza S.p.A. (SATAP) Tronco A4	10/10/2007	31/12/2017
6	Convenzione Unica ANAS S.p.A. - Società Milano Serravalle-Milano Tangenziali p.A.	A7 Milano - Serravalle A7 Raccordo A7 - Piazza Maggi (da A a B) A7 Raccordo A7 - Piazza Maggi (da B al km 0 dell'autostrada A7) A50 Tangenziale Ovest di Milano A50 Tratta A della viabilità di accesso alla Fiera di Milano A51 Tangenziale Est di Milano A52 Tangenziale Nord di Milano A53 Raccordo Bereguardo - Pavia A54 Tangenziale di Pavia	Milano Serravalle S.p.A.	07/11/2007	31/12/2017
7	Convenzione Unica ANAS S.p.A. - Società Autostrada Brescia – Verona – Vicenza – Padova S.p.A.	A4 Brescia - Padova A31 Rovigo - Vicenza - Piovene Rocchette (Valdastico)	Brescia - Verona - Vicenza - Padova S.p.A.	09/07/2007	31/12/2017
8	Convenzione Unica ANAS S.p.A. - Autostrade per l'Italia S.p.A.	A1 Milano - Napoli A1 Diramazione Roma Nord A1 Diramazione Roma Sud A1 Raccordo A1 - Tangenziale Est di Milano A4 Milano - Brescia A7 Serravalle - Genova A8 Milano - Varese A8 Diramazione Gallarate - Gattico A9 Linate - Como - Chiasso A10 Genova - Savona A11 Firenze - Pisa Nord A12 Genova - Sestri Levante A12 Roma - Civitavecchia A13 Bologna - Padova A13 Diramazione per Padova Sud	Autostrade per l'Italia S.p.A.	12/10/2007	31/12/2017

<sup>6</sup> Source: *website* of the Ministry of Infrastructure and Transport and communications from concession holders.



	Concession agreement (Convenzione)	Motorway section	Concessionaire	Date of signature of convention	Date of expiry of last regulatory period
		A13 Diramazione per Ferrara A14 Bologna - Taranto A14 Diramazione per Ravenna A14 Diramazione per la Tangenziale di Bari A14 Raccordo A1 - A14 A16 Napoli - Canosa A23 Udine - Tarvisio A26 Genova Voltri - Gravellona Toce A26 Diramazione Predosa - Bettola A26 Diramazione Stroppiana - Santhià A27 Mestre - Belluno A30 Caserta - Nola - Salerno A52 Rho - Monza (lotto 3: Variante di Baranzate)			
9	Convenzione Unica ANAS S.p.A. - Società di Progetto Autostrada Asti - Cuneo p.A.	A33 Cuneo centro - Massimini A33 Marene - Cherasco A33 Guarene - Alba - Roccaschiavino A33 Diramazione per Cuneo est A33 Viabilità di collegamento con la Tangenziale Ovest di Bra A33 Diramazione per Cherasco	Società di progetto Autostrada Asti Cuneo S.p.A.	01/08/2007	31/12/2017
10	Convenzione Unica ANAS S.p.A. - Autocamionale della CISA S.p.A.	A15 Parma - La Spezia	Società Autostrada Ligure Toscana S.p.A. (SALT) - Tronco Autocisa	03/03/2010	31/12/2018
11	Convenzione Unica ANAS S.p.A. - Autostrada dei Fiori S.p.A.	A10 Savona - Ventimiglia	Autostrada dei Fiori S.p.A. (Tronco A10)	02/09/2009	31/12/2018
12	Convenzione Unica ANAS S.p.A. - Autostrada Torino Savona S.p.A.	A6 Torino - Savona A6 Diramazione per Fossano	Autostrada dei Fiori S.p.A. (Tronco A6)	18/11/2009	31/12/2018
13	Convenzione Unica ANAS S.p.A. - SALT S.p.A.	A11/A12 Viareggio - Lucca A12 Sestri Levante - Livorno A15 diramazione per La Spezia	Società Autostrada Ligure Toscana S.p.A. (SALT) - Tronco Ligure- Toscano	02/09/2009	31/12/2018
14	Convenzione Unica ANAS S.p.A. - SAV Società Autostrade Valdostane S.p.A.	A5 Quincinetto - Aosta A5 Raccordo Aosta - Gran San Bernardo	Società Autostrade Valdostane S.p.A. (SAV)	02/09/2009	31/12/2018
15	Convenzione Unica ANAS S.p.A. - SITAF S.p.A. Autostrada A32 Torino-Bardonecchia	A32 Torino - Bardonecchia A32 Circonvallazione di Oulx T4 Traforo del Frejus	Società Italiana Traforo Autostradale del Frejus S.p.A. (SITAF)	22/12/2009	31/12/2018
16	Convenzione Unica ANAS S.p.A. - Tangenziale di Napoli S.p.A.	A56 Tangenziale di Napoli	Tangenziale di Napoli S.p.A.	28/07/2009	31/12/2018