RailCalc

Proposed enhanced practices on cost structure and charging calculation

Stakeholder Workshop

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Cost Accounting Framework - Relevancy

- It is today vitally important for every IM to understand the link between accounting and charging,
- This requires the adoption of a business logic that secures that cost drivers are well identified and controllable.
- Railway infrastructure cost accounting framework should be ready to deliver sound background information for setting charges
- It should also allow cost and revenues comparison by market segments (management), as it is increasingly necessary to support decisions on which services to focus business activities
- Cost accounting frameworks should also deliver accurate information for the regulator
- It is increasingly necessary to justify levels of public funding required to fulfil PSO (Public Service Obligations) agreements linked to multi-annual contracts.
Cost Accounting Framework - Difficulties

But....

- Improvements are needed in relation to state-of-the-art cost management systems and information systems.

- It also seems to be difficult to define incremental costs in relation to each cost category.

- Need to simplify and homogenise calculation procedures, in relation to incremental cost formulations that encourage better cost efficiency.

- Overall, innovative cost accounting/management approaches are required for two major reasons:
  
  - Internally: to cut unnecessary activity costs, improving IM cost efficiency through better cost management, reaching higher value market segments
  
  - Externally: to identify sound reasons (e.g., enhanced “economic sustainability”, where environment and energy play an important role) for justifying public funding/subsidies for the remainder costs left uncovered by charges
Cost Accounting Framework – Practices

- The review of current accounting practices, allowed the identification of best practices on cost categorisation and adoption of cost centres which are deemed compatible with the concerns mentioned.

- In terms of cost categorisation, it seems desirable to maintain a clear distinction of infrastructure-related cost categories supported by EU wide common definitions, regarding major cost items i.e. depreciation, upgrading, renewals, maintenance and management/operation.

- Such a detailed categorisation should be combined with the adoption of accounting cost centres acting as building blocks defined at bottom levels of the physical and organisational infrastructure.
Cost Accounting Framework – Ambition

- It is necessary to link cost accounting to the whole management approach to Infrastructure Management.
- It is necessary to move from conventional cost accounting systems to new approaches focused “management worthing” information
- Improving conventional cost accounting practices, upon better knowledge on usage related costs and their nature, brings to discussion the application of Activity Based Costing (ABC)
  - ABC allows an approach to pricing based on forward-looking incremental costs; it contributes to reconcile top-down and bottom-up costing approaches
  - ABC takes advantage of sophistication on economic/ engineering models required to feed cost partition mechanisms.
Cost Accounting Framework - Pragmatism

- From a managerial perspective, ABC also provides the ground for Activity-Based Management (ABM).

- Activity-based management focuses on managing activities to reduce costs and improve added value, and may be divided in:
  - Operational ABM (i.e. “doing things right”), using ABC information to improve efficiency and identify activities which add value to the “IM product”
  - Strategic ABM (i.e. “doing the right things”), using ABC information to decide which products to develop and which activities to use, anticipating market trends, enable planning of new investments and supporting decisions for long term PSO contracts / Multi-annual contracts

- It contributes to ensure that IM expenditures are allocated to marketable services, ensuring cost relatedness of charges.

- Combined with proper cost allocation partition keys (MC based), it may deliver a pragmatic approach to set charges on incremental cost basis.

- It allows effective cost benchmarking, especially regarding allocation of common costs, and regular cost cross comparisons among IMs
Charging Framework - Pitfalls

- SRMC approaches face obstacles when it comes to practical implementation; it is difficult to establish criteria for marginal cost calculation, regarding how much of each cost category may be deemed variable.

- Incremental costing is often considered to be complex by IMs while there is a significant dispersion of practices and interpretations of EC Directive 2001/14.

- Charging according to incremental costs, understood as Short Run Marginal Costs (SRMC), implies that the IM is unable to raise the necessary funds to develop its activity, requiring State Budget contributions to finance railway network development/improvement.

- Moreover, it does not generate a clear link to improved IM cost efficiency and cost optimisations strategies.

- It is increasingly important that the charging system adopts a dynamic forward-looking approach to current and future costs.
Charging Framework – Drawbacks (I)

- Current practices may also bring about potential drawbacks, namely risk of uncontrolled overpricing, e.g. when an incumbent operator detains infrastructure facilities also used by competitors.
Charging Framework - Drawbacks (II)

- Another drawback is the fact that the adoption of Scarcity Charges (SCA) and Mark-ups (MUP) share a common association to “Willingness to Pay” (WTP) of Train Operating Companies.

- Current charging practices allow adding up WTP related elements to basic SMC (Social Marginal Cost) charges.

- However, WTP prevails over SMC considerations! whenever WTP considerations are brought to charging practices, (no matter if through Mark-Ups or Scarcity Charges), marginal costs consideration and calculations become useful merely as a general indication for charging.

- Overall charge is then determined by the acceptance by the TOC of a certain market bearable charge, overriding SMC considerations.
Charging Framework – Need to focus

- Besides, an exclusion of competitors may occur even in the case of supposedly fair charging for all infrastructure components:
  - If the essential facility is not open for use in case of Capacity constraints (e.g. the incumbent uses all of the possible slots on this part of the infrastructure and is not willing to share the paths/ “grandfather rights”),
  - In the case of Time constraints (e.g. all economic attractive slots within a certain period of time are allocated to restricted parties), and
  - Under Technical Constraints (e.g. the infrastructure can only be used by a certain kind of trains with a certain technical design, without any interoperability to other parts of the network).
- This emphasizes the need for the regulator to control access not only in terms of primary charges (minimum access package), but also on additional charges.
This dynamic is illustrated in the next diagram, depicting the contradictory effects associated to current practices in relation to the cumulative use of different charging elements.

**RAILCALC proposal**

**ABC = Forward Looking Incremental Cost**
RAILCALC proposal – Advantages

- This proposition keeps the essential spirit behind the existing legal framework, namely the charging principle being based on incremental costs (EC 2001/14), while it also has the potential to deliver better focus on IM business orientation, without compromising fair access conditions.

- Infrastructure charging centred on ABC (activity based costing), would comprise the marginal operational costs attributable to IM activity level.

- On top of charges based on Marginal External Costs (MEC), added charges should be set also considering marginal operational costs.

- This depend on the market acceptability, i.e. WTP considerations, defining a minimum setting at an indicative SMC reference level.

- Yet, it represents an improvement over current charging practices, driving better operational costs efficiency, while adopting WTP as the main principle, to set mark-ups above indicative MSC levels.

- It also requires addressing the slot charge as a whole, including use of facilities, linked to market conditions.
RAILCALC proposal – Compatibility

- This approach might be extended to cover total costs, depending on WTP
- Longer term related charging linked to LRMC (Long Run Marginal Cost) and LCC (Life cycle cost) concepts. In this circumstance, mark-ups would represent a combination of SRMC/MRMC and LRMC concerns, promoting cost coverage to the cost components, with an impact in the long term sustainability of the railway activity, namely.
  - ABC related costs (Short / Medium Run Marginal Costs)/Forward Looking Incremental Costs (FLIC)
  - LCC related costs (Long Run Marginal Costs)

Charging below ABC level and higher than SMC estimated level is still possible depending on IM Management decision (e.g. through discounts, at the light of the EC Charging Directive principles).

This approach is compatible with current EC legal framework, allows WTP and whenever possible revenue to be accounted properly by Unit Revenue (UR), Revenue (RR) and Rate-per (RP), whilst leading the system in long term sustainability according to the economic realities.
RAILCALC proposal – Focus

- It is important to notice that capturing the market value of the slots offered by the IM above the point where charges are at ABC level, requires the adoption of market valuation mechanisms (e.g. auctioning).

- Discussion on WTP assessment in single operator markets is pertinent, requiring a broader scope of analysis (e.g. reflecting end user WTP, look at new transport market trends, situations favouring railway (suburban, HST...)

- From the regulatory viewpoint, it can be supported that charges above the Total Cost would further require setting up slots reservation for new entrants, avoiding prevalence of incumbent operators.

- It is suggested to cap the “Peak” pricing in relation to “Out of Peak” pricing by a factor of 2 (as adopted in the Road Sector)

- This may ensure incentive to invest in expansion of capacity, avoiding the risk of over exploiting “peak” charges in relation to “off peak” charges

- Thresholds that should deserve regulator attention are the “ABC charge” (with evidences required from ABC Information Systems) and “Total Costs” levels.
Ambition + Pragmatism + Focus = CREATION of VALUE

- An accounting framework based on a systematic ABC rationale would allow identifying with greater rigour functional costs.
- It would enable charging equal or above Marginal External Costs and below Total Costs, clarifying the drivers for each cost category.
- It is an approach to pricing based on forward-looking incremental costs.
- ABC principles applied to IM business may provide multiple contributions to the development of railway business, namely:
  - By providing the level of transparency needed for effective regulatory monitoring (REGULATORY Perspective)
  - By enhancing cost accounting accuracy and enabling cost management (MANAGEMENT Perspective)
  - By providing effective link between cost of activities and charging in order to send sound economic signals to TOCs (MARKET Perspective)
  - By fostering cost efficiency and reliable market reactions for decisions on investment (INVESTMENT perspective)
Further needs (I)

- The current legal framework does not seem to offer major barriers to the implementation of what RAILCALC defined as a best practice on bridging cost accounting and charging for railways infrastructure services.

- However, we have seen that there is a flaw in what concerns information systems in railways, in particular regarding the support to ABC, LCC and Charging itself. This prevents practical application of efficient infrastructure charging principles and optimization of long term investment decisions.

- Moreover the quality, reliability and consistency of definitions of existing data are an issue, preventing better transparency and efficiency with regard to infrastructure charging.

- To this respect, e.g. the link of costs to related benefits is often missing. Therefore if the benefits from certain IM activities are unknown, the IM might be tempted to reduce related investments,

- Therefore, implementing the practices identified in RAILCALC requires that cost elements and drivers are identified and calculated at a suitable level of accuracy.
Further needs (II)

- Other **implementation issues that are subject to discussion**, reflected in RAILCALC, include:

  - **Implementation of Information systems** for railway cost accounting
  - **Data requirements** for cost accounting for management
  - **Information requirements for ABC charging / Identification of cost drivers**
  - **Market oriented charging issues:**
    - **benefits for the infrastructure managers**
    - **barriers / drivers to implementation**
    - **Integration with multianual contracts**
  - **Business process reengineering** impact on accounting / charging processes
  - **Discussion on Regulatory framework** for implementation
THANK YOU FOR YOUR ATTENTION

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