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Item 4 (a) (ii) of the provisional agenda

Activities and administration of the TIR Executive Board

Activities of the TIR Executive Board

Monitoring the prices of TIR Carnets

Prices of TIR Carnet

Note by the secretariat

I. Background

1. Since the entry into force, on 1 January 2012, of the amendments to Annex 9, Part I of the TIR Convention, 1975, one of the obligations of national associations is to provide the TIR Executive Board (TIRExB), annually, as per 1 March, with the price of each type of TIR Carnet it issues.
2. On 14 March 2015, the secretariat sent a kind reminder to TIR focal points from all associations which had not yet replied. Further to this reminder, more associations provided data which the secretariat used to prepare this document for first consideration by TIRExB.
3. At its sixty-fourth session, TIRExB considered the preliminary data received up to 4 June 2015 and kindly requested the International Road Transport Union (IRU) for assistance in contacting those associations that have not yet provided the prices, reminding them of this legal obligation. In case associations would not have fulfilled their obligation by 31 July 2015, TIRExB mandated the secretariat to send an official letter to the customs administrations of those countries, requesting their assistance in ensuring that this provision of the TIR Convention be respected. Consequently, on 28 August 2015, the TIR Secretary sent letters to the Directors-General of the countries whose associations had not yet provided the prices of the TIR Carnets they issue.

II. Information received

4. In 2012, the secretariat received information from 10 associations. In 2013 and 2014, 48 and 49 associations respectively, provided TIRExB with data on the prices of TIR Carnets they issue.

5. To date, 50 associations have provided TIRExB with the 2015 prices of each type of TIR Carnet that they issue.
6. The national associations of Mongolia and the Syrian Arab Republic did not provide any information on the 2015 TIR Carnet prices, despite the fact that IRU issued TIR Carnets to them in 2014.
7. The prices received for 2012, 2013, 2014 and 2015, converted to United States dollars (USD)¹, are presented in Annexes I, II, III and IV.

III. Preliminary analysis

8. At its sixty-first session, the Administrative Committee of the TIR Convention, 1975 (AC.2) welcomed document ECE/TRANS/WP.30/AC.2/2015/4, containing an assessment by the secretariat and various suggestions received from Contracting Parties (Belarus, European Union, Switzerland and Turkey), on the need for an analysis or a specific methodology for TIRExB to analyse the price information of TIR Carnets in detail. The Committee was of the view that the methodology proposed by the secretariat could be used to conduct a first pilot analysis by TIRExB, which, at first, would be kept restricted and could later be repeated annually if proved conclusive. Consequently, the Committee requested TIRExB, with the assistance of the secretariat, to work on the pilot analysis and report back to the Committee at one of its future sessions.

9. Consequently, the secretariat started working on a preliminary analysis of price data which only shows that the principle of economies of scale is generally respected in the price setting by associations. At its sixty-fifth session, while welcoming the preliminary analysis, TIRExB took note of the major results and requested the secretariat to submit the analysis to the Committee for consideration. The analysis is presented in Annex E.

V. Considerations by the Committee

10. In view of the above, the Committee may wish to discuss the prices presented in the Annexes I, II, III and IV and consider the preliminary analysis contained in Annex V.

¹ Exchange rates : <http://treasury.un.org/operationalrates/OperationalRates.aspx>

Annex I

Table I.1
2012 Prices
 (2012 prices in United States dollars)

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Austria	AISÖ	58.91	62.83			78.54	86.39	111.27	117.81		
Czech Republic	CESMAD BOHEMIA	72.46	72.46	58.51	58.51	102.52	102.52	105.21	105.21	107.89	107.89
Hungary	MKFE	64.55	64.55					92.21	92.21		
Italy	UICCIAA	79.47	79.47					101.99	101.99	109.93	109.93
Montenegro	PKCG							130.90	130.90		
Poland	ZMPD	51.71	51.71	42.27	42.27			71.83	71.83	80.32	80.32
Romania	UNTRR	115.18	115.18			129.58	129.58	130.89	130.89		
Russian Federation	ASMAP	64.23	64.23	56.69	56.69	86.14	86.14	87.13	87.13		
Republic of Serbia	CCIS-ATT	90.25	90.25			134.98	134.98	135.72	135.72	139.95	139.95
Turkey	TOBB	68.54	68.54	50.00	50.00	102.25	102.25	109.55	109.55	112.36	112.36

Annex II

Table II.1
2013 Prices
 (2013 prices in United States dollars)

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Armenia	AIRCA										
Austria	AISÖ	62.83	66.76			82.47	90.32	115.19	121.74		
Azerbaijan	ABADA	148.75	148.75					174.40	174.40		
Belarus	BAMAP	43.01	58.60	37.10	48.39			58.06	85.48		
Belgium	FEBETRA	97.69	97.69					128.90	128.90		
Bosnia and Herzegovina	AIRH							127.84	127.84	129.38	129.38
Bulgaria	AEBTRI	72.96	121.82	60.91				101.74	121.82		
Croatia	TRANSPORTKOM	135.78	135.78					117.67	117.67	145.69	145.69
Czech Republic	CESMAD	71.39	71.39	57.64	57.64	101.00	101.00	103.65	103.65	106.29	106.29
Denmark	DTL					193.59	193.59	193.59	193.59		
Estonia	ERAA	121.26	121.26	88.19	88.19	133.86	133.86	133.86	133.86		
Finland	SKAL			137.16	137.16	145.27	145.27	145.27	145.27	145.27	145.27
France	AFTRI	94.98	94.98			122.12	122.12	156.04	156.04		
Georgia	GIRCA	76.59	76.59					136.76	136.76		
Germany	AIST	113.03	113.03			129.31	129.31	142.88	142.88	156.45	156.45
	BGL	117.92	117.92			145.47	145.47	146.40	146.40	152.31	152.31
Greece	OFAE	67.44	67.44					95.98	95.98	97.28	97.28
Hungary	MKFE	61.97	61.97					88.53	88.53		
Iran (Islamic Republic of)	ICCIM	101.81	101.81					138.46	138.46		
Italy	UICCIAA	78.54	78.54			95.56	95.56	100.79	100.79	108.65	108.65
Jordan	RACJ							141.04	141.04		
Kazakhstan	KAZATO			76.41	76.41	93.02	93.02	99.67	99.67	99.67	99.67

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Kyrgyzstan	AIRTO-KR					180.00	180.00	180.00	180.00		
Latvia	LA			46.55	46.55			96.72	96.72		
Lebanon	CCIAB							120.00	120.00		
Lithuania	LINAVA	189.86		177.67				246.07			
Mongolia	NARTAM							150.00	150.00		
Montenegro	PKCG							130.90	130.90		
Netherlands	SCT/TLN	87.34	87.34			104.80	104.80	106.39	106.39		
	NIWO	87.34	87.34			104.80	104.80	106.39	106.39		
Norway	NLF							140.40	193.05		
Poland	ZMPD	58.00	58.00	46.78	46.78			83.08	83.08	89.35	89.35
Republic of Moldova	AITA	64.46						89.20		91.30	
Romania	ARTRI	120.75	120.75	112.61	112.61			135.68	135.68		
	UNTRR	120.75	120.75	112.61	112.61			135.68	135.68		
Russian Federation	ASMAP	69.12	69.12	60.87	60.87	92.69	92.69	93.77	93.77		
Republic of Serbia	CCIS-ATT	86.75	86.75			129.97	129.97	130.71	130.71	134.96	134.96
Slovakia	CESMAD	82.09	82.09	69.20	69.20	109.23	109.23	110.18	110.18		
Slovenia	GIZ	49.34	49.34	35.90	35.90			74.07	74.07	76.22	76.22
Spain	ASTIC							104.99	104.99		
Sweden	SA	295.55	354.67	295.55	354.67	295.55	354.67	295.55	354.67	295.55	354.67
Switzerland	ASTAG					139.78	247.31	172.04	279.57	188.17	295.70
Turkey	TOBB	68.93	68.93	50.28	50.28	102.82	102.82	110.17	110.17	112.99	112.99
Turkmenistan	THADA							116.90	116.90		
Ukraine	AIRCU	49.79	49.79	38.58	38.58	77.99	77.99	79.27	79.27		
United Kingdom	FTA					122.91	122.91	127.47	127.47		
	RHA	91.05	91.05			118.36	118.36	127.47	127.47		
Uzbekistan	AIRCUZ	100.00	100.00					120.00	120.00		

Annex III

Table III.1
2014 Prices
 (2014 prices in United States dollars)

Country	Associa- tion	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member /National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
IRU distribution price		42.52	42.52	32.18	32.18	67.81	67.81	45.97	45.97	68.91	68.91	71.26	71.26
Afghanistan	ACCI	90				110				120		130	
Albania	ANALTIR					75	75			75	75		
Armenia	AIRCA									109.02	135.68		
Austria	AISÖ	66.76	70.93			87.62	95.97			122.39	129.35		
Azerbaijan	ABADA	109.73	109.73			132.28	132.28			135.28	135.29		
Belarus	BAMAP	45.98	62.64	39.66	51.72			57.47	74.71	62.07	91.38		
Belgium	FEBETRA	97.69	97.69							128.90	128.90		
Bosnia and Herzegovina	AIRH									134.03	134.03		
Bulgaria	AEBTRI	75.69	126.38	63.19				81.94		105.55	126.38	117.36	
Croatia	TRANSPOR	87.12	87.12							121.96	121.96	151.00	151.00
Czech Republic	CESMAD BOHEMIA	67.53	67.53	54.53	54.53	95.55	95.55			98.05	98.05	100.55	100.55
Denmark	DTL					207.19	207.19			207.19	207.19		
Estonia	ERAA	128.51	128.51	93.46	93.46	141.86	141.86			141.86	141.86		
Finland	SKAL			145.73	145.73	154.35	154.35			154.35	154.35	154.35	154.35
France	AFTRI	94.98	94.98			122.12	122.12			156.04	156.04		
The former Yugoslav Republic of Macedonia	AMERIT	82.76	82.76	59.77	59.77	89.66	89.66			117.24	117.24		
Germany	AIST	113.03	113.03			129.31	129.31			142.88	142.88	156.45	156.45
	BGL	119.97	119.97			147.68	147.68			148.60	148.60	154.59	154.59

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member /National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Greece	OFAE	73.32	73.32							95.98	95.98		
Hungary	MKFE	65.20	65.20							102.92	102.92		
Iran (Islamic Republic of)	ICCIM	101.62	101.62							138.21	138.21		
Italy	UICCIAA	82.75	82.75			100.68	100.68			106.20	106.20	114.48	114.48
Jordan	RACJ									141.24	141.24		
Kazakhstan	KAZATO			74.19	74.19	90.32	90.32			96.77	96.77	96.77	96.77
Kyrgyzstan	AIRTO-KR					180.00	180.00	140.00	140.00	180.00	180.00		
Latvia	LA			49.04	49.04					94.22	94.22		
Lebanon	CCIAB	120.00	120.00							150.00	150.00		
Lithuania ²	LINAVA	72.56		61.10				73.46		90.54			
	LINAVA	82.67		70.09				80.20		104.20			
Mongolia	NARTAM									300	300		
Montenegro	PKCG									139.08	139.08		
Netherlands ³	NIWO	92.55	92.55			111.07	111.07			112.75	112.75		
Norway	NLF									132.01	181.51		
Poland	ZMPD	59.96	59.96	48.40	48.40					85.93	85.93		
Romania	ARTRI	120.75	120.75	112.61	112.61			115.33	115.33	135.68	135.68		
	UNTRR	120.75	120.75	112.61	112.61	134.32	134.32	115.33	115.33	135.68	135.68		
Russian Federation	ASMAP	68.91	68.91	59.44	59.44	93.56	93.56			94.64	94.64		
Serbia	CCIS-ATT	70.79	70.79			113.91	113.91	71.13	71.13	114.94	114.94	117.00	117.00
Slovakia	CESMAD SLOVAKIA	82.09	82.09	69.20	69.20	109.23	109.23			110.18	110.18		
Slovenia	GIZ	52.74	52.74	38.37	38.37					79.18	79.18	81.48	81.48

² LINAVA applies different prices for “Active members” and “Association Members”

³ Prices are available on www.niwo.nl/

Country	Associa- tion	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member /National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Spain	ASTIC									124.13	124.13		
Sweden	SA	288.46	346.15	288.46	346.15	288.46	346.15			288.46	346.15	288.46	346.15
Switzerland	ASTAG					149.43	264.37			183.91	298.85	201.15	316.09
Turkey	TOBB	68.15	68.15	50.07	50.07	102.92	102.92	69.54	69.54	109.87	109.87	112.66	112.66
Ukraine	AIRCU	42.06	42.06	31.95	31.95	45.43	45.43	40.44	40.44	67.90	67.90		
United Kingdom	FTA	54.94				80.93				83.93			
	RHA	49.96				64.95				69.94			
Uzbekistan	AIRCUZ	100.00	100.00							120.00	120.00		

Annex IV

Table IV.1
2015 Prices

(2015 prices in United States dollars)

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
IRU distribution price ⁴		26.21	26.21	-	-	61.84	61.84	41.93	41.93	62.89	62.89	64.99	64.99
Albania	ANALTIR							59.73	59.73	59.73	59.73		
Armenia	AIRCA									110.06	136.27		
Austria	AISÖ	44.89	48.26			70.71	77.44			98.77	104.38		
Azerbaijan	ABADA	59.56	59.56			102.27	102.27			104.51	104.51	106.76	106.76
Belarus	BAMAP	33.54	47.17					52.41	68.13	57.13	83.33		
Belgium	FEBETRA	70.29	70.29							107.71	107.71		
Bosnia and Herzegovina	AIRH									104.55	104.55		
Bulgaria	AEBTRI	50.95	98.64					67.21		87.80	98.64	89.43	
Croatia	TRANSPOR TKOMERC		81.11							110.60	110.60		
Czech Republic	CESMAD BOHEMIA	42.38	42.38			77.83	77.83			79.87	79.87	81.91	81.91
Denmark	DTL					160.60	160.60			160.60	160.60		
Estonia	ERAA	103.70	103.70	75.42	75.42	114.48	114.48			114.48	114.48		
Finland	SKAL	94.84	94.84			100.45	100.45	100.45	100.45	100.45	100.45	100.45	100.45
France	AFTRI	85.03	85.03			107.71	107.71			136.05	136.05		
Georgia	GIRCA	55.72	55.72							126.65	126.65		
Germany	AIST	94.44	94.44			108.05	108.05			119.39	119.39	130.73	130.73

⁴ Prices converted to USD using the 1 March 2015 exchange rate, excluding the exceptional 10% rebate granted from 15 January 2015 to 15 April 2015.

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member /National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
	BGL	84.99	84.99			121.79	121.79			122.55	122.55	127.49	127.49
Greece	OFAE	58.36	58.36							83.05	83.05		
Hungary	MKFE	58.33	58.33							83.85	83.85		
Iran (Islamic Republic of)	ICCIM	92.34	92.34							125.59	125.59		
Italy	UICCIAA	73.17	73.17			89.02	89.02			93.90	93.90	101.22	101.22
Jordan	RACJ									141.24	141.24		
Kazakhstan	KAZATO	74.97	74.97			112.58	112.58	90.72	90.72	118.06	118.06		
Kyrgyzstan	AIRTO-KR					360.00	360.00	280.00	280.00	360.00	360.00		
Latvia	LA	40.01	40.01							81.24	81.24		
Lebanon	CCIAB	75.00	75.00							150.00	150.00		
Lithuania	LINAVA	50.00	50.00			65.53	65.53			78.00	78.00		
Montenegro	PKCG									112.23	112.23		
Morocco	AMTRI	121.74	121.74										
Netherlands	NIWO/TLN	75.45	75.45			90.54	90.54			91.92	91.92		
Norway	NLF									107.57	147.91		
Poland	ZMPD	39.10	39.10							75.12	75.12		
Republic of Moldova	AITA	40.43	40.43			81.35	81.35	56.17	56.17	82.41	82.41	84.52	84.52
Romania	ARTRI	91.84	91.84					96.37	96.37	113.38	113.38		
Romania	UNTRR	91.84	91.84			112.24	112.24	96.37	96.37	113.38	113.38		
Russian Federation	ASMAP	42.86	42.86			73.93	73.93			74.93	74.93		
Republic of Serbia	CCIS-ATT	41.00	41.00			106.81	106.81	66.62	66.62	107.76	107.76	109.64	109.64

Country	Association	4 Volets TIR Carnet		4 Volets TIR Carnet (Pilot/EU)		6 Volets TIR Carnet		6 Volets TIR Carnet (Pilot/EU)		14 Volets TIR Carnet		20 Volets TIR Carnet	
		Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member /National	Non- member/ Foreign	Member/ National	Non- member/ Foreign	Member/ National	Non- member/ Foreign
Slovakia	CESMAD SLOVAKIA	57.82	57.82			91.27	91.27	72.90	72.90	92.06	92.06		
Slovenia	GIZ INTERTRA NSPORT	48.10	48.10	34.99	34.99					72.21	72.21	74.30	74.30
Spain	ASTIC									121.95	121.95		
Sweden	SA	218.05	261.66	218.05	261.66	218.05	261.66			218.05	261.66	218.05	261.66
Switzerland	ASTAG					136.27	241.09			167.71	272.54	183.44	288.26
Tajikistan	ABBAT									212.00	212.00		
The former Yugoslav Republic of Macedonia	AMERIT	46.65	46.65			74.07	74.07			97.83	97.83		
Turkey	TOBB	35.71	35.71			78.34	78.34	55.68	55.68	80.65	80.65	82.57	82.57
Turkmenistan	THADA									105.14	105.14		
Ukraine	AsMAP UA	27.65	27.65			64.60	64.60	43.95	43.95	65.69	65.69		
United Kingdom	FTA	98.95	98.95			145.73	145.73			151.12	151.12		
	RHA	89.96	89.96			116.94	116.94			125.94	125.94		
Uzbekistan	AIRCUZ	100.00	100.00							120.00	120.00		

Annex V

Preliminary analysis of TIR Carnets prices

I. Introduction

At its sixty-first session, the Administrative Committee of the TIR Convention, 1975 (AC.2) welcomed document ECE/TRANS/WP.30/AC.2/2015/4, containing an assessment by the secretariat and various suggestions received from Contracting Parties (Belarus, European Union, Switzerland and Turkey), on the need for an analysis or a specific methodology for TIRExB to analyse the price information of TIR Carnets in detail. The Committee was of the view that the methodology proposed by the secretariat could be used to conduct a first pilot analysis by TIRExB, which at first would be kept restricted and could later be repeated annually if proved conclusive. Consequently, the Committee requested TIRExB, with the assistance of the secretariat, to work on the pilot analysis and report back to the Committee at one of its future sessions.

In document ECE/TRANS/WP.30/AC.2/2015/4 the secretariat proposed, as a first trial, to run a linear regression to analyse a number of variable which data could be found for all countries providing the issuing prices and which could explain the variability of the prices, such as wages or the number of TIR Carnets issued.

II. Discussion on the formation of prices

Assuming that the revenue from the issuance of TIR Carnet should cover the cost incurred by the association to issue the TIR Carnets, one can assume that

$$\sum_i p_i^x \cdot q_i^x \geq TC^x \quad (1)$$

where p_i^x is the price of a TIR Carnet of type i^5 charged by association x , q_i^x is the quantity of the TIR Carnet of type i sold by association x and TC^x are the total issuance costs for association x .

Taking into account that associations are non-profit organizations, equation 1 becomes

$$\sum_i p_i^x \cdot q_i^x = TC^x = FC^x + VC^x \quad (2)$$

where FC^x and VC^x are, respectively, the total fixed and variable costs of association x . Assuming that the premiums charged by associations do not vary significantly for the various types of TIR Carnets, equation 2 reads

$$p^x \cdot q^x = FC^x + VC^x \quad (3)$$

⁵ $i \in [4 \text{ volets} ; 4 \text{ volets pilot} ; 6 \text{ volets} ; 6 \text{ volets pilot} ; 14 \text{ volets} ; 20 \text{ volets}]$

where p^x is the weighted average TIR Carnet price, calculated as $p^x = (\sum_i p_i^x \cdot q_i^x) / q^x$, with q^x being the total number of TIR Carnet issued by association x.

Assuming that cost of purchasing the TIR Carnets to the IRU represents only one part of the variable costs VC the weighted average association premiums pr^x ($pr^x = (\sum_i pr_i^x \cdot q_i^x) / q^x$), are also equal to

$$pr^x = \frac{FC^x}{q^x} + \frac{OVC^x}{q^x} \quad (4)$$

and $OVC^x = VC^x - \sum_i p_i^{IRU} \cdot q_i^x$ are the other variable costs.

It is expected that all associations have a similar variable and fixed costs functions, which are, inter alia, dependent on the countries' wages and capital costs levels. We expect the premiums to rise with increasing costs and decrease when the number of issued carnets goes up (economies of scale).

III. Data

The associations from Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iran (Islamic Republic of), Italy, Jordan, Kazakhstan, Kyrgyzstan, Latvia, Lebanon, Lithuania, Montenegro, Morocco, Netherlands, Norway, Poland, Republic of Moldova, Romania, Russian Federation, Republic of Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom of Great Britain and Northern Ireland and Uzbekistan have send TIRExB the 2015 prices of the TIR Carnets they issue. By subtracting the distribution prices by IRU we obtain the association premiums.

Table V.1

Extra costs for non-members or foreign transporters

<i>Country</i>	<i>Association</i>	<i>Non-member weighted average price difference (USD)</i>
Austria	AISO	5.08
Belarus	BAMAP	12.92
Croatia	TRANSPORTKOMERC	15.15
Bulgaria	AEBTRI	20.52
Armenia	AIRCA	26.21
Norway	NLF	40.34
Sweden	SA	43.61
Switzerland	ASTAG	104.82

Table V.1 shows the association that have a different issuing price for their members or national transporter compared to non-members or foreign transporters.

Considering that charging extra for non-members or foreign transporters is the exception rather than the rule and assuming that most carnets are sold to members or domestic transporters, the analysis is carried out on the prices for members or domestic transporters.

As a proxy of the number of TIR Carnets issued in 2014 by each association we use the number of TIR Carnets distributed by the IRU to the associations (TOT). The correlation of

the number of carnets distributed with the weighted average association premiums (WAVGM) is -0.317385.

From the International Monetary Fund World Economic Outlook data sets from April 2015 we considered the 2014 data for the following variables as possible proxies of the countries' cost levels:

- NGDPDPC : Gross domestic product per capita, current prices (USD)
- PPPPC : Gross domestic product based on purchasing-power-parity (PPP) per capita (International USD)

The correlation of these series with the weighted average association premiums are 0.08886246, respectively, -0.05738923. The correlation of between PPPPC and the premiums is both almost insignificant and negative, i.e. contrary to the expected sign, as we assume that the higher the costs in a country the more the association would have to charge to recover those costs. In the absence of a better proxy, we will therefore continue the analysis using NGDPDPC as a proxy for the countries' cost levels despite its low correlation value with the premiums.

Figure V.1

Box plots

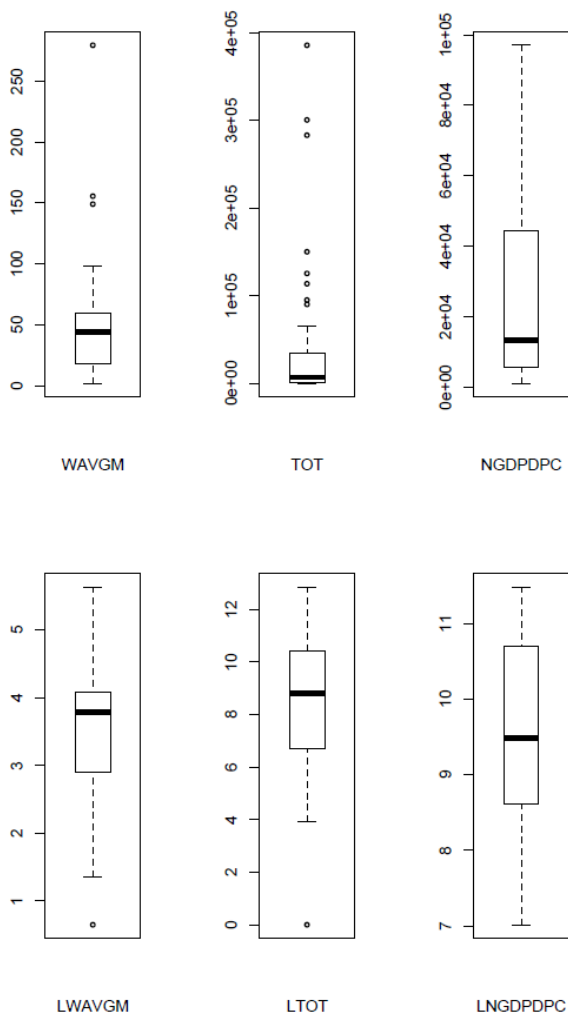


Figure V.1 shows the box plots of all the variable we are considering (WAVGM, TOT and NGDPDPC). In view of the possible non-linear relation between the variables we also plot their logarithmic transformations (LWAVGM, LTOT and LNGDPDPC).

Figure V.1 also shows that some associations charge premiums much higher than the other, in particular those in table V. 2, which premiums exceed 100 USD.

Table V.2

Associations charging average premiums higher than 100 USD

<i>Country</i>	<i>Association</i>	<i>WAVGM</i>	<i>TOT</i>	<i>NGDPDPC</i>
Tajikistan	ABBAT	149.11	4000	1113.24
Kyrgyzstan	AIRTO-KR	279.66	20900	1298.56
Sweden	SA	155.68	200	58491.47

IV. Regressions

In order to evaluate the possible influences of the envisaged explanatory variables (separately and jointly), we performed the following regressions:

$$\begin{aligned}
 Y &= \alpha + \beta \cdot X + \varepsilon \\
 Y &= \alpha + \beta \cdot \log(X) + \varepsilon \\
 \log(Y) &= \alpha + \beta \cdot X + \varepsilon \\
 \log(Y) &= \alpha + \beta \cdot \log(X) + \varepsilon
 \end{aligned}$$

where Y is WAVGM and X is TOT, NGDPDPC or [TOT LNGDPDPC]. We first tried using the complete sample (50 observations) but noticed that by removing the observations of the three associations listed in table V.2 we greatly improved the quality of the regressions. Therefore, these observations were considered as outliers and the regressions discussed below were undertaken without them.

In all the regressions, the coefficients of NGDPDPC or LNGDPDPC, combined or not with TOT or LTOT, were no significant. Figure V.2 show the regressions lines over the plotted data.

From a statistical perspective, the best model tested is

$$\text{WAVGM} = \alpha + \beta \cdot \log(\text{TOT}) + \varepsilon \quad (5)$$

Table V.3 presents the regression results and shows that both α and β are significant but that the R2 value is very low, indicating that the price setting is most likely influenced by other variables. However, when inserting the regression results in equation 5, it reads

$$\text{WAVGM} = 88.551 - 5.631 \cdot \log(\text{TOT}) + \varepsilon \quad (6)$$

V. Conclusions

In conclusion, this analysis could only show that the principle of economies of scale is generally respected in the price setting for TIR Carnets, but there is no statistical evidence that associations in countries with higher GDP per capita charge higher premiums. The inclusion of other variables could improve the model's quality.

Figure V.2
Plots of data with regressions lines

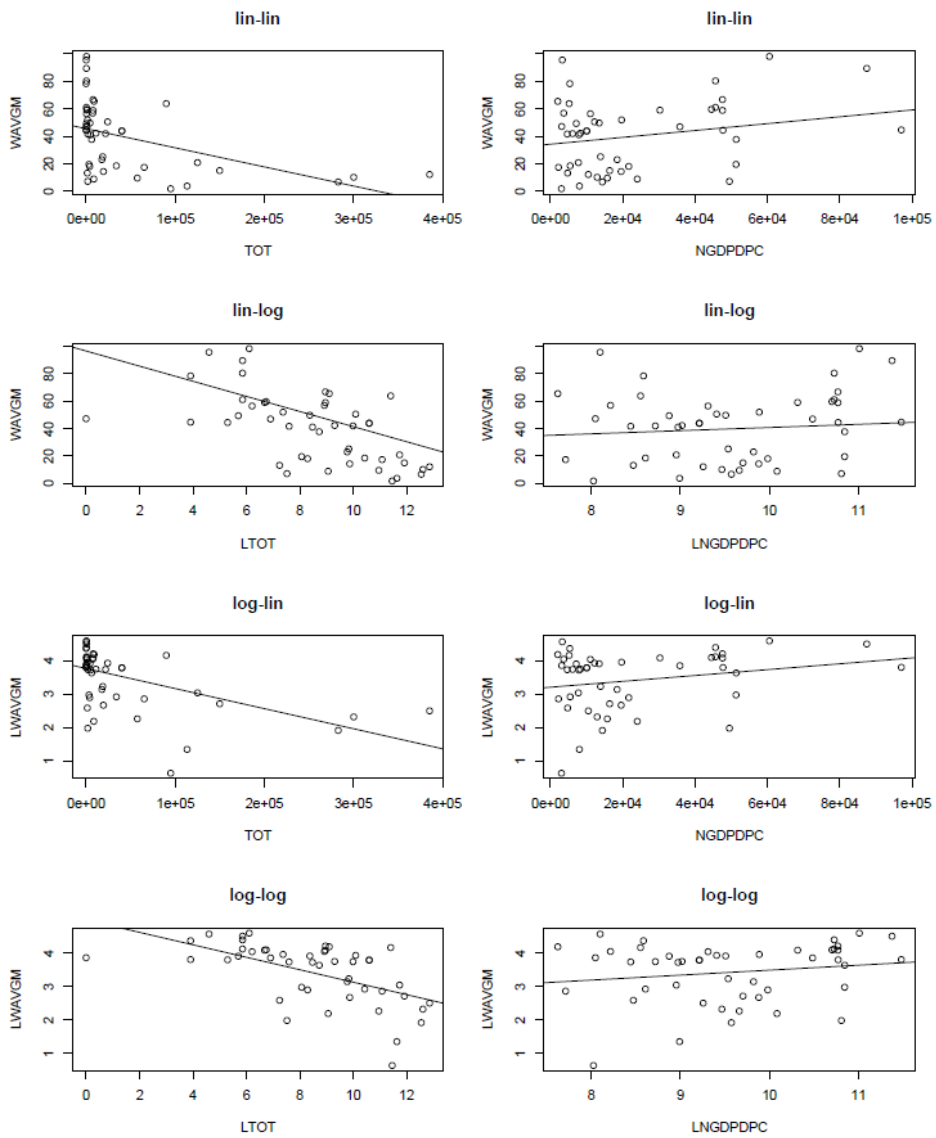


Table V.3
Regression results for equation 5

```
Call:
lm(formula = WAVGM ~ LTOT, data = robdata)

Residuals:
    Min       1Q   Median       3Q      Max
-41.381 -12.744  -1.617   13.454   44.032

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)   88.551     10.111   8.758 2.79e-11 ***
LTOT          -5.631      1.136  -4.956 1.06e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 20.71 on 45 degrees of freedom
Multiple R-squared:  0.3531,    Adjusted R-squared:  0.3388
F-statistic: 24.57 on 1 and 45 DF,  p-value: 1.063e-05
```
