



arafer

autorité de régulation des activités
ferroviaires et routières

State-of-art of scarcity charging on the French Railway Network

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Plan

- 1. Conditions historically applied by *SNCF Réseau***
- 2. Arafer's opinions on scarcity charging**
- 3. Directive's provisions for declaring and charging « congested infrastructure »**
- 4. *SNCF Réseau*'s proposals for NS 2018**
- 5. Arafer's opinion on NS 2018**
- 6. Work in progress**

1.1 Charging principles laid down in the national legal framework

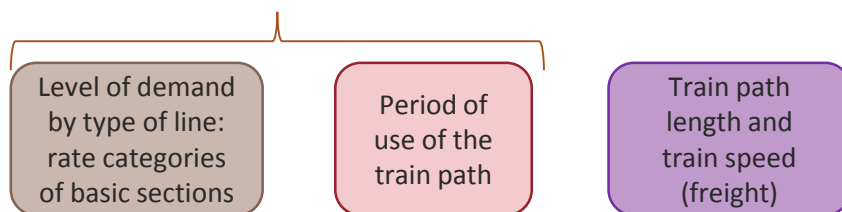
Reservation charge (Article 6 of Decree N°97-446 of 5 May 1997)

- “[...] aims to **cover all or part of the capital costs invested**. It is calculated from a **fixed price per kilometre** according to the **category or sub-category of the basic section** and applied to the full length of the section. [...]”
- The price may be adjusted, in non-discriminatory conditions, for example, according to:
 - The **origin or destination of the journey**;
 - The **time period for use** of the basic section;
 - The **type of train**, in particular the **carrying capacity**, or the **type of services**;
 - The **scarcity of capacity on a congested line or section of line, including in stations**;
 - The **limited nature of capacity on a congested line or section of line**;
 - The **environmental costs**

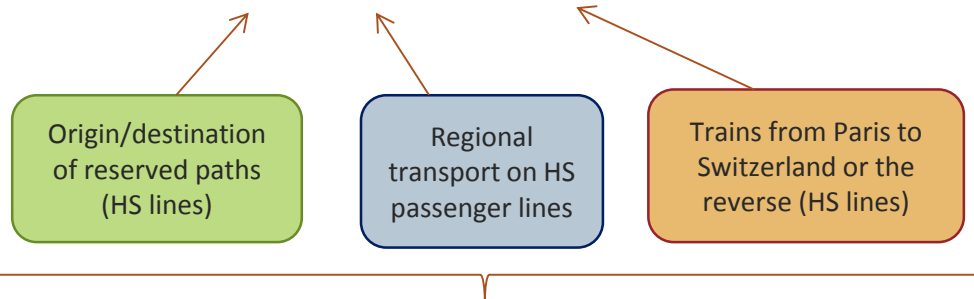
1.2 The design of charges

Reservation charge → Paid by all railway undertakings having reserved a train slot. The price per path-km is adjusted according different factors :

1. Modulations aiming to reflect the scarcity of capacity (Art.31.4)



Reservation charge for each SEL = $PKR \times C1 \times C2 \times C3 \times C5 \times C6 \times SEL \text{ distance}$



4 2. Modulation attempting to reflect the RUs' ability and willingness to pay (mark-ups) (Art. 32.1)

1. Conditions historically applied by SNCF Réseau

1.2 The design of charges (NS 2017)

Reservation charge (RR)												
<i>RR per passenger train for each individual section (SEL) = PKR (price per km booked) x C1 x C2 x C3 x C6 x length of the SEL</i>												
Conventional Line												
Rate category	A	B	C		C-GV ⁽¹⁾	D		D-GV ⁽¹⁾	D-pr ⁽²⁾	E		E-pr ⁽³⁾
PKR (€ excl. VAT per train path-km)	5,551	2,610	1,258		1,258	0,500		0,500	0,010	0,073		0,010
High speed lines (HSL)												
Rate category	SE-1	SE-2	ATL-0	ATL-1	ATL-2 ⁽⁴⁾	BPL	NOR-1	NOR-2	ICO-1	EST-1	EST-2	RH-1
PKR (€ excl. VAT per train path-km)	15,946	5,431	5,875	18,611	5,875	13,379	14,616	6,306	3,530	6,780	3,391	4,980
Adjustment for passenger trains												
x C1	Period in which the path is used on all types of line							HC	HN	HI		HP
								0,50	1,00	1,25		1,50
x C2	Radial/inter-sector for non-conventioned trains capable of high speed on HSL only							Radial		Intersecteur		
								1,10		0,68		
x C3	Regional transport on HSL only							0,46				
x C6	Adjustment for trains capable of high speeds on spokes into or out of the capital, where origin or destination is Geneva (Switzerland) on HSL only							0,95				

Repeated messages on opinions released since 2011:

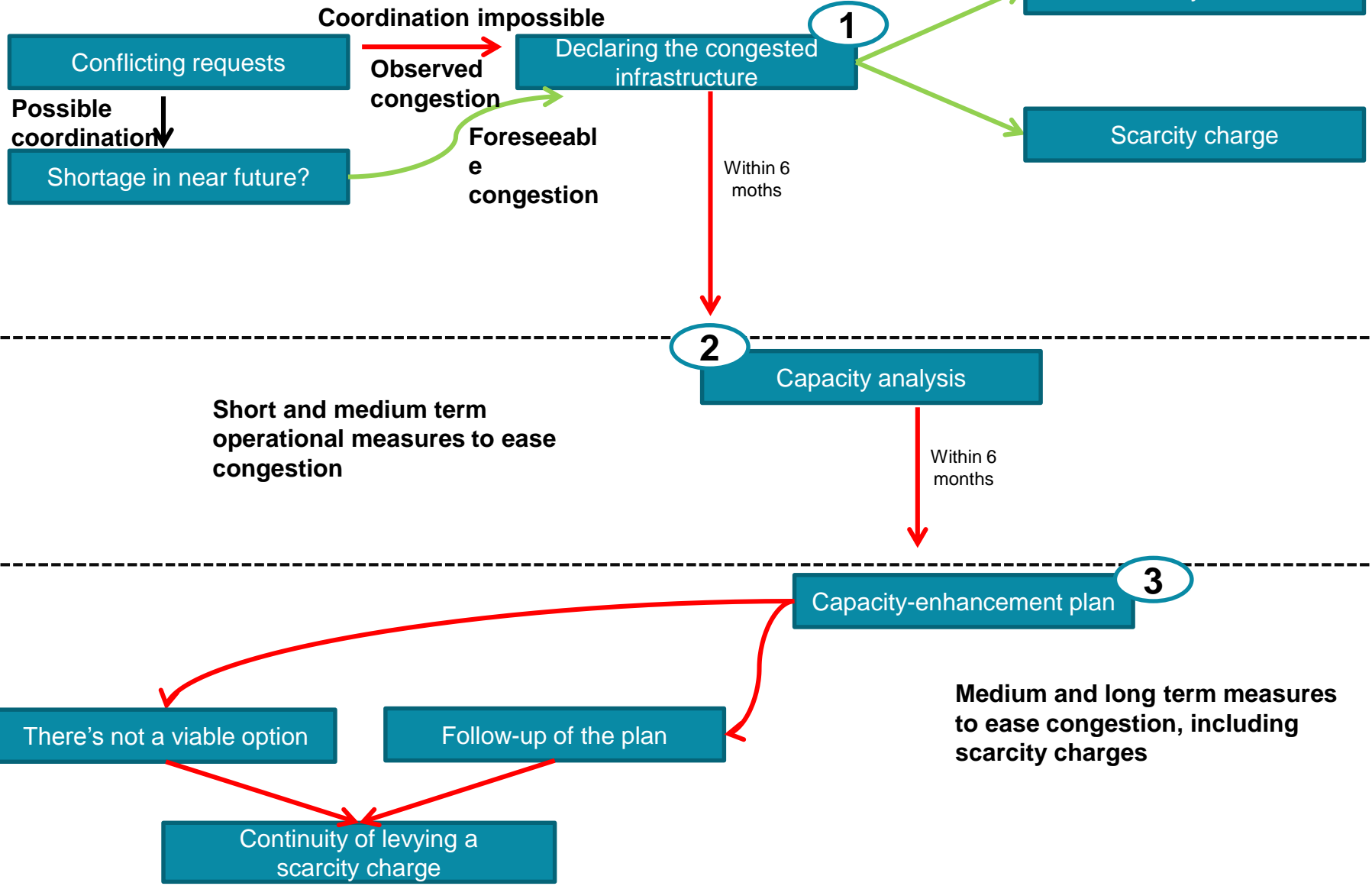
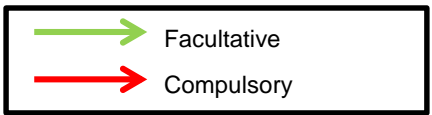
- The external effects of "scarcity of capacity" characterize better the functioning of the railway sector than the "congestion" effects
- The design of charges must promote an efficient use of the infrastructure
 - A scarcity charge should be distinguished from mark-ups inside the Reservation Charge
 - The superposition of objectives inside a single charge leads to confusing economic signals
- The scarcity charges currently levied are incompatible with art. 31-4.
 - Charges should only be levied on specific sections of infrastructure or during specific hours of the day characterised by scarcity of capacity (IRG-Rail position paper)
 - Charges should aim at taking into account the opportunity costs of not being able to satisfy requests for infrastructure capacity adequately
 - *SNCF Réseau* has not previously identified and declared the sections under capacity constraints
- About the current design of charges:
 - Basic sections (SEL) should be simplified, updated and justified
 - None of the adjustment factors has been justified
 - The same modulations are applied, regardless of the real traffic levels

Opinion n° 2015-004 on NS 2016:

- Non-significant changes for 2016
- *SNCF Réseau* is unable to implement the necessary changes before 2018
 - Calls for a significant **charging reform** to be implemented in **2018**
- Main objectives :
 - Improve consistency of the charging scheme with directive 2012/34/EU
 - Increase the quality of price signals to promote fair infrastructure access and efficient management
- Main points of the charging reform :
 - A. Estimation of direct costs
 - B. Charges' indexation methodology and productivity
 - C. Market segment definition
 - D. **Charges for capacity constraints**
- Commitments made by *SNCF Réseau* regarding capacity constraints:
 1. Define conditions under which the infrastructure can be declared congested (and the corresponding charge levied)
 2. Characterize the capacity constraints in the network
 3. Design proper price signals for capacity charges

3. Directive's provisions for declaring and charging « congested infrastructure »

- Directive 2012/34/UE sets the process of handling of capacity constraints:
 - Declaration of congested infrastructure
 - Priority rules
 - Capacity analysis
 - Capacity-enhancement plan
 - Scarcity charge



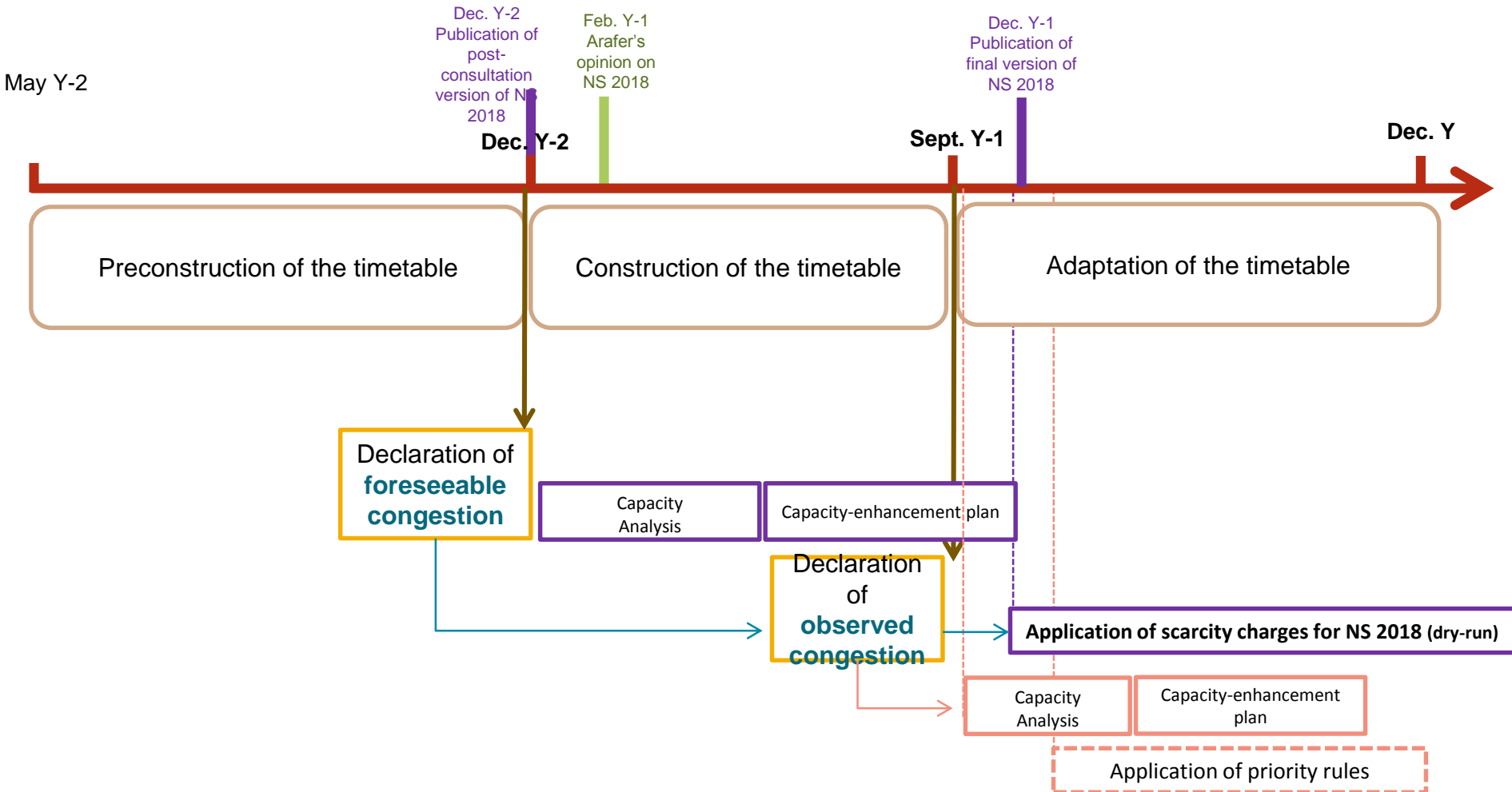
3. Directive's provisions for declaring and charging « congested infrastructure »

- August 2015: Revision of the French legislative framework (decree n°2003-194) to transpose Directive 2012/34
- The French decree adds three supplementary provisions:
 - The scarcity charge can be levied during periods of « observed or foreseeable congestion ».
 - The capacity analysis is a condition to apply the priority rules
 - The priority rules gives priority to pre-established paths

CONTEXT

- Commitments made by *SNCF Réseau* regarding capacity constraints:
 1. Define conditions under which the infrastructure can be declared congested and scarcity charges can be levied
 2. Characterize the capacity constraints in the network
 3. Design proper price signals for capacity charges
- Transposition of Directive 2012/34/UE into national legal framework

4.1 Framework for declaring and charging congested infrastructure



4.1 Framework for declaring and charging congested infrastructure

- **Declaration of congested infrastructure – NS 2018**

Foreseeable congestion

- If *SNCF Réseau* identifies a **line** or **section of line** to be **likely to become congested** during the timetable Y
 - Declaration of foreseeable congestion at the end of Y-2 (preconstruction period)
- Criteria:
 - SNCF Réseau estimates that it could not satisfy all expressed requirements
 - SNCF Réseau feels that demand on a given section of line will exceed the capacity offered
 - SNCF Réseau estimates that all requests won't be satisfied during the timetable construction procedure
- The declaration is published by *SNCF Réseau* on its website, and sent to all interested parties.
- Applicants are advised that additional congestion charges will be applied if a declaration of observed congestion at the end of the timetable construction period takes place
- Unless a reinforcement plan has already been implemented on the line or section of line concerned, SNCF Réseau will conduct a **capacity analysis** and define a capacity reinforcement plan
- The **reinforcement plan** could include operating measures such as the modification of running speeds. It

4.1 Framework for declaring and charging congested infrastructure

- **Declaration of congested infrastructure – NS 2018**

Observed congestion

- A **line** or **section of line** is declared to be congested if, after the service construction procedure, the coordination process fails so that *SNCF Réseau* :
 - is unable to allocate certain requested train paths;
 - allocates train paths outside of the tolerance margins accepted by the applicant
- The declaration of congestion may involve any **geographic perimeter between two points of the network**
- The time measurement unit is **one hour**. Several one-hour slots may succeed each other (for example between 8h and 9h or 2x1h between 17h and 19h)
- The declaration is published by *SNCF Réseau* on its website, and sent to all interested parties.
- *SNCF Réseau* conducts a **capacity analysis** within the six months following the declaration of congestion, to determine the causes of congestion and measures to remedy it
- Within the six months following this analysis, *SNCF Réseau* submits a **plan** for strengthening capacity to the Minister of Transport, setting out the reasons for congestion and assessing all the steps to strengthen infrastructure capacity

4.1 Framework for declaring and charging congested infrastructure

- **Allocation of capacity – NS 2018**

Two cases:

1. A declaration of foreseeable congestion has previously been made

- A. Conflicts remain between competing requests:

- *SNCF Réseau* confirms the declaration of congestion for the line or section of line
- Application of priority criteria for train path allocation
- Congestion charges are applied to applicants to whom the train path using the congested line or section of line was allocated

- B. All requests are met:

- *SNCF Réseau* invalidates the declaration of foreseeable congestion
- No congestion charges shall be applied.

4.1 Framework for declaring and charging congested infrastructure

- **Allocation of capacity – NS 2018**

2. In the absence of any previous declaration of foreseeable congestion

- If conflicts remain between competing requests at the end of the timetable construction:
 - SNCF Réseau declares the line or section of line congested
 - The same priority criteria for train path allocation can be applied
 - Congestion charges are not applied during the timetable Y (as a declaration of foreseeable congestion did not take place)
 - But, the section can be subject to a declaration of foreseeable congestion at the end of the subsequent timetable pre-construction period
 - Thus, congestion charges could be applied during the following timetable.

4.1 Framework for declaring and charging congested infrastructure

Congestion due to maintenance works

- In the event of the declaration of congestion (observed or foreseeable) due to maintenance works, no congestion charges are applied

Congestion charges– NS 2018

- 2018 timetable → dry run period
- Charges are only applied on the sections and in the periods subject to a declaration of foreseeable congestion confirmed by a declaration of observed congestion
- The congestion charge is a fixed lump sum
- The amount varies depending on the transport service

Congestion charge (RS) - dry run for the 2018 timetable		
<i>RS = unit price (PU) x number of train path-days</i>		
PU (€ excl. VAT per train path-day)	Passenger trains capable of high speeds (TAGV)	500,00
	Other trains not suitable for high speeds	60,00
PU (€ excl. VAT per train path-day)	Freight trains	20,00

Arafer's opinion n°2017 – 006 on NS 2018

- *SNCF Réseau's* proposals regarding the proceeding for declaring and charging capacity constraints are now compliant with Directive's provisions
 - The NS specifies that scarcity charges can only be applied after having declared a section of the infrastructure constrained
- The scales of the congestion charges are not justified
 - The dry-run period supposes that operators won't be charged
 - Arafer will issue an opinion on the actual levied charges
 - To avoid confusion, Arafer's recommend to delete the charges presented on the NS 2018
- Arafer invited *SNCF Réseau* to pursue its analysis on the conditions for a competitive allocation of scarce slots

6. Work in progress

- Stage 1: Characterize the capacity constraints in the network
 - Agree on a number of sections of lines subject to different types of capacity constraints
 - Objective: Understand the causes and consequences of capacity constraints
- Stage 2: Design proper price signals for capacity charges
 - Ongoing work



Thanks for your attention