

Report No.78689-HR

# **CROATIA**

## **RAILWAY POLICY NOTE**

**June 2013**



Sustainable Development Department  
Europe and Central Asia Region

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## CURRENCY AND EQUIVALENT UNITS

(Exchange Rate Effective as of December 31, 2012)

|               |   |                     |
|---------------|---|---------------------|
| Currency Unit | = | Croatian Kuna (HRK) |
| EUR 1         | = | 7.529 HRK           |
| US\$ 1        | = | 5.747 HRK           |
| EUR 1         | = | US\$ 1.319          |

## FISCAL YEAR

|           |   |             |
|-----------|---|-------------|
| January 1 | – | December 31 |
|-----------|---|-------------|

## WEIGHTS AND MEASURES

Metric System

## ABBREVIATIONS AND ACRONYMS

|        |   |        |  |
|--------|---|--------|--|
| ARTZU  | Railway Market Regulatory Agency                              | KM     | Kilometer  |
| CAGR   | Compounded Annual Growth Rate                                 | MAIC   | Multi-Annual Infrastructure Contract                       |
| CEO    | Chief Executive Officer                                       | MMATI  | Ministry of Maritime Affairs, Transport and Infrastructure |
| DG     | Directorate General for Mobility and Transport, EC            | MOF    | Ministry of Finance  |
| DMU    | Diesel Multiple Unit  | MRDEUF | Ministry of Regional Development and EU Funds              |
| D.O.O. | Limited liability company (LLC)                               | OECD   | Organization for Economic Co-operation and Development     |
| EBITDA | Earnings before interest taxes, depreciation and amortization | OP     | Operational Program  |
| EC     | European Commission   | pkm    | passenger kilometer  |
| EMU    | Electric Multiple Unit  | PSC    | Public Service Contract                                    |
| EU     | European Union  | PPIAF  | Public-Private Infrastructure Advisory Facility            |
| EUR    | Euro  | tkm    | train kilometer  |
| FINA   | Financial Agency  | TAC    | Track Access Charge  |
| GDP    | Gross Domestic Product  | TEN-T  | Trans European Transport Network                           |
| HRK    | Croatian Kuna   | TU     | Traffic Unit   |
| HŽ     | Croatian Railways   | UIC    | International Union of Railways                            |
| IFC    | International Finance Corporation                             | WB     | World Bank   |
| IM     | Infrastructure Manager  |        |  |

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# Executive Summary

## Context: Strong Challenges and Opportunities Linked to EU Integration

1. The achievements of Croatian railways (HŽ Holding) over the past two decades have been significant. With the gradual stabilization of the Croatian political and economic environment at the end of the 1990's, railway traffic volumes have stabilized, benefiting from the strategic location of Croatia at the junction of two main European transport corridors. However, the global financial crisis that started in 2008 has deteriorated the financial position of the State-owned railway undertakings. The system still relies heavily on State support, despite several attempts to implement organizational changes and pave the way for a customer-oriented and competitive railway business. The last restructuring was undertaken in 2012, when a 5-year reform program (the Restructuring Plan) prepared by HŽ Holding was approved by the Ministry of Maritime Affairs, Transport and Infrastructure (MMATI). The Restructuring Plan included the dissolution of the railways holding into three independent companies: HŽ Infrastructure, HŽ Cargo and HŽ Passenger Transport.

2. Croatia has prepared the railway sector's legal and institutional set-up to comply with the new requirements that will be existent following the country's upcoming accession into the European Union (EU) in mid-2013. The legal and institutional framework is almost fully harmonized with the EU's *Acquis Communautaire*. Additional legal texts including on rail safety are envisaged to be adopted and entered into force in 2013. These additional legal texts will further strengthen the role of the regulatory institutions and improve the operating environment. The recent adoption of a new directive (the Fourth Railway Package)<sup>1</sup> by the EU commission will further require sector adjustment in the coming years.

3. State support has historically been very strong in Croatia, although the amount has been declining over the past several years. This support has provided HŽ Holding with the ability to cover its operating costs. In 2011, public transfers to railways amounted to about HRK 2 billion (EUR 265 million equivalent), or about 0.7% of the GDP—this represented about a quarter of the support received by the road sector. Such support was possible from 2000-2007 as a result of a steady GDP growth of 4-6%. Because Croatia experienced an abrupt slowdown in the economy in 2008 and has yet to recover, State support has been constrained, and current levels of support will be difficult to maintain. The Government of Croatia (the Government) is facing challenging issues, including a high unemployment rate, a growing trade deficit, uneven regional development, and a challenging investment climate in a context of global financial crisis. This imposes an urgency to speed up the implementation of structural reforms and to cut or maximize efficiency of public spending in order to limit the risk of a sustained recession. In this context, the Croatian railway system must act immediately to improve its financial sustainability and reduce its dependence on public funds.

4. The period of post-EU accession is going to present the railway sector with unique opportunities to modernize its key international corridors EU Structural Funds. However, this

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<sup>1</sup> [http://ec.europa.eu/transport/modes/rail/packages/2013\\_en.htm](http://ec.europa.eu/transport/modes/rail/packages/2013_en.htm).

requires counterpart funding from the Government that is beyond the current level of State support, and that could amount to nearly EUR 615 million during the financing period of 2014-2020. Any additional transformational program that would enhance the railway infrastructure—such as private financing also require very substantial public funding or guarantees, and an appropriate linkage with the existing network. This means that there is an even greater need than in the past for Croatia to rationalize the current sector expenditures and revenue, in order to make room to finance investment.

### **The Purpose of the Note**

5. This policy note (the Note) presents the results of a diagnostic of the Croatian railway sector undertaken by the World Bank between December 2011 and September 2012—based on data and information obtained from HŽ Holding and Government authorities. After a first round of discussions with the World Bank Team (the Team), the MMATI adopted in June 2012 a Restructuring Plan presented by HŽ Holding that already incorporated a significant number of the measures identified during the first part of the Bank Team’s work—and implementation of the Restructuring Plan has started. *Therefore, sentences in italics throughout the Note reflect measures that have already been incorporated into the Restructuring Plan.*

6. Based on this diagnostic and the start of implementation of the Restructuring Plan, the Note presents ways forward that could enable the railway sector to overcome the difficult challenges ahead. They relate to: (i) Sector Governance—this is mostly a domain where Government action is needed, and covers the effective formulation and implementation of public policies in the railway sector and the use of public funds for their implementation; (ii) Corporate and Management Performance of the Service Providers—this relates to the organizational performance of the HŽ Companies as business entities; and (iii) Overall Business Culture—this relates to the “change management” ingredients that will be necessary (i.e., without them the other actions/recommendations would have minimal chances of success) to ensure that the business mindset in the railway sector in Croatia abets a smooth implementation. These elements are summarized in the Action Plan attached to this summary. The Note includes an analysis of the July 2012 Restructuring Plan—discusses its impact and sustainability—and simulates the impact of the Note’s recommendations on the rail system, presenting both an Optimistic Scenario and a Pessimistic Scenario.

7. As a result, the Note aims at informing the Government—specifically, the Ministry of Finance (MOF) and the MMATI—about: (i) the financial and technical options that are available to position the Croatian railway sector as a growth engine; and (ii) the targets that the railway companies would need achieve in order to attain a level of efficiency that would allow them to be competitive.

### **The Need to Create a Long-term Vision for the Railway Sector in Croatia**

8. The railway sector in Croatia is predominantly transit, as Croatian Adriatic ports serve as an entry-point for international cargo to South East European markets. During the past decade, Croatia has made significant investments in modernization, capacity increase,

and competitiveness enhancement of its sea ports. For example, Croatia has invested more than EUR 200 million in the Rijeka Gateway<sup>2</sup>, and close to EUR 100 million in Ploče<sup>3</sup>. However, limited connectivity with rail infrastructure and services, lack of coordination with neighboring countries, and underdevelopment of intermodal transport in general, has limited the efficiency of the services provided. As a result, the country has substantially lower traffic intensity than its EU peers—reaching less than half of the traffic intensity of the EU-27 average. Likewise, passenger service intensity has been much lower than in the EU-27—with untapped potential in the Zagreb area and between the main cities, coupled with a lot of heavily subsidized low-volume links.

9. The European vision to which Croatia adheres promotes a shift toward railways as a more energy efficient and sustainable mode of transport. The traditional advantages of rail investments in contrast to those in roads include less congestion, less pollution and environmental damage, and lower costs—due to better integration and complementarity between transport modes. For Croatia, EU membership is expected to rapidly boost imports and exports; however, the country needs to ensure that physical preconditions are in place for its full trade integration. The railway sector can potentially be a source of growth, through the creation or development of logistics hubs in the main ports and in Zagreb, and by attracting additional revenue through transit between Western Europe and Turkey (Corridor X), and Northern and Central Europe and the Adriatic (Corridors Vb and Vc). Efficient passenger transport to serve the main cities and their surroundings, and to provide service between the main cities, could also substantially improve living conditions for commuters and better integrate Croatia and its neighbors. These possibilities represent opportunities for Croatian operators, including the existing public undertakings, to grow their businesses.

10. The availability of capital coming from the EU funds to spur the investment cycle underlines the need to continue developing the railway sector, and thus, reinforces the role of Croatia as a transit corridor. Therefore, the economic program of the Government puts a strong emphasis on investments in railway infrastructure. But beyond this general intention, the immediate elaboration of a comprehensive strategic multimodal transport plan for Croatia is needed, in order to channel around EUR 2.4 billion in EU funding to Croatian transport sector<sup>4</sup>, for the 2014-2020 EU financing period. The scale of the resulting investment program is likely to be unprecedented. One major challenge for the Government will then be to put in place a professional team for the preparation, contracting, and monitoring of this program.

11. **The need for a new business model in railway sector.** The implementation of a vision based on Croatia as a transit and logistics hub in South East Europe requires a change in the way that the sector operates. Despite all good intentions, the chances of success regarding any longstanding improvement of the system would be minimal in the absence of a collective effort from all of the public and private stakeholders involved in the Croatian railway sector to change the sector culture. This has been an essential lesson learned from the experience with railway reforms worldwide and in recent EU member states. The

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<sup>2</sup> <http://www.worldbank.org/projects/P043195/rijeka-gateway-project?lang=en>.

<sup>3</sup> <http://www.worldbank.org/projects/P093767/trade-transport-integration?lang=en>.

<sup>4</sup> The World Bank Team estimates that about EUR 1.95 million from the EU funds allocation to Croatia will be earmarked for railways in the 2014-2020 financing perspective.

Government needs to set its goals and vision and the accompanying the financial means that it wants to allocate to the system, but it also needs to consider the importance of the overall context of reforms, their political economy, and the process under which they are undertaken. In the EU context, moving towards market-oriented and business-oriented railways is mandatory from a regulatory standpoint, and also from a survival standpoint.

12. Going forward, there are three fundamental challenges facing Croatia's railway sector:

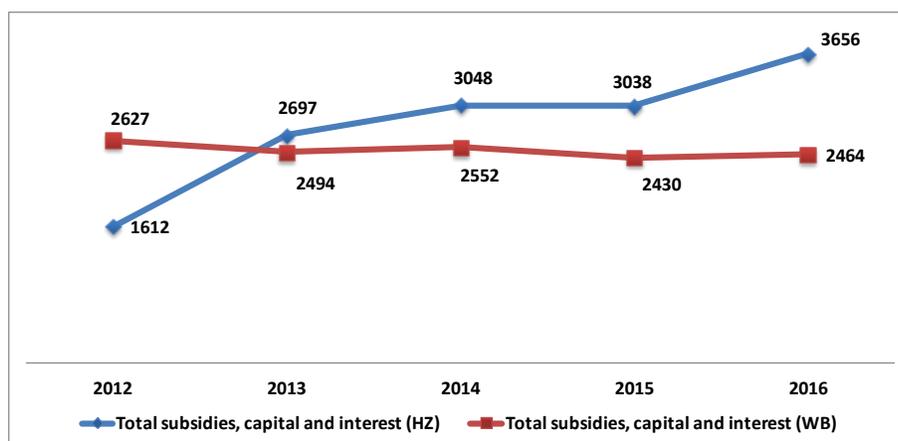
- a) The first challenge is to determine how to ensure that the Government receives value for the money it provides to the railway companies. The operational results of railways have been achieved in Croatia by relying on significant financial support from the State, with relatively limited efforts to rationalize its assets or human resources. This raises the question of the sustainability of such a model in the future EU context, especially if the allocation of public resources remains heavily targeted towards operations at the expense of investments.
- b) The second challenge is to determine how to make the relatively new railway legal and institutional framework work for Croatia, especially after the EU accession. Experience in both "old" and new EU member states has shown that implementing the EU requirements is a necessary condition, but it is far from being sufficient to develop railways as a viable transport *industry*. The move from the legal compliance mode to nurturing a culture that leads to the intended outcomes of EU policies has proven to be extremely difficult in many EU countries—and especially so in new member states. The biggest challenges for the Croatian authorities over the next several years will be to: (i) change the culture in railway operation so as to create a nimble industry that adapts to changing market conditions without resorting to constant Government policy (and funding) interventions; and (ii) to refrain on the Government side from creating distortions by intervening directly in the sector management.
- c) The third challenge is to ensure that the key operators reach a financial sustainability without relying on Government subsidies to cover operating costs—because failure to meet this challenge would limit the Government's capacity to allocate funds to development.

### **The Government Needs to Receive Value for Money in the Railway Sector**

13. **The railway companies in Croatia are over-dependent on the financial support of the State—which amounted to 0.7% of the GDP in 2011.** For the Government to maintain such an influx is already challenging, given the ongoing fiscal consolidation due to a large budget deficit—equal to 4% of the GDP—and a very limited market access with a non-investment grade sovereign credit rating. Therefore, the sector requires restructuring to be more efficient. The Government needs to coordinate its efforts and ensure that short- to medium-term targets on subsidies, staffing, network resizing and overall cost cutting are meticulously executed.

14. **The Government needs to decide how much public investment is affordable in the railway sector, and how it wants to subsidize the sector.** The Recommended Scenario developed by the Bank Team manages to maintain public spending at current levels, whereas the Restructuring Plan that was adopted by the Government in 2012 involves much more spending and liabilities—as illustrated by the graph below. Apart from investment in rolling stocks for freight traffic (which cannot receive public funding), the priority should be maintaining a focus on cost cutting, limiting investments to EU funds counterpart funding, and ensuring continuity of the most critical infrastructure. Any step up in investment should be contingent upon improvements in efficiency. The Government also needs to decide if it wants to: (i) subsidize track access charges (TACs), which would attract more traffic, but also require higher subsidy levels for HŽ Infrastructure; or (ii) keep the price of access in relation to its actual cost, which would mean increasing the passenger transport subsidy through Public Service Contracts (PSCs).

**Figure 1: Difference between the World Bank and HŽ levels of public funding to the railway sector needed during the period of 2012-2016 (in HRK thousands)**



*Source: HŽ Holding, WB calculations*

15. **The Government and HŽ Infrastructure need to be ready to use EU structural funds.** The benefits of EU membership may be limited if the Government is not organized, both at the beneficiary level (HŽ Infrastructure) for fund utilization, and at the level of managing bodies that will organize the fund flows—which will most likely be either the MMATI or the Ministry of Regional Development and EU Funds (MRDEUF). These EU structural funds will represent the vast majority of resources for investments in the sector, so all available financial resources (for counterpart funds) and human resources should be directed towards maximizing the opportunities to secure them. This also means that the Government will have to make sure that ex-ante conditionalities are met.

## Making the EU Legal Framework Work for Croatia: Reinforcing the Government and Clarifying the Roles of Each Stakeholder

16. **The Government should rethink its role, and put the appropriate human resources in place to manage the sector.** The capacity of the MMATI needs to be enhanced to focus on setting policies with an adequate allocation of resources to carry them out, and to monitor the railway sector's performance. In this context, the MMATI should strengthen its capacity to act as an informed and active owner by devising a clear and consistent ownership policy and by ensuring conditions for transparent and accountable management in the HŽ Companies—with the needed degree of professionalism and effectiveness. The MMATI should also secure regular consultation channels with the MOF and the MRDEUF, to take into account resource constraints at the Governmental level, and to ensure efficient use of EU funds. In parallel, the agencies created to ensure safety and competition regulation in the sector should also be reinforced to implement optimally the EU legal framework for railways.

17. **Focus the Government role in order to strengthen the HŽ Companies, and make them more responsive to the market.** There are three main steps that the Government needs to take in order to enhance sector governance and establish a market-oriented and competitive railway industry that requires a lower State contribution. These are: (i) to review the levels of State support for the various lines of railway business, (ii) to adjust railway infrastructure charges so as to stimulate an increase in traffic; and (iii) to create stronger contracting relationships with the railway companies that provide services requested by the Government for the maintenance of railway infrastructure and passenger services.

18. **Create conditions for a wise investment policy in the railway sector.** Most of the railway infrastructure components in Croatia are old or in poor technical condition. The integration of the Croatian railway network into the seamless European railway network will require large investments to gradually achieve the same quality and safety standards. The Note estimates that maintaining the system will annually require more than EUR 55 million for infrastructure, EUR 30 million for freight rolling stock, and EUR 45 million for passenger rolling stock. In the context of the EU accession, it is mandatory to orient most of the railway investment programs towards EU Structural Funds—an objective that will also involve significant investment. The key to that element is a comprehensive master plan that includes identification of the appropriate size of the network.

19. **Adapt the railway network to traffic flows, and make the *Infrastructure Manager independent*.** The change in Croatian economic activity since the early 1990s substantially impacted railway transport demand, and led to diverging trends in traffic intensity within the core railway network and the secondary lines. The latter carry an increasingly low level of traffic. Very low traffic intensity means that the market generates low revenues and the costs of operating railway infrastructure are essentially subsidized. Therefore, there is a need for the Government to assess the options for network resizing, and to consider whether to close the non-economic lines for operation and streamline funds for the modernization of railway infrastructure towards revenue-generating lines that could in turn increase traffic intensity and make the HŽ Companies competitive.

20. **Strengthen the Multi-annual Infrastructure Contract, and optimize the Track Access Charge (TAC).** The Multi-Annual Infrastructure Contract (MAIC) between the Government and the Infrastructure Manager should cover a period of 4-5 years in order to better plan and manage long-term contracts specific for track renewal or maintenance of infrastructure. Investments included in the MAIC should be economically justified and consistent with the overall State budgetary process. The MAIC should include clear and transparent incentives for the Infrastructure Manager to cut the operating costs and enhance the HŽ Companies' productivity by achieving a performance level closer to the EU-27 average. The MAIC should include provisions for the optimization of the Track Access Charge (TAC) through a better allocation of costs between passenger and freight users, and the setting of appropriate levels of charges to attract more traffic on railway infrastructure. Once these charges have been set, the intervention of the Government on a case-by-case basis should be avoided.

21. **Adjust passenger services to the market demand, and strengthen the Public Service Contracts (PSCs).** The PSCs should cover a longer period—around 10-15 years—to provide visibility to the operator(s), especially when investments in rolling stock are envisaged. The services required by the Government authorities under the PSCs should be based on a careful analysis of market demand, cost, tariff structures, and availability of alternative transport. The PSCs should include performance incentives for the provider(s) of passenger services, and they should ensure realistic and critical investments in passenger services. PSCs in Croatia are done yearly and split between a main contract managed by the MMATI and smaller contracts with counties managed in a decentralized manner. This means that some form of coordination might be needed to provide a big picture of the needs and ensure consistency in the approach. In the medium-term, the Government could look into the opportunities of the EU framework to open the market to other operators for subsidized services.

22. *Reconsider the State's involvement in railway freight business. After EU accession, HŽ Cargo will operate in a very competitive market. It will not only compete with the road haulage industry, but also with new rail cargo operators that are not saddled with the rigid costs or the rigid management environment that HŽ Cargo has to operate within. Therefore, the Bank Team recommends that the State as an owner undertake legal, regulatory, financial and technical due diligence regarding the potential privatization of HŽ Cargo, and evaluate the existing interest of the market for developing a successful privatization. Otherwise, there is a substantial risk that new entrants in the Croatian rail cargo market—following Croatia's EU accession—will take away HŽ Cargo's profitable business, and leave the company in a dire financial situation.*

### **Ensuring the Sustainability of the Railway Operators**

23. **The current operational and financial performance of all of the HŽ Companies is not sustainable.** The plunge in traffic volumes that began in 2007-2008 negatively impacted the financial and operational performance of HŽ Holding, which was already largely reliant on State transfers. Revenues have been declining over the years; the main cost drivers were low labor productivity combined with high labor costs and aged and non-productive rolling stock. The major conclusion of the analysis is that the HŽ Companies

should act urgently to: (i) become more market-oriented by increasing their ability to generate and attract more traffic and business—and to generate sufficient revenues to cover their expenses and generate return on capital; and (ii) put in place drastic cost cutting measures.

24. **The June 2012 Restructuring Plan represents a major step forward for irreversible reforms.** The most important outcome of this program was the dissolution of the railways holding into three independent companies: HŽ Infrastructure, HŽ Cargo and HŽ Passenger Transport. For each company, the Restructuring Plan outlined a detailed program that was to be implemented over the period of 2012-2016. In addition to the analysis of current business, it laid out strategic goals, and an assessment of infrastructure and human resources, investment needs, and financial plans. Because it was developed in house by HŽ Holding, it did not tackle the issues related to: (i) rightsizing the network; (ii) evaluating the volume and range of services that the State should be purchasing from the HŽ Companies; and (iii) identifying what would be an affordable level of global sector contribution from the State. It also failed to present the overall strategy that the Government has for the sector. The MMATI (together with the MOF) must take the lead in seeking input from HŽ infrastructure and HŽ Passenger Transport, and developing this overall vision. The sustainability of the Restructuring Plan has also not been secured from a financial standpoint. The cost cutting measures are not ambitious enough in light of the financial status of the companies and their situations vis-à-vis European competitors. At the same time, the investment plans are substantial, and they rely heavily on Government support and on timely absorption of EU funds—which has proven to be difficult for most new member states post-accession, and will be particularly challenging in the case of Croatia, because it will be joining the EU during a period of global economic instability.

25. **Additional cost cutting measures are needed to sustain the sector.** The Bank Team conducted a financial analysis of the system that incorporated many of the measures proposed in the Restructuring Plan, but refined the cost cutting targets to ensure sustainability, and adjusted the investment plans. From this exercise, the Team developed what is referred to in the Note as the ‘Optimistic’ or ‘Recommended’ Scenario. The Recommended Scenario presents specific target values aimed at increasing the operational performance of the railway sector. In addition, the Team also developed what is referred to in the Note as the ‘Pessimistic’ Scenario, which is a conservative variant to account for the possibility that the actual level of traffic will turn out to be worse than anticipated. The Recommended Scenario proposes solutions for each HŽ Company to achieve operational performance comparable with the average values of the EU-27 by 2016. From the financial modeling, the Team derived concrete numbers indicating the annual targets for resizing of staff, the dimensions of the necessary fleets for operating transport services, and the length of the railway network. The outputs of the financial modeling illustrate that by implementing the restructuring measures outlined in the Note, all of the HŽ Companies can become financially viable by 2016. All of the companies would also be able to maintain achieved efficiency throughout the forecast period ending in 2040. However, the cost cutting measures proposed in the Recommended Scenario are much stronger than what was proposed in the Restructuring Plan, especially in terms of staff reductions in HŽ Infrastructure and HŽ Passenger Transport. The Recommended Scenario also calls for lower investment plans than those in the Restructuring Plan. Regarding HŽ Cargo, the most viable solution is to privatize

it as early as possible. Under the ‘Pessimistic Scenario’, greater levels of network and service cuts and higher State subsidy levels would likely be required to enable the sector to survive and hopefully prosper in the future.

26. ***HŽ Infrastructure:*** EU funding is expected to replace State subsidies as the major source of financing for the modernization of Croatian railway infrastructure, but EU funds will be limited to international corridors. The projected annual investment required to preserve the current capacity of railway infrastructure is around HRK 425 million. In essence, these costs will not be covered by the upcoming EU funds. Therefore, the long-term financial and technical sustainability of HŽ Infrastructure will require major cost cutting measures—and must include a significant increase in staff and asset productivity—through a combination of traffic growth and rightsizing of staff and network.

27. ***HŽ Passenger Transport:*** Over the years, HŽ Passenger Transport has benefited from: (i) low track access charges (TACs); (ii) traction costs that were essentially subsidized by HŽ Cargo; and (iii) substantial financial resources through the PSCs. This has resulted in a relatively good operational performance—but, at the same time, poses risks for future, especially considering that the network utilization is three times lower than the EU-27 average, and the quality of service has not experienced significant improvement over the past decade. Moreover, long distance and international services—which are usually among the most profitable in Europe—are experiencing difficulties due inter alia to coordination issues. In addition to reviewing the PSCs, the Bank Team recommends that HŽ Passenger Transport focus on increasing the quality of services and cutting costs to adapt to the new environment in which cross-subsidies from HŽ Cargo will be less likely to occur.

28. ***HŽ Cargo:*** Upon EU accession, HŽ Cargo will be the HŽ Company most exposed to competition. Any delays in adapting to the new environment of open competition would place HŽ Cargo in the situation of being increasingly squeezed between a deregulated road freight industry and a private rail freight industry that will target the most profitable freight segments with very low fixed costs. This would leave HŽ Cargo with the least profitable business, which could complicate its chances of keeping a non-negligible market share. The key issue for HŽ Cargo is low productivity in operation (under-utilization of locomotives, wagons, and surplus staff). To overcome that problem, HŽ Cargo would need to allocate approximately HRK 222 million annually for the modernization of its existing fleet. The operational performance of HŽ Cargo—analyzed during the period of 2007-2012—demonstrates its ability to cover its operating costs without any State support, but it is not capable of covering its investment needs. From a global market standpoint, traffic intensity might increase if countries in the region adapt a harmonized policy for TACs—which might provide opportunities. However, management of HŽ Cargo will also need to be more agile to retain its market share in a changing business environment with the arrival of private operators in this segment. Without ambitious rationalization and the support of a major player in the European market that could secure a substantial market share for HŽ Cargo, privatization plans should be put forward at the earliest moment feasible.

29. ***Subsidiaries of the various undertakings:*** *The HŽ Companies should review and restructure their portfolios of subsidiaries through absorption, privatization or liquidation, depending on each given case.* Most of the subsidiaries are currently serving only their parent

companies in a non-competitive context—leading to losses or artificially high cost centers. A sound reassessment of the subsidiary situation would clarify both the actual financial situation of each company and help rationalize the relationships between them while tackling the joint subsidiaries.

## Actions Already Implemented Following the Restructuring Plan of June 2012

| Objectives  | Actions<br>Prior to EU Accession (Short-term)  |
|---|--|
| <i>Enhancing of railway sector governance</i>   |  |
| Enhance MMATI's institutional capacity to manage the railway sector                               | Analyze potential cross-subsidies between the members of HŽ Holding and eliminate them.  |
| <i>Enhance Corporate Governance, Management, and Performance of the Service Delivery Entities</i> |  |
| Restructure HŽ Holding  | Institutionally separate HŽ Infrastructure from HŽ Holding into an independent entity.   |
| Improve the efficiency of infrastructure management   | Appoint Assembly Board members of HŽ Infrastructure independent of any railway operator.   |
|   | Dissolve HŽ Traction by splitting its assets and staff between HŽ Cargo and HŽ Passenger Transport.  |
|   | Analyze the portfolio of subsidiaries and propose absorption, liquidation and privatization strategies for immediate implementation.                                   |
| Improve the efficiency of cargo and passenger operations  | Analyze operational processes and propose the required annual staff reductions by 2016.  |
|   | Review subsidiaries to determine a way to increase the efficiency of operations carried out at that level through separation, absorption or privatization/liquidation. |

## Actions to be Implemented

| <i>Enhancing of railway sector governance</i>   |   |  |                       |
|---|---|--|-----------------------|
| Objectives  | Actions   |  | Action to be taken by |
|   | Prior to EU Accession (Short-term)  | After EU Accession (Medium-term)                           |                       |
| Develop a long-term strategy for the future development of the railway network in Croatia | Develop a comprehensive strategic multimodal transport plan for Croatia, as the basis for the OP Transport in accordance with the EU funding, TEN T network, and the 2014-2020 EU financing period. | Regularly update and monitor the transport strategic plan. | MMATI                 |
| Enhance MMATI's institutional capacity for managing the                                   | Update the multi-annual MAIC and PSC, including the provisions of this action plan and clear investment   |  | MMATI                 |

|   |   |  |                          |
|---|---|--|--------------------------|
| railway sector  | targets for a horizon of a minimum of five years.   |  |                          |
| Develop a sustainable railway network   | Develop and evaluate the alternative options for attaining a long-term financially sustainable and competitive core rail network based on commercial criteria, by cutting the costs of maintenance and operation and achieving higher productivities by HŽ Infrastructure. Assess railway traffic intensity on the secondary railway lines, and prepare strategy for network rightsizing by closing the non-economic lines. | Adopt action plan and decisions for the rightsizing of the network.  | MMATI, HŽ Infrastructure |
|   |   | Include specific tasks for HŽ Infrastructure concerning the procedures for closing the non-economic lines in the MAIC.                                       |                          |
| Develop a sound TAC system in order to promote railway transport                                    |   | Rebalance TACs between passenger and cargo transport. Develop strategies for gradual harmonization of access charges for road and rail transport in Croatia. | MMATI, HŽ Infrastructure |
|   |   | Harmonize TAC strategies with the railways of neighboring countries to attract more traffic on the corridors crossing Croatia.                               |                          |
| Put in place an effective system for EU fund absorption for the modernization of the railway sector | Develop a clear road map for the preparation of EU-funded projects that allows for the utilization of funds immediately after the EU accession.   | Monitor and enhance the capacity of HŽ Infrastructure to prepare and manage large investment projects in railway infrastructure.                             | MMATI, MRDEUF            |
| Encourage competition in rail freight   | Privatize HŽ Cargo. Prepare and implement privatization strategy for HŽ Cargo.  |  | MMATI, MOF               |

| <i>Enhance Corporate Governance, Management, and Performance of the Service Delivery Entities</i> |   |  |                                  |
|---|---|--|----------------------------------|
| Objectives  | Actions   |  | Action to be taken by            |
|   | Prior to EU Accession   | After EU Accession   |                                  |
| Strengthen Corporate Governance   | <p>Consider appointing independent and professional Boards, with a majority of Board Members independent of the shareholding Ministries.</p> <p>Ensure that CEOs are selected by a merit-based process with defined Board involvement, and minimum fixed-term management contracts for CEOs with performance targets be adopted</p> |  | MMATI                            |
| Improve infrastructure business planning  | <p>Develop a business plan for HŽ Infrastructure based on the provisions of the OP Transport for the period of 2014-2020.</p> <p>Elaborate a list of priority projects to be financed for the development of the railway infrastructure for the period of 2014-2020.</p>  |  | HŽ Infrastructure<br><br>MMATI   |
| Improve the efficiency of infrastructure management   | <p>Reassess the organization and operation of maintenance and traffic management at HŽ Infrastructure: Analyze the number of units in the territory at the maintenance methodologies and mechanization level, and adopt the new reorganization to reduce operating costs and improve staff productivity by 2016.</p>                | Adopt and implement programs for annual asset and staff rightsizing by 2016. | HŽ Infrastructure                |
| Improve the efficiency of cargo and passenger operations  | <p>Improve staff productivity at HŽ Cargo and HŽ Passenger Transport with the aim of gradually achieving the average European performance.</p>  | Adopt and implement programs for annual asset and staff rightsizing by 2016. | HŽ Cargo, HŽ Passenger Transport |

|  |   |  |  |
|--|---|--|--|
|  | <p>Improve HŽ Cargo and HŽ Passenger Transport rolling stock productivity with the aim of gradually achieving the average EU-27 performance: Analyze the existing rolling stock fleet and propose resizing the number of locomotives (freight and passengers) and freight wagons by 2016.</p> |  |  |
|--|---|--|--|

# CROATIA

## RAILWAY POLICY NOTE

### A. INTRODUCTION

1. **The main objective of this Policy Note (the Note) is to review the operational and financial sustainability of the Croatian Railway system and to identify immediate and medium-term actions necessary for a smooth integration into the European transport market.** The Croatian railway sector has undergone a profound transformation over the past decade to meet EU accession criteria. Significant changes have taken place in the legal, institutional, and organizational framework, resulting in harmonized legislation, and new institutions for competition and safety regulation—and reorganization within the Croatian Railways (HŽ Holding) of railway transport service, operations, and railway infrastructure management. Following these developments, the operational and financial performance of HŽ Holding improved, and it is currently superior to other railways in the Western Balkans region. The Note complements the findings of a comprehensive study on railway reforms in South East Europe—published by the World Bank in 2011—that ranks HŽ Holding above its neighbors and on a par with several EU railways in terms of legal and institutional environment and operational and financial performance<sup>5</sup>. However, major efforts remain to be undertaken to make this new legal and institutional framework work for Croatia, especially following the country’s upcoming EU accession in mid-2013.

2. **The railway sector in Croatia must be prepared to face the challenges of the European open transport market.** Many railways in South East Europe are in a difficult situation, and operate within a less competitive environment than the one that accompanies EU accession. Moreover, the results achieved in Croatia come at a relatively high cost to taxpayers (close to HRK 2 billion per year), and the system may be challenged in the coming years by: (i) the financing demands of an ambitious and needed investment program; (ii) the accumulated backlog in maintenance; and (iii) the increased competition for operators—especially in freight traffic. The experience in the EU has shown that making the EU framework work for railways and for EU countries goes beyond ensuring legal and institutional compliance with the EU *Acquis Communautaire*.

3. **The evolution of the Croatian economy requires reviewing the State financial support for the railway sector.** After a steady GDP growth from 2000-2007 of between 4% and 6%, led by a rebound in tourism and credit-driven consumer spending, Croatia experienced an abrupt slowdown in the economy in 2008, and has yet to recover. The

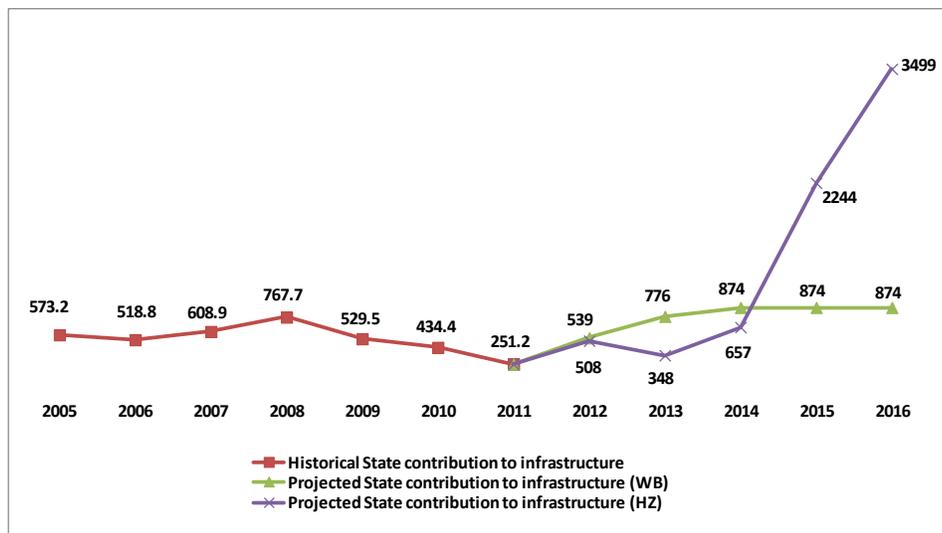
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<sup>5</sup> In March 2011, the World Bank presented a detailed analysis of the railway systems of Croatia and the neighboring countries, as a part of the study titled “Railway Reform in South East Europe and Turkey: On the Right Track?” The study was also presented to the European Commission in Brussels, as well as to Croatian authorities in Zagreb.

government of Croatia (the Government) has had to face challenging issues, including a high unemployment rate, a growing trade deficit, uneven regional development, and a challenging investment climate in the context of a global financial crisis. High foreign debt, an anemic export sector, a strained State budget, and overreliance on tourism revenue may jeopardize the economic progress of the country. The Government needs to accelerate the implementation of delayed structural reforms—and to cut public spending—in order to avoid the risk of deepening the recession in 2013 and the coming years. In this context, it must act immediately to ensure that the Croatian Railway System improves its financial sustainability and reduces its dependence on public funds.

4. **The State support is expected to be mainly oriented toward supporting investments, and less toward financing railway operating costs.** The period of post-EU accession is going to present the railway sector with unique opportunities to modernize its key international corridors—given the approximately EUR 2 billion in funding that will be available through the EU. However, this will require counterpart funding from the Government that is beyond the current level of State support, and which may amount to nearly EUR 615 million during the financing period of 2014-2020. This will mean that appropriate control of revenue, expenditures and subsidies of the system will be even more essential than in the current situation, if this opportunity is to be seized. Any additional transformational program that would enhance the sector infrastructure—such as those sometimes proposed by private international operators—would also require very substantial public funding or guarantees, and an appropriate linkage with the existing network. The figure below depicts the past and expected future investments in infrastructure before and after accession. The amount of counterpart funds for EU Funds in 2016 is estimated to reach at least EUR 65 million—higher than the total investments for 2012.

**Figure 2: Overview of Past and Expected Future State Contribution to Infrastructure (in HRK thousands)**



Source: WB calculations, HŽ Holding

5. **Therefore, the Note addresses future challenges and outstanding weaknesses of the current system—and outlines priority actions necessary to achieve sustainability in the context of the EU accession—rather than focusing on the well-known achievements.** The proposed actions should be finalized within the next 12-18 months, but longer-term actions necessary for the consolidation of the Croatian railway transport industry have also been proposed. All existing issues should be addressed with a holistic approach—prioritizing actions to be achieved before the EU accession. Delays in addressing the present challenges would increase the State burden for sector financing. It could also undermine the competitiveness of the Croatian railway operator(s) in the open European market in freight, and the sector capacity to retain a significant market share consistent with EU policy objectives.

6. **There was already a reform undertaken in 2006, with minimal results.** The 2006 reform of the railway transport sector in Croatia was a consequence of the Croatian negotiations prior to accession to the EU, which imposed modifications in the way the sector operates in order to comply with EU regulations. The EU places a major focus on deregulation of the railway sector, vertical disintegration of railway companies, increased private participation in transport services, and standardization of transport infrastructure and services—most of which was still to be introduced in Croatia. The actual EU Accession in July 2013 became an opportunity to make additional long-needed changes in HŽ Holding, and address challenges amplified by the global economic crisis.

7. **During the course of the preparation of the Note, the Government adopted a far reaching Restructuring Plan for HŽ Holding.** After a first round of discussions with the World Bank team (the Team), the Government adopted a Restructuring Plan for HŽ Holding in June 2012 that already incorporated a significant number of measures covered in the Note. The Restructuring Plan included the dissolution of the railways holding into three independent companies: HŽ Infrastructure, HŽ Cargo and HŽ Passenger Transport. The assets and staff of the traction company would be divided between the cargo and passenger companies. These measures were formalized between October 2012 and January 2013. Therefore, sentences in italics throughout the Note highlight either a context that has changed after the implementation of the plan, or actions that have already been incorporated into the Government plan. A detailed overview of the Restructuring Plan for HŽ Holding is presented in Chapter H.

8. **Structure of the Policy Note.** The Note first presents a brief overview of the Croatian railway sector, listing the main challenges that it is currently facing, and identifying the main areas of intervention for the development of a financially sustainable sector—which should guide any thorough sector reform program in the long-run. Sector governance challenges are presented, outlining the sector’s high dependency on State support, its organizational weaknesses, and its market distortions. This is followed by more detailed historical analysis of HŽ Holding’s performance, corporate governance issues, and investment needs. The operational and financial performance of each major line of business of HŽ Holding is assessed, highlighting their competitiveness issues. Following the adoption of the Restructuring Plan, the Bank Team used a global financial model to identify measures that might be necessary to make the system sustainable in the long-run. The Team considered a range of optimistic and pessimistic scenarios—which may call for additional

measures to be taken to complement the measures laid out in the Restructuring Plan. The Note concludes with the presentation of these scenarios, the targets that should be fixed to business lines in cost-cutting, and actions that the Government might take to ensure that the system is sustainable and to secure the successful integration of the Croatian railway sector into the EU. It highlights the choices that remain open to the Government in terms of sector spending and financial structuring of its support in a constrained fiscal environment.

9. **Benchmarking.** For the purpose of analysis undertaken under the Note, the performance of Croatian undertakings (HŽ Holding and its subsidiary companies) was benchmarked against the EU market to ensure that the appropriate level of performance would be attained. The Team assessed the performance of Croatian Railways as compared with railways of a number of selected EU member states with comparable size and transit positions. The member states chosen were Latvia, Lithuania, Finland and Slovakia. The average EU-27 values for selected indicators were also used as benchmarks for competitiveness.<sup>6</sup> The main benchmarking indicators for operational performance were traffic intensity, labor productivity, and rolling stock productivity. The main benchmarking indicators for financial performance were cost recovery ratio<sup>7</sup>, viability ratio<sup>8</sup>, and wage bill to total operating revenues ratio.

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<sup>6</sup> Although the international benchmarks are a useful tool to identify the necessary improvements in the railway performance, all comparisons must be carefully evaluated, taking into consideration geographical position, traffic structure, market conditions, and many other specific factors that vary by railway—even in the case of similar railway network dimensions.

<sup>7</sup> Cost Recovery Ratio is defined as the degree of coverage of total operating costs with total revenue, including State support.

<sup>8</sup> Viability Ratio is defined as the ratio of commercial revenue divided by total operating costs.

## B. SECTOR BACKGROUND

10. **Croatia has a favorable geographic location for railway transport, with key sections of the pan-European transport corridors crossing the country.** The railway network in Croatia consists of 2,723 km of track—close to the European average in terms of network density, considering the country’s total area or population. The main characteristic of the Croatian railway network is its transit potential along important European corridors. The most important line is the Pan-European rail Corridor X, which crosses the country from West to East, and currently carries the highest volume of traffic. Other important lines are Corridor Vb, which connects the Port of Rijeka with Zagreb and the Hungarian Border, and Corridor Vc, which runs North to South within Croatia to the Port of Ploče. The railway line from Zagreb to Split is also an important connection for the core network of the country.

11. **Railways could play an important role in Croatia in supporting the sustainable development of the country.** The railway sector has to compete with the road sector for State funding. Roads have benefited from State funding equivalent to approximately 4% of the GDP annually for road development since 2000, in comparison with less than 1% of the GDP provided to railways—essentially for railway operating costs. In addition to their roles in developing a multimodal transport system, railways are generally more environmentally friendly—being responsible for only 1.5% of transport related CO<sub>2</sub> emissions, compared to 91% generated by roads<sup>9</sup>. They are also generally safer: for the past few years Croatia has registered 0-5 rail fatalities annually, compared to more than 600 road fatalities<sup>10</sup>. The railway infrastructure occupies 2-3 times less land per passenger or freight unit than road transport. Its external costs (safety, pollution, congestion) represent only 1% of those of roads. Therefore, an efficient rail transport system is a critical element of the recommended EU 2020 strategy, and could improve Croatia’s environment-related targets in terms of energy use. With improved intermodal connections, an efficient railway system could also be both a driver of growth of international logistics to the rest of Europe and a means of attracting investments in Croatia itself.

12. **The legal and institutional framework for the railway transport sector has been harmonized with the EU *Acquis Communautaire*.** The main criteria of compliance have been fulfilled by Croatia. This includes: (i) the gradual opening of the transport market—to be completed by the EU accession date; (ii) the establishment of regulatory institutions; and (iii) the adoption of Public Service Contracts (PSCs) to fund passenger services, and rules for financing the infrastructure. The regulatory institutions are now in place. The Regulatory Body (ARTŽU<sup>11</sup>, which acts as the appeal entity for competition and market access issues) and the Safety Agency are still relatively new, and their capacity to respond to the challenges after EU accession should continue to be strengthened. The Ministry of Maritime Affairs, Transport and Infrastructure (MMATI) is in charge of setting the sector policy, supervising the State-owned railway companies (as owner), and contracting various services with the railway companies (as client).

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<sup>9</sup> EC Statistics 2010.

<sup>10</sup> EC Statistics 2010.

<sup>11</sup> Railway Market Regulatory Agency (Agencija za regulaciju tržišta željezničkih usluga).

13. **After the dissolution of Yugoslavia in 1991, Croatian Railways (HŽ Holding) was established as the exclusive operator of railway transport in Croatia.** The company has gone through several organizational changes. Prior to October 2012, it was organized as a holding, with four major lines of business organized as companies: HŽ Passenger Transport, HŽ Cargo, HŽ Infrastructure, and HŽ Traction. Each company had a number of subsidiaries that mainly served their parent companies.

14. **Railways in Croatia are facing multiple challenges, and there is no single model with which to address them.** Across the EU, the railway transport sector has been subjected to very complex changes, and the speed and models of reforms have varied significantly by country. As a new member state, Croatia's railway industry will have to compete in the integrated transport market with railways that are more advanced in implementing commercial rules, more efficient in operations, and stronger financially. Croatia is also joining the EU at one of the worst economic times in recent history—which for a cyclical business such as transport, means serious strains on operators' financial viability. Given these circumstances, it is expected that the Government will define how much it can afford to financially support railways, and plan resources accordingly—and the companies of HŽ Holding will be restructured in order to become financially stable and competitive in the European transport market, in the new conditions of the revised State contribution.

15. **Structural, organizational and operational changes may be envisaged to address the new challenges.** Due to the complexity and cost of implementing measures—especially in infrastructure—some goals (e.g., improving the technical condition of the infrastructure) will require a long time to be achieved. The EU funds to be absorbed in the sector (essentially rehabilitation and upgrading of Corridors X and Vb) will also de facto introduce rigidity into the financial setting, given the large amount of Government funds or guaranteed loans required to complement EU Structural Funds (because EU funds will only finance a fraction of each investment).

16. **What type of reform for the railway sector in Croatia?** Croatia has achieved a reliable legal and institutional framework for the railway sector. The Government roles have been clearly established, the regulatory framework is in place, HŽ Holding has been organized fully in line with the EU directives, and the Croatian rail market will soon be fully opened to competition. Not many changes are to be made to improve the general framework put in place by the Government for railways. However, for many new EU member states, this has been the point when reforms have stopped, and this has created serious problems for the governments and jeopardized overall railway reforms. The newly created environment has no meaning if the new entities are not able to act according to the new rules. The next phase in railway reforms in Croatia is to develop the conditions that will make railways a nimble *industry* that can adapt by itself to market signals, without needing to resort to continuous State intervention. Only then will this environment become fully functional. The tools for such reform are essentially in strengthening operational governance arrangements with full accountability of the key public players, and a different use of financial resources for the sector.

## C. MAIN OBJECTIVES OF THE RAILWAY SECTOR REFORM IN CROATIA

17. **The key overarching goal of the Government should be to develop a financially sustainable railway sector in Croatia that is based on a transparent public financial support to railways, and consistent with transport market demand, EU transport policies, and prudent fiscal policies.** The Government's key role is to create an environment to nurture such a railway sector. The new environment should be built on the value-for-money principle—the State benefitting from enhanced services, in return for its financial contribution. Due to the complexity of actions to be undertaken and the duration of a full implementation of this goal, a phased approach is recommended along two areas of interventions: (i) enhancing the governance of the railway transport sector; and (ii) improving the corporate governance, management and performance of the HŽ Holding companies. These interventions are defined according to the results of the diagnostic and analyses developed in the sections that follow. The elements laid out below constitute the key pillars for a global reform. They are presented as a full consistent set in order to serve as a guide beyond the plan approved in June 2012 by the Government, which tackles only part of that set of elements. In addition to these two areas of reform, a change management process is necessary within the operators to ensure that a business culture is developed in parallel, within the railway industry.

18. **Enhancing the governance of the railway transport sector.** This will be accomplished by implementing methods of financing railways according to the principle of value for money, and by enhancing the accountability of the various stakeholders to provide the expected quality of services. The key actions include:

- a) Eliminating transport market distortions created by the existing cross-subsidies, and abolishing State subsidies for HŽ Holding that are inconsistent with the EU framework;
- b) Improving the contractual relationships of the State with the railway service providers HŽ Infrastructure and HŽ Passenger Transport, based on updated multi-annual infrastructure contracts (MAIC) for HŽ Infrastructure, and Passenger Service Contracts (PSC) for HŽ Passenger Transport—with specific efficiency targets;
- c) Developing a sustainable rail network by: (i) rightsizing the rail network based on an assessment of traffic flows to increase the traffic density on the core railway network; (ii) focusing resources on maintenance of the core network; and (iii) allocating public funds for maintenance and development of the railway infrastructure based on achievement of specific key performance indicators for quality and safety;
- d) Developing a sustainable fully-funded railway passenger transport market by: (i) putting in place a multi-annual PSC framework between the Government, the local governments, and HŽ Passenger Transport based on the assessment of

market demand for such services; (ii) introducing performance incentives for HŽ Passenger Transport to increase the quality of services and reduce its costs; and (iii) ensuring realistic and critical investments in passenger services—in the longer-term, the Government may consider opening the market for services to other operators and awarding PSCs competitively;

- e) Assessing the conditions and preparing HŽ Cargo for competition in the open transport market—given the expected future strong competition in the freight transport market, some options to be considered in order to secure HŽ Cargo’s market share include restructuring of activities based on a stronger commercial approach and potential privatization.

**19. Improving the corporate governance, management and performance of the HŽ Holding companies** (HŽ Infrastructure, HŽ Cargo, HŽ Passenger Transport and HŽ Traction). The key actions include:

- a) Enhancing the corporate governance of the companies through independent boards, better business planning, merit-based selection of management, incentives-based management contracts, and strong accountability;
- b) Restructuring HŽ Holding by adopting two major changes: (i) the establishment of HŽ Infrastructure as independent entity from the holding, and (ii) the dissolution of HŽ Traction through the absorption of its assets and staff by HŽ Cargo and HŽ Passenger Transport—this step was agreed upon in June 2012, and is under implementation;
- c) Reassessing HŽ Infrastructure’s organization and its operation and maintenance procedures to reduce the railway infrastructure’s operating costs; gradually decreasing State support for operating costs, and thereby creating more room for State support to the EU-funded programs and renewal of the core network;
- d) Implementing new policies and measures for human resource management at HŽ Infrastructure, HŽ Cargo, and HŽ Passenger Transport to increase labor productivity and better control labor costs (*mentioned in principle in the Restructuring Plan*);
- e) Reassessing the assets of HŽ Cargo and HŽ Passenger Transport (locomotives and wagons) to achieve higher productivity in order to match the average EU-27 levels in the medium-term (*mentioned in principle in the Restructuring Plan*).

## D. ENHANCING RAILWAY SECTOR GOVERNANCE – ANALYSIS OF PRE-JUNE 2012 STATUS

20. **The current railway transport market in Croatia has specific characteristics that may be revisited in order to create a stronger and more market responsive sector.** The Government should take the following steps in order to enhance railway sector governance and incentivize the market forces to establish a competitive railway industry requiring a lower State contribution: (i) adjust the level and allocation of State support for various lines of business; (ii) adjust the Track Access Charges (TACs); and (iii) create stronger contracting relationships with the companies that the Government utilizes for the maintenance of infrastructure and passenger services.

21. **The State subsidy for railways is still high, and efforts to reduce it should continue.** The railway sector in Croatia has received strong State support over the past years, as illustrated by Table 1. Despite its decreasing trend, in 2011 State support still accounted for more than half of the total annual needs of HŽ Holding to cover its operating costs and investment needs; in the case of HŽ Infrastructure the percentage of State contribution was 83% in 2011.

22. **Table 1 also demonstrates that the State gave substantial support to all of the companies of HŽ Holding.** EU regulations limit State support for the railway sector to only infrastructure and passenger services through PSCs. During the period of 2005-2011, HŽ Holding received State subsidies for freight and traction activities—as well as for passenger transport aside from the PSC. It is highly recommended that the Government assess the compliance with EU regulations with regard to subsidies before EU accession—even if the outstanding amounts of subsidy are very low (see Table 1: rows in italics indicate questionable subsidies).

**Table 1: State Contribution to the Railway Transport Sector<sup>12</sup>**

| Source   | Unit of HŽ Holding                        | 2005         | 2006         | 2007        | 2008        | 2009       | 2010        | 2011       |
|--|---|--------------|--------------|-------------|-------------|------------|-------------|------------|
| <b>State contribution in railway operations</b>            | Passengers (PSC)                          | 493.3        | 413.9        | 402.0       | 400.0       | 370.0      | 347.5       | 360.0      |
|  | <i>Passengers (other than PSC)</i>        | <i>154.2</i> | <i>168.3</i> | <i>11.7</i> | <i>6.4</i>  | <i>8.2</i> | <i>6.2</i>  | <i>1.8</i> |
|  | Freight transport (PSC)                   | 5            | 5            | 15          | 14          | 44         | 30          | 37.5       |
|  | <i>Freight transport (other than PSC)</i> | <i>139.4</i> | <i>153.1</i> | <i>21.7</i> | <i>4.6</i>  | <i>11</i>  | <i>21.4</i> | <i>1.4</i> |
|  | <i>Traction</i>                           |              |              | <i>19.4</i> | <i>2.3</i>  | <i>5</i>   | <i>7.3</i>  | <i>2.9</i> |
|  | Infrastructure                            | 1,538.9      | 1,381.9      | 1,346.7     | 1,405.8     | 1,198.9    | 1,165.3     | 1,079.0    |
|  | <i> Holding</i>                           |              |              | <i>2</i>    | <i>39.3</i> | <i>16</i>  | <i>1.8</i>  | <i>2.0</i> |
|  | Total                                     | 2,330.8      | 2,122.2      | 1,818.5     | 1,872.4     | 1,653.1    | 1,579.5     | 1,484.6    |
| <b>State contribution for investments</b>                  | Passengers                                | 87.0         | 152.0        | 141.1       | 109.0       | 33.3       | 92.8        | 54.0       |
|  | Freight                                   | 40.0         | 99.6         | 78.0        | 128.0       | 98.3       | 60.0        | 62.0       |
|  | Infrastructure                            | 573.2        | 518.8        | 608.9       | 767.7       | 529.5      | 434.4       | 251.2      |
|  | Traction                                  |              |              | 164.4       | 130.0       | 96.9       | 64.9        | 79.0       |
|  | Total                                     | 700.2        | 770.4        | 992.4       | 1,134.7     | 758.0      | 652.1       | 446.2      |
| <b>Total State Contribution (operations + investments)</b> |   | 3,031.0      | 2,892.6      | 2,810.9     | 3,007.1     | 2,411.1    | 2,231.6     | 1,930.8    |
| <b>HŽ Operating Revenue</b>                                | Passengers                                | 489.6        | 466.5        | 460.7       | 498.5       | 518.9      | 492.4       | 494.5      |
|  | Freight                                   | 890.5        | 931.7        | 938.6       | 946.7       | 949.7      | 910.5       | 904.7      |
|  | Infrastructure (TAC & Others)             | 184.0        | 350.8        | 351.9       | 277.9       | 247.7      | 285.4       | 269.6      |
|  | Other at Holding                          |              |              | 143.7       | 76.1        | 92.4       | 115.3       | 74.1       |
| <b>Total HŽ Operating Revenue</b>                          |   | 1,564.2      | 1,749.0      | 1,895.0     | 1,799.2     | 1,808.7    | 1,803.6     | 1,742.9    |
| <b>Ratio of State Contribution</b>                         | HŽ Holding                                | 66%          | 62%          | 60%         | 63%         | 57%        | 55%         | 53%        |
|  | Freight                                   | 17%          | 22%          | 17%         | 18%         | 18%        | 14%         | 13%        |
|  | Passengers                                | 60%          | 61%          | 58%         | 54%         | 47%        | 49%         | 48%        |
|  | Infrastructure                            | 92%          | 80%          | 79%         | 83%         | 87%        | 85%         | 83%        |

Source: HŽ Holding, WB calculations

23. **The users of railway infrastructure have benefited from a generous Government policy concerning the infrastructure access charges.** According to the Network Statement<sup>13</sup>, the basic price of the Track Access Charge (TAC) per train-km in Croatia is determined on the basis of direct costs for the maintenance of railway infrastructure, the cost of railway infrastructure management, and train kilometers realized. The prices are expressed for both passenger and freight transport. A price correction coefficient ‘K’ is part of the formula used to calculate the TAC, and is determined in agreement with the Government depending on the transport market condition and the amount of State subsidies for the railway infrastructure costs. If the TAC is calculated as the amount of direct costs, then the correction coefficient is K=1. The Network Statement for 2011-2012 indicates that users of railways should pay a basic price per train-km of HRK 10.09 (EUR 1.38) for passenger

<sup>12</sup> The table does include the funds allocated by the State for supporting the railway operations and for investments.

<sup>13</sup> HŽ Infrastructure.

traffic and HRK 17.55 (EUR 2.4) for freight traffic. For 2012 and 2013, the Network Statement initially proposed significant increases in TACs to HRK 11.32 (EUR 1.50) for passenger traffic and HRK 23.33 (EUR 3.10) for freight traffic. Figure 4 illustrates that, since 2007, TACs have been significantly below the levels predicted for 2012<sup>14</sup>. Although this was a policy targeted to encourage the shift of traffic from road to rail, traffic evolution did not confirm this expectation (Figure 3). Despite the fact that the Government promoted one of the lowest infrastructure charges in Europe, the transport market did not react as expected—which can be explained inter alia by a lack of coordination in TACs and operations for international traffic, especially for freight. Considering that an increased access charge level may have a negative impact on transport tariffs—and subsequently, on the volumes of transport achieved—it is important to investigate why the low TACs did not stimulate an increase in the railway transport market in Croatia. TAC policy remains a difficult subject: facing substantial difficulties for HŽ Passenger Transport and HŽ Cargo to pay the 2012 tariffs, the Government decided at the end of 2012 to decrease the TACs again for 2012 and 2013.

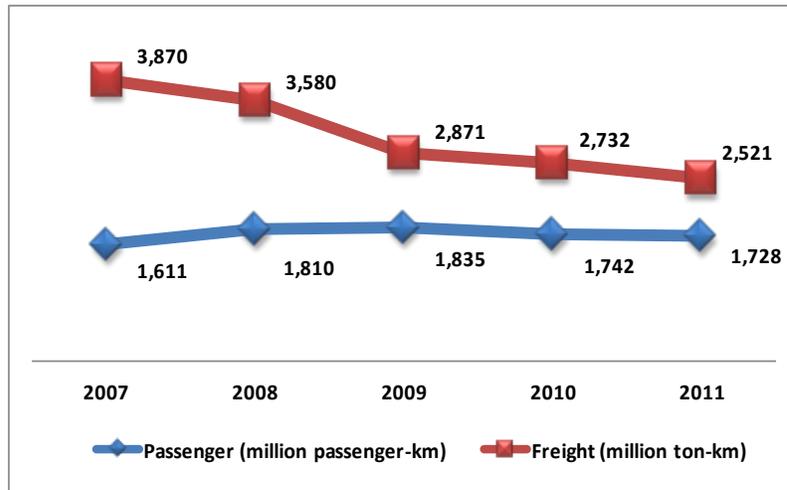
**24. Harmonization of TACs with countries in the region and with broader transport policies is vital in order to shift traffic from road to rail.** Because HŽ Infrastructure is a transit railway, the attractive level of TACs in Croatia is not sufficient to increase traffic volumes. Harmonization of TACs and pathways allocation with the neighboring railways along Corridor X is essential to attract more traffic to the corridor, and ensure a continuous flow of international rail cargo. Well-designed pricing policies of one infrastructure manager should have positive spillovers to other countries along the corridor and stimulate the growth of railway traffic. Croatia should use the “transitional” period of railway restructuring and EU accession to take the lead and pioneer this approach among the countries in the region—particularly, Slovenia and Serbia—for Corridor X. For domestic traffic, it is important to implement an unbiased charging system for access to road and rail infrastructure. The tuning of TAC levels should be part of a holistic approach toward charging access to transport infrastructure for both modes of land transport. In this respect, in the medium-term, the TAC policy should be gradually harmonized in three directions:

- a) Harmonization with the road tolling system in the domestic transport market. It is advisable to use the levels of TACs and road tolls as pricing instruments to develop an economically balanced transport system in Croatia—taking into account the social costs of each mode;
- b) Harmonization with neighboring countries for the international corridors. The low level of TACs in Croatia for transit traffic along Corridor X will not bring the expected traffic increase if it is not part of a common charging policy adopted by all railways along the Corridor;
- c) Rebalancing the level of TACs vis-à-vis passenger and freight traffic to make freight more competitive, because the current structure favors passenger services.

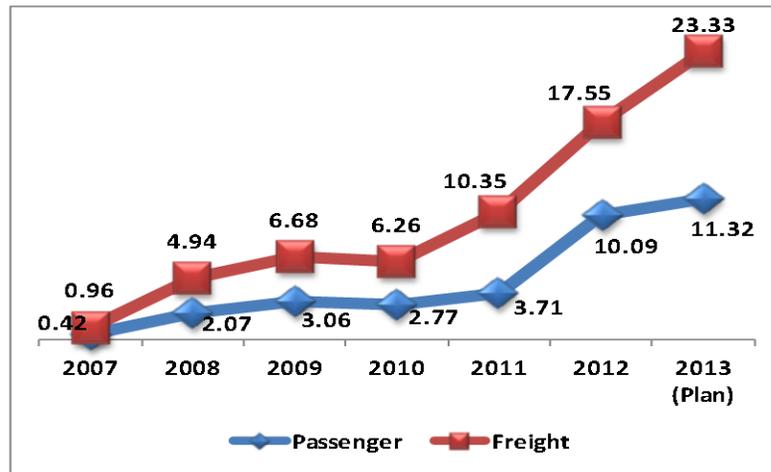
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<sup>14</sup> The Network Statement calculates TACs based on direct costs of operators on infrastructure. This is the mandatory European rule. In Croatia, a factor ‘K’ was introduced, which allows for making corrections. Until 2011, the values of K were lower than 1, meaning that the TACs had values under the direct cost levels.

**Figure 3: Railway Traffic Evolution**



**Figure 4: Evolution of TACs (HRK per train-km)**



Source: HŽ Holding, Network Statement 2011/12, WB calculations

25. **Improvement of the Multi-Annual Infrastructure Contract (MAIC) to Increase Rail Infrastructure Quality.** The MAIC puts in legal form the rights and obligations of both the Government and HŽ Infrastructure for the management of the railway network (Box 1). The existing MAIC could be improved by including concrete annual targets for HŽ Infrastructure to cut operating costs and resize the network. The Government would then guarantee a precise funding allocation for the next 4-5 years, making the management of HŽ Infrastructure accountable for the quality of operation and maintenance of the railway network.

### Box 1: Multi-Annual Infrastructure Contract in the EU Context

*Multi-annual Contracts for Rail Infrastructure Quality (MAICs) represent long-term financing arrangements for infrastructure maintenance, signed by the State (owner of railway infrastructure) and the railway infrastructure manager. The MAIC lays out: (i) the policy goals of the State for railway infrastructure, and the necessary activities for achievement of these goals; (ii) the level of TACs and of other charges for various services offered by the infrastructure manager; (iii) the contractual obligations of the infrastructure manager regarding the quality of the network; and (iv) the budget to be provided by the Government to achieve these goals. The MAIC is signed for a period of 4-5 years. It includes performance indicators to measure the quality of infrastructure services and performance incentives for the infrastructure manager.*

*(Communication No. 54 of February 6, 2008, from the Commission to the Council and the European Parliament - Multi-annual Contracts for Rail Infrastructure Quality)*

26. **Implementation of the multi-annual PSC concept should be a priority for the Government and HŽ Passenger Transport.** With the PSCs currently in place, it is difficult to develop long-term plans and stimulate investment in railway passenger transport—and this is reflected in the ageing fleet of passenger coaches. Multi-annual contracts for 10-15 years would allow putting in place investment plans based on a predictable transport market (Box 2). The multi-annual structure of the PSC should be implemented not only for the contract signed with the Government, but also for smaller contracts signed with the local authorities, to ensure more certainty for the passenger operators. Regional or local passenger services can be treated in separate multi-annual contracts. Moreover, PSCs in Croatia include investment amortization in their calculations, while the Government often also provides capital subsidies on the same investment. The Government should make a choice between subsidizing capital and diminishing compensations under the PSCs, or removing capital subsidy and calculating PSC subsidies on a full cost recovery basis.

### Box 2: Public Service Contract in the EU Context

*Public Service Contracts (PSCs) define the obligations of the State and of the public service operators to provide passenger transport services that are of greater general interest, safer, of a higher quality or provided at a lower cost than those that market forces alone would have brought about. Toward this end, the State defines the public service obligation package and competitively selects the railway operator to provide the requested services, on the lowest public service compensation. PSCs are generally signed for a period of at least 4-5 years, and must include the list of requested services, the performance criteria to measure the quality of services provided, and the conditions for the release of the compensation.*

*(Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) No 1191/69 and 1107/70)*

## E. IMPROVING CORPORATE GOVERNANCE, MANAGEMENT AND PERFORMANCE OF RAILWAY SERVICES

### E.1. Structure from 2006 to 2012

27. **The State-owned railway company in Croatia has been organized as a holding since 2006.** HŽ Hrvatske Željeznice Holding d.o.o. (HŽ Holding) is a limited liability company that was established on December 22, 2006. Its sole owner is the Republic of Croatia, represented in the company's Assembly by MMATI. In addition to the Assembly, the corporate structure consists of a two-tier management and monitoring structure appointed by the Assembly at the suggestion of the Government. A Management Board manages the company under its own responsibility; a Supervisory Board monitors the activity of the Management Board and reports its observations to the Assembly. The Supervisory Board is composed of seven members, including a Chairman who is selected by the Board among its members, and one member who is appointed by the Workers' Council. The current Management Board consists of seven members, one of whom is appointed as a CEO by the Assembly. The 2005 Act on Division of Croatian Railways separated the previous railway company into four new limited liability companies that are all 100% owned and managed by HŽ Holding: HŽ Cargo, HŽ Passenger Transport, HŽ Traction and HŽ Infrastructure. All of the subsidiaries have a similar corporate governance structure, as presented in Table 2 below. As a company of special State interest<sup>15</sup>, HŽ Holding is subject to the Company Law and additional provisions of the Audit Law, requiring: (i) public disclosure of financial statements through Financial Agency (FINA); (ii) an independent external audit; and (iii) the establishment of an Audit Committee within the Supervisory Board, which oversees financial reporting and disclosure. *This structure was modified by the Restructuring Plan approved in June 2012 (see summary in Chapter H below), but the diagnostic of the system still needs to be based on the holding structure, given the current interlinkages between the various elements until the full plan is implemented.*

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<sup>15</sup> According to the Audit Law, all companies with a share capital of over HRK 300 million are companies of special State interest, subject to additional audit requirements.

**Table 2: HŽ Holding Governance Structure**

|                                  | HŽ HOLDING  | HŽ INFRASTRUCTURE                          | HŽ CARGO | HŽ PASSENGER TRANSPORT | HŽ TRACTION |
|----------------------------------|---|--|----------|------------------------|-------------|
| <b>OWNERSHIP</b>                 | 100% Republic of Croatia  | 100% HŽ Hrvatske Zeljeznice holding d.o.o. |          |                        |             |
| <b>ASSEMBLY</b>                  |   |  |          |                        |             |
| <b>COMPOSITION</b>               | Transport Minister  | HŽ Hrvatske Zeljeznice holding d.o.o.      |          |                        |             |
| <b>FUNCTION</b>                  | Assembly decides about financial statements of the company, use of profit and coverage of loss; appointment (and recall) of members of the Supervisory Board and Management Board (for HŽ Infrastructure in agreement with the Regulatory Agency); approves business plans; division and withdrawal of share capital; supervision measures over the management of business; change of Incorporation Act |  |          |                        |             |
| <b>SUPERVISORY BOARD</b>         |   |  |          |                        |             |
| <b>COMPOSITION</b> <sup>16</sup> | 7 members   | 5 members                                  |          |                        |             |
| <b>TENURE</b>                    | 4 years   |  |          |                        |             |
| <b>FUNCTION</b>                  | Supervisory Board supervises the management of the company and submits annual performance report to the Assembly; approves borrowing activities over HRK 5 million  |  |          |                        |             |
| <b>MANAGEMENT BOARD</b>          |   |  |          |                        |             |
| <b>COMPOSITION</b>               | 3-7 members   | 1-3 members <sup>17</sup>                  |          |                        | 1-2 members |
| <b>TENURE</b>                    | 4 years   |  |          |                        |             |
| <b>FUNCTION</b>                  | Management Board represents and manages the Company, executes decisions of the Assembly, reports quarterly to the Supervisory Board, prepares financial statements and reports about business results based on the annual financial report  |  |          |                        |             |

Source: HŽ Holding Incorporation Acts

## E.2. Assessment of the General Capacity of the Sector to Compete in the Open Market

28. **The present operational and financial performance of HŽ Holding was influenced by a decrease in traffic.** Since 2007, traffic has been on a decreasing trend, jeopardizing the financial stability of the holding. Meanwhile, its operational performance, which is lower than the European average, induces higher operating costs. An additional consequence of the reduced traffic volumes is an average unit cost that has remained nearly constant—a sign of no significant achievements in enhancing operational efficiency. As a result, the financial sustainability of HŽ Holding highly depends on State support, as shown in Table 3.

<sup>16</sup> One member appointed by the Workers' Council, and others by the Assembly.

<sup>17</sup> A member of the Management Board at HŽ Infrastructure cannot be at the same time a member of the Management Board of affiliated companies (Traction, Passenger Transport, Cargo). Upon its recall, it cannot be appointed to a senior position in HŽ Hrvatske zeljeznice holding d.o.o. or any of its affiliated companies for a period of two years.

**Table 3: Croatia – Railway Performance Indicators**

| INDICATORS  | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Traffic units (mill pass-km + ton-km)                     | 4,372     | 4,965     | 5,482     | 5,391     | 4,706     | 4,474     | 4,249     |
| Total staff   | 14,152    | 13,748    | 13,411    | 13,281    | 12,843    | 12,491    | 12,468    |
| Traffic intensity [traffic units/km]                      | 1,603,778 | 1,823,990 | 2,013,924 | 1,980,456 | 1,728,876 | 1,643,644 | 1,560,985 |
| Staff productivity [traffic units/staff]                  | 308,925   | 361,136   | 408,761   | 405,903   | 366,425   | 358,178   | 340,792   |
| Labor cost as % of operating revenue                      | 76.2%     | 71.2%     | 64.6%     | 75.2%     | 71.2%     | 70.6%     | 78.6%     |
| Total State subsidy as % of total revenue                 | 59.7%     | 54.7%     | 48.6%     | 50.6%     | 46.5%     | 45.8%     | 44.8%     |
| Average unit operating Cost less depreciation [Eurocents] | 0.084     | 0.076     | 0.066     | 0.075     | 0.077     | 0.078     | 0.081     |
| Cost recovery ratio                                       | 125%      | 122%      | 127%      | 116%      | 112%      | 112%      | 104%      |
| Viability ratio   | 66%       | 68%       | 79%       | 70%       | 72%       | 72%       | 69%       |

Source: HŽ Holding, WB calculations

29. **The performance of HŽ Holding indicates that room for investment is negligible.** These data reflect general trends in the performance of the railway transport sector in Croatia. However, HŽ Holding is a mix of various companies with completely different types of activities (management of infrastructure, transport of freight, transport of passengers) and different market requirements; therefore, identifying specific solutions for performance improvement in the holding requires a separate analysis of the operational and financial data of each of those companies—which will be undertaken in the following sections.

30. **The cost recovery ratio illustrates that HŽ Holding is financially stable; the viability ratio shows HŽ Holding’s level of dependence on public funds.** It is a general conclusion valid for most European railways: the differences in Croatia are the high percentage of State support in the total cost of railways, and the structure of the public support. The aggregated data for HŽ Holding allows for only general conclusions regarding these aspects; the detailed analysis of operational and financial data for each company presented in Chapter F shows that it is essentially aiming at operating costs.

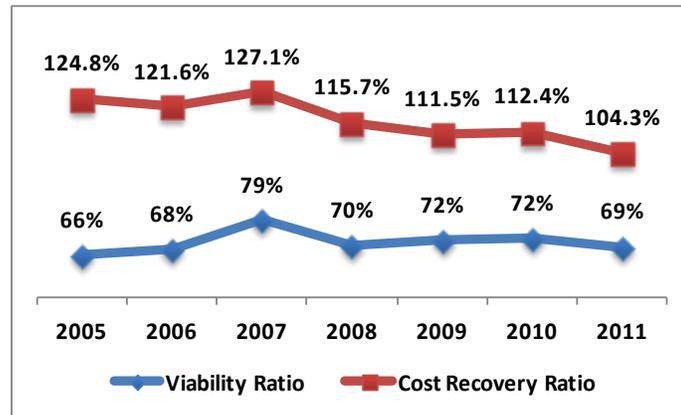
31. Table 4 illustrates the evolution of the financial performance of HŽ Holding since 2005, revealing that:

- a) The *total revenues* and the *total costs* of the holding have remained nearly constant since 2005;
- b) The *total State contribution* (including PSCs, support to operations, and investments) in 2011 was around 36%, which was lower in nominal terms compared with 2005, but still very high;
- c) The *cost recovery ratio* and the viability ratio indicate that, since 2005, HŽ Holding has been able to cover all of its operating costs from the total revenues (operating and State contribution), with an increasing share of the operating revenues every year allowing for a reduction in the State contribution;
- d) These ratios may implicitly signal that there is a serious constraint on any rehabilitation or capital investment, both in rolling stock and equipment, because revenue and most subsidies are absorbed in operating costs.

32. In 2011, the operating revenues of HŽ Holding covered about 69% of the operating costs—including the State contribution for the PSC (The cost **recovery ratio illustrates that HŽ Holding is financially stable; the viability ratio shows HŽ Holding’s level of dependence on public funds.** It is a general conclusion valid for most European railways: the differences in Croatia are the high percentage of State support in the total cost of railways, and the structure of the public support. The aggregated data for HŽ Holding allows for only general conclusions regarding these aspects; the detailed analysis of operational and financial data for each company presented in Chapter F shows that it is essentially aiming at operating costs.

33. Table 4)—in comparison to 66% in 2005. Although the situation shows a slight improvement over the years, the effort to reduce the State contribution must continue. The current situation confirms that HŽ Holding, like many of the railway companies in the EU, is not sustainable without State subsidies. The major challenge for the Government is to determine the appropriate level of this State support for each company of the holding, within the limits of the EU regulations.

**Figure 5: Cost Recovery Ratio – Viability Ratio**



*Source: HŽ Holding, WB calculations*

34. **The cost recovery ratio illustrates that HŽ Holding is financially stable; the viability ratio shows HŽ Holding’s level of dependence on public funds.** It is a general conclusion valid for most European railways: the differences in Croatia are the high percentage of State support in the total cost of railways, and the structure of the public support. The aggregated data for HŽ Holding allows for only general conclusions regarding these aspects; the detailed analysis of operational and financial data for each company presented in Chapter F shows that it is essentially aiming at operating costs.

**Table 4: HŽ Holding Income Statement, 2005-2011<sup>18</sup>**

| Year  |                                 | 2005                               | 2006           | 2007           | 2008           | 2009           | 2010           | 2011           |                |
|---|---------------------------------|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Revenue</b>  | Passenger revenue               | Ticket sales                       | 310.4          | 336.3          | 370.5          | 390.7          | 384.7          | 374.4          | 369.4          |
|   |                                 | Other revenue                      | 179.2          | 130.2          | 90.2           | 107.8          | 134.2          | 118.0          | 125.1          |
|   |                                 | PSC                                | 493.3          | 413.9          | 402.0          | 400.0          | 370.0          | 347.5          | 360.0          |
|   |                                 | <b>Total passenger</b>             | <b>982.9</b>   | <b>880.4</b>   | <b>862.7</b>   | <b>898.5</b>   | <b>888.9</b>   | <b>839.9</b>   | <b>854.5</b>   |
|   | Freight revenue                 | Freight transport                  | 641.4          | 724.0          | 763.8          | 770.0          | 630.1          | 616.7          | 623.7          |
|   |                                 | PSC                                | 5.0            | 5.0            | 15.0           | 14.0           | 44.0           | 30.0           | 37.5           |
|   |                                 | Other revenue                      | 249.1          | 207.7          | 174.8          | 176.7          | 319.6          | 293.8          | 281.0          |
|   |                                 | <b>Total freight</b>               | <b>895.5</b>   | <b>936.7</b>   | <b>953.6</b>   | <b>960.7</b>   | <b>993.7</b>   | <b>940.5</b>   | <b>942.2</b>   |
|   |                                 | Other revenue than freight & pass. | 184.1          | 350.8          | 495.7          | 354.0          | 340.1          | 400.7          | 529.7          |
|   |                                 | <b>Total operating revenues</b>    | <b>2,062.5</b> | <b>2,167.9</b> | <b>2,312.0</b> | <b>2,213.2</b> | <b>2,222.7</b> | <b>2,181.1</b> | <b>2,140.4</b> |
|   | State contribution              | Passengers (excl. PSC)             | 154.2          | 168.3          | 11.7           | 6.4            | 8.2            | 6.2            | 1.8            |
|   |                                 | Freight transport                  | 139.4          | 153.1          | 21.7           | 4.6            | 11.0           | 21.4           | 1.4            |
| Traction  |                                 |                                    |                | 19.4           | 2.3            | 5.0            | 7.3            | 2.9            |                |
| Infrastructure  |                                 | 1,538.9                            | 1,381.9        | 1,346.7        | 1,405.8        | 1,198.9        | 1,165.3        | 1,079.0        |                |
| Holding   |                                 |                                    |                | 2.0            | 39.3           | 16.0           | 1.8            | 2.0            |                |
| <b>Total</b>  |                                 | <b>1,832.5</b>                     | <b>1,703.3</b> | <b>1,401.5</b> | <b>1,458.4</b> | <b>1,239.1</b> | <b>1,202.0</b> | <b>1,087.1</b> |                |
| <b>Expenses</b>   | Materials                       | 143.1                              | 149.2          | 118.9          | 178.0          | 176.1          | 132.0          | 135.2          |                |
|   | Fuel, Electricity               | 292.6                              | 323.2          | 334.7          | 375.5          | 294.9          | 327.2          | 358.4          |                |
|   | Wages and salaries              | 1,571.6                            | 1,543.7        | 1,582.0        | 1,804.1        | 1,728.1        | 1,680.9        | 1,681.7        |                |
|   | Hired servicers and others      | 712.5                              | 743.3          | 629.8          | 551.2          | 450.9          | 395.2          | 406.4          |                |
|   | Depreciation                    | 400.9                              | 424.4          | 255.9          | 265.5          | 453.5          | 473.8          | 512.9          |                |
|   | <b>Total operating expenses</b> | <b>3,120.7</b>                     | <b>3,183.8</b> | <b>2,921.3</b> | <b>3,174.3</b> | <b>3,103.5</b> | <b>3,009.1</b> | <b>3,094.6</b> |                |
|   | Non-operating expenses          | 724.1                              | 672.0          | 764.6          | 558.6          | 374.0          | 446.3          | 259.9          |                |
|   | <b>Total expenses</b>           | <b>3,844.8</b>                     | <b>3,855.8</b> | <b>3,685.9</b> | <b>3,732.9</b> | <b>3,477.5</b> | <b>3,455.4</b> | <b>3,354.5</b> |                |
| <b>Net income (deficit) without State contribution</b>          |                                 | 1,782.4                            | 1,687.9        | 1,373.9        | -1,519.7       | 1,254.8        | 1,274.3        | 1,214.1        |                |
| <b>Net income (deficit) with State contribution</b>             |                                 | 50.2                               | 15.4           | 27.6           | -61.3          | -15.7          | -72.3          | -127.0         |                |
| <b>Viability ratio</b>  |                                 | 66%                                | 68%            | 79%            | 70%            | 72%            | 72%            | 69%            |                |
| <b>Cost recovery ratio</b>                                      |                                 | 125%                               | 122%           | 127%           | 116%           | 112%           | 112%           | 104%           |                |
| <b>State contribution for investments</b>                       | Passengers                      | 87.0                               | 152.0          | 141.1          | 109.0          | 33.3           | 92.8           | 54.0           |                |
|   | Freight                         | 40.0                               | 99.6           | 78.0           | 128.0          | 98.3           | 60.0           | 62.0           |                |
|   | Infrastructure                  | 573.2                              | 518.8          | 608.9          | 767.7          | 529.5          | 434.4          | 251.2          |                |
|   | Traction                        |                                    |                | 164.4          | 130.0          | 96.9           | 64.9           | 79.0           |                |
| <b>Total State contribution (operation + PSC + investments)</b> |                                 | <b>3,031.0</b>                     | <b>2,892.6</b> | <b>2,810.9</b> | <b>3,007.1</b> | <b>2,411.1</b> | <b>2,231.6</b> | <b>1,930.8</b> |                |

Source: HŽ Holding, WB calculations

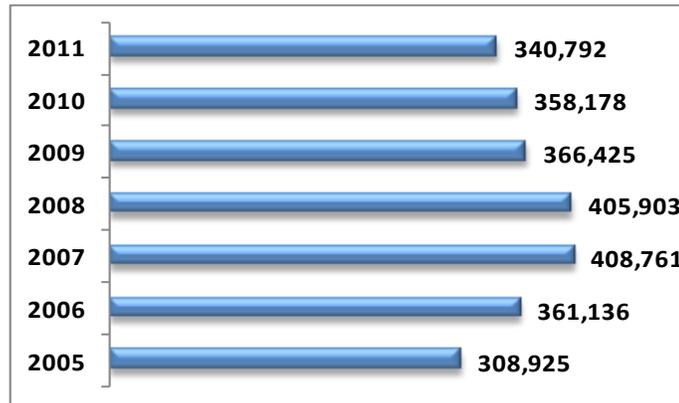
### E.3. Staffing Issues

35. The labor productivity at HŽ Holding has been declining since 2008. HŽ Holding started from 2005 to reduce its number of staff. Currently, the holding has 12% less staff than in 2005. However, after 2008—as a consequence of a decrease in traffic—the holding also experienced a decrease in productivity; and the holding has values significantly lower than the European average (Figures 6 and 7). In 2011, the labor productivity was about four times

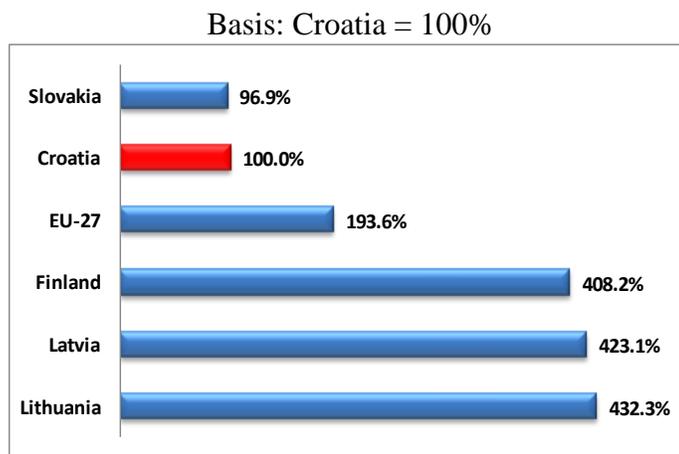
<sup>18</sup> This statement (and those corresponding to the other companies in HŽ Holding) corresponds to data supplied by HŽ Holding, complemented by calculations from the World Bank Team for some ratios. The Study noted some discrepancies between audited accounts and data supplied by HŽ Holding, which do not substantially alter the analysis. The elements related to these discrepancies are listed in Annex 1.

lower than in Finland, Lithuania and Latvia. Considering the high share of staff in total costs, low staff productivity has a serious impact—raising the operating costs and affecting the financial performance of HŽ Holding accordingly. Better staff productivity—an important element for competitiveness in the open transport market—can be obtained by increasing the volumes of traffic or by tuning the staff to the existing level of traffic.

**Figure 6: HŽ Holding Labor Productivity (traffic units/staff)**



**Figure 7: HŽ Holding Labor Productivity Compared to the EU (2011)**

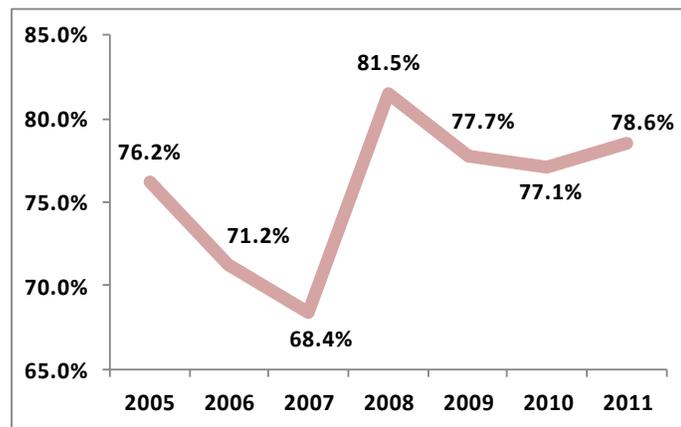


*Source: HŽ Holding, Eurostat, WB calculations*

36. **The ratio of wages to operating revenues is very high.** HŽ Holding needs to use more than 75% of its operating revenues to cover labor costs (Figure 8). Financially balanced railway companies generally cover their staff expenses with less than 40% of their revenues. The cost of staff should be analyzed jointly with its productivity. Considering the 21% increase in the cost of staff experienced by HŽ Holding since 2005—and the average annual cost per staff of around HRK 134,881 (about EUR 17,912) in 2011—it is important to adjust the number of staff to the size of business in order to improve financial sustainability.

37. **Labor reform.** HŽ Holding and the MMATI should carry out a comprehensive labor reform program to increase the productivity levels of the HŽ Holding staff—and HŽ Holding should adapt its labor force structure to market changes that require a shift toward more advanced and sophisticated skills, such as IT, finance and engineering. In 2011, HŽ Holding reported that its employees received an average gross wage of HRK 8,559—or 10% higher than the national average—while more than a third of its labor force had a lower than secondary level of education. Considering that the financial condition of the HŽ Companies cannot sustain the current cost per staff, the labor reform program must be implemented at the earliest moment possible—but nevertheless, it must be carefully planned out and conducted in a most transparent and efficient manner.

**Figure 8: HŽ Holding Labor Costs as a Percentage of Operating Revenues**



*Source: HŽ Holding, WB calculations*

38. **The high ratio of staff costs at HŽ Holding is aggravated by a large labor number that is hidden in subsidiaries.** In addition to the approximately 12,500 staff in the companies of HŽ Holding, there are approximately another 4,700 staff in subsidiary companies under one or several of the four lines of business. Most of these subsidiaries have as their only client their parent companies—or their parent companies plus other members of HŽ Holding—and their staff would normally be included in the labor productivity figures. Under these conditions, the productivity of HŽ Holding is even lower than the figures calculated above would indicate. Some of the subsidiaries are no longer necessary. *It is vital for each company of HŽ Holding to make a careful analysis of each of its subsidiaries for assessing their value added for the mother company. As a function of the concrete situation of each subsidiary, the mother companies should decide on one or the other of the following solutions:*

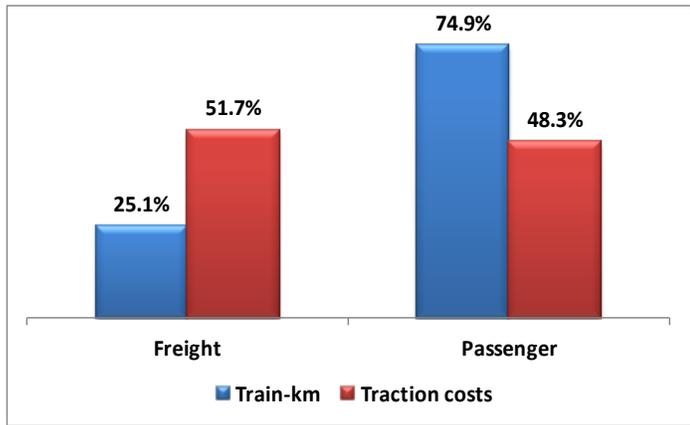
- a) *Privatization – if the unit has a real market value for developing activities for more clients on the market;*
- b) *Re-absorption – if the unit has a real market value for developing vital activities for the mother company and has no other clients on the market; the re-absorption must include only the necessary staff and assets; or*
- c) *Bankruptcy – if the unit has no value for the mother company and is not financially viable.*

## E.4. Organizational Issues

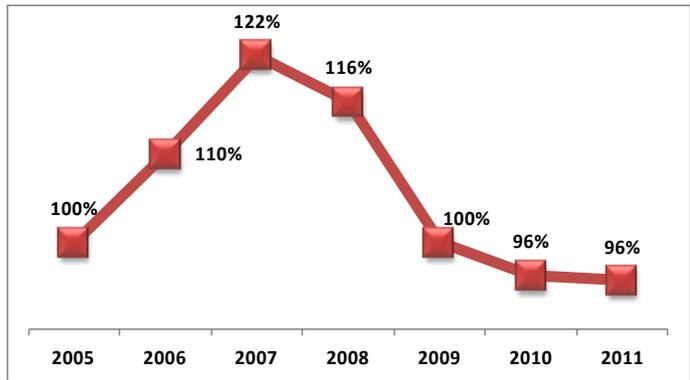
39. **As an independent company within HŽ Holding, HŽ Traction was a monopolistic structure not directly connected with the transport market.** The main reform principle for railway systems in the EU is the implementation of a business-oriented approach. This means that the policy and regulatory functions are taken by the State, and that the railway companies should be consolidated as commercial business units self-adaptable to market needs. The traction company does not correspond to this principle. It has control of all of the locomotives in Croatia, and sets the tariffs for its services for pulling freight and passenger trains without being in contact with the clients of transport services. The main reason for setting up the traction company was to improve the allocation of locomotives between the two users—HŽ Cargo and HŽ Passenger Transport—by centralizing traction activities. The locomotive productivity of HŽ Traction illustrates that the company failed to achieve this objective. In 2011, it dropped to a seven-year low—due to lower cargo traffic—offsetting performance gains achieved from 2005-2007 (see Figure 9). In 2011, locomotive productivity in Croatia was about 20% of that in Latvia, 30% of that in Lithuania, and 63% of that in Finland. HŽ Traction’s locomotive productivity did surpass that of Slovakia. However, it still represents only 60% of the average EU-27 productivity (see Figure 10). Considering the high ratio of traction costs to total operating costs (44% for HŽ Passenger Transport, and 38% for HŽ Cargo in 2011), the current productivity loss significantly affects the operational and financial performance of HŽ Cargo and HŽ Passenger Transport.

40. ***HŽ Freight and HŽ Passenger Transport should include traction activities in their structures.*** It is important to eliminate the allocation of traction costs between HŽ Cargo and HŽ Passenger Transport based on administrative decisions in HŽ Holding, because this may create a strong disadvantage for HŽ Cargo upon EU accession—jeopardizing the efforts of the company to compete successfully in the open market. The questionable allocation of traction costs between the lines of business in HŽ Holding is generated by the outsourcing of traction activities. In 2011, HŽ Cargo operated 6.2 billion train-km, compared to 18.6 billion train-km operated by HŽ Passenger Transport. Thus, although HŽ Cargo operated only 25.1% of the train-km in Croatia, it paid for almost half of the total traction costs. Passenger locomotives require higher operating speeds, better acceleration / deceleration, and additional equipment for their heating systems during wintertime; these elements usually raise the maintenance costs. *The management of HŽ Cargo and HŽ Passenger Transport should be fully accountable for the organization of their traction activities. It is strongly advised to allocate HŽ Traction’s locomotives, assets, and staff to HŽ Cargo and HŽ Passenger Transport according to their business needs—making their respective managements accountable for the operating and costing of their respective traction activities. This would allow the two companies to develop their fleets according to the specific needs of each line of business (i.e., locomotives with higher tonnage per train for freight, DMU’s/EMU’s for passengers). At the same time, the potential privatization of HŽ Cargo cannot be imagined without having its own fleet of locomotives, drivers, depots, and maintenance facilities.*

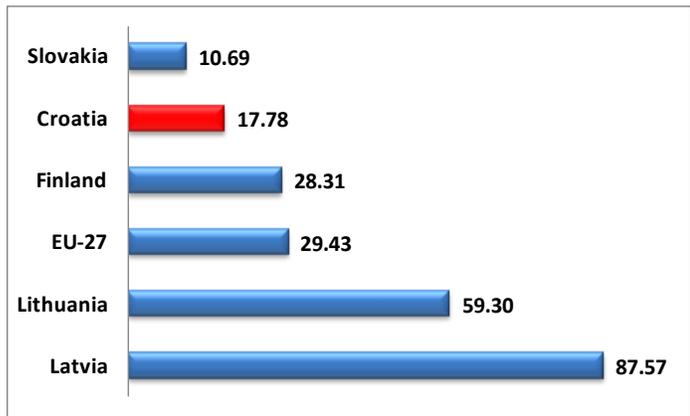
**Figure 9: Split of Traction Costs**



**Figure 10: Evolution of Locomotive Productivity (Locomotive-km / Locomotive, Year 2005 = 100%)**



**Figure 11: Locomotive Productivity, 2011 (million traffic units/locomotive)**



*Source: HŽ Holding, Eurostat, WB calculations*

41. **What is the future of HŽ Holding?** The European Commission allows a holding organization for the rail system, as long as the rules of operation do not conflict with EU

regulations. It is important for the Government to analyze the future of HŽ Holding, depending on its plans for developing the railway sector. *The conclusions of the initial version of the Note were strongly in favor of creating an entirely independent railway infrastructure company in Croatia, because this was the easiest and least expensive solution. In the perspective of the potential privatization of HŽ Cargo, it would become an independent company, and as a result there would be no value added in maintaining HŽ Holding. Under the Plan adopted in June 2012—and now implemented—by creating fully independent railway companies for infrastructure, freight, and passengers, many dysfunctions in the system could be eliminated, such as:*

- a) *The Board of HŽ Infrastructure would become fully independent of any influence from the State-owned railway operators—avoiding conflicting situations concerning pathway allocations, leasing of facilities, and contracting of various services.*
- b) *The dissolution of HŽ Traction and the allocation of its assets, staff, and activities to HŽ Cargo and HŽ Passenger Transport would simplify the management of transport services, making the operators' management fully accountable for the organization and the costs of their traction activities, and improving the operational and financial performance of each company<sup>19</sup>;*
- c) *It would put an end to the cross-subsidies between the entities of HŽ Holding, and would strengthen the financial independence and accountability of the managers of each company; this would allow the State to exercise stricter control over the utilization of public funds allocated to each main activity in the railway sector.*
- d) *It would eliminate the need to create additional structure to control the allocation of pathways, set up the TAC levels, and monitor the traffic management for trains (priorities, delays, etc.) of the various operators. This would be necessary if HŽ Infrastructure was kept in a holding structure.*

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<sup>19</sup> To be clear, there would still be room for agreements between the freight and passenger operators for sharing traction resources—but what this does mean is that the *accountability* for the utilization of locomotives should not remain in the control of a *monopolistic entity* (HŽ Traction) that does not have direct contact with the transport market needs and constraints.

## F. PERFORMANCE OF THE MAIN COMPANIES IN HŽ HOLDING

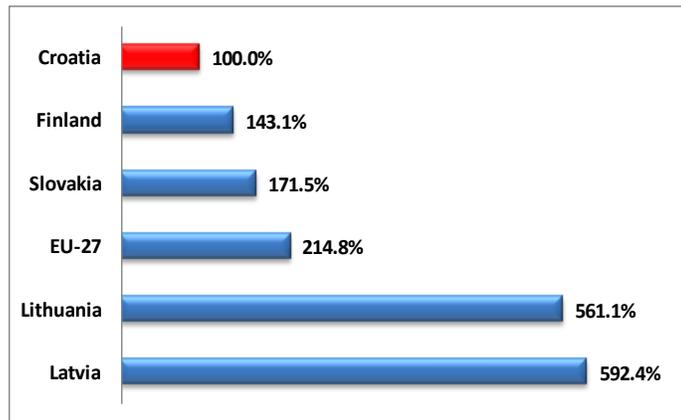
### F.1. Assessment of HŽ Infrastructure Performance

42. **The current level of operating costs in HŽ Infrastructure should be reviewed in the context of EU accession.** EU Structural Funds are expected to provide the bulk of financing for the modernization of the railway infrastructure, but: (i) they will be limited to new investments for construction/rehabilitation of international corridors; and (ii) they will put an extra pressure on the national budget to ensure a certain degree of local contribution to these projects (usually a percentage of the total cost and other costs, such as land acquisition). As the State financially supports the annual maintenance of rail infrastructure and would aim to keep a market-affordable level of TACs to be paid by railway operators, assessing the level of costs of HŽ Infrastructure and setting-up the reference costs for the main activities is necessary. The most important elements are: (i) an analysis of traffic intensity; and (ii) an analysis of the efficiency of maintenance and operation of the railway infrastructure.

43. **The traffic intensity on the railway network in Croatia is low in comparison with EU standards.** As illustrated in Figure 12, the traffic intensity is about half the EU-27 average, about 65% of that in Slovakia and Finland, and about 17% of that in Latvia and Lithuania. Considering the high fixed costs of infrastructure—estimated at 70% of the total costs—lower traffic intensity translates into higher unit costs for the maintenance and operation of infrastructure. Therefore, the costs of railway infrastructure are vastly subsidized in Croatia. This raises the question of whether the network should be resized to reduce the costs of non-economic lines. An assessment of the efficiency of all railway lines is necessary. The analysis should include the costs of road infrastructure on parallel routes and public funds allocated for the road routes, and externalities (pollution, accidents, and congestion)—but also, the economic and social impacts of line closure, given their importance in connecting rural with urban areas. Based on the results and on consultations with local authorities, the Government should decide whether to continue operating the entire network or to close part of it. In the case of lines being maintained in operation for reasons other than economics, the entities requiring the continuation of operations must be committed by contract to finance the activities, and the sources of financing must be clearly identified.

**Figure 12: Traffic Intensity Compared to the EU, 2011**

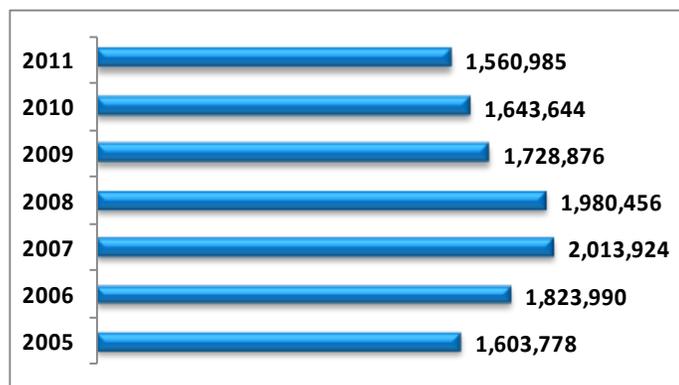
Basis: Croatia = 100%



Source: HŽ Holding, Eurostat

44. **HŽ Infrastructure must adopt policies aimed at increasing the network’s traffic intensity, which has been decreasing since 2007 (Figure 13).** Market-friendly policies to attract additional traffic to railways must be introduced in Croatia; more traffic would lower the unit costs of the railway network, and would reduce the amount of State financial support required. The Governmental policy of allocating a large amount of public funds to keep TACs at low levels generally helps to attract traffic to railways. However, that approach is not sufficient, and may not produce the desired results in terms of traffic growth—especially if the TACs are not harmonized with other countries, or if infrastructure access to other transport modes remains very cheap. Therefore, HŽ Infrastructure should develop flexible strategies to support the railway operators in their efforts to attract new traffic, especially for international corridors. For example, the policy adopted by HŽ Infrastructure in the present Network Statement for the cancellation of the contracted pathways by operators, is too restrictive and will not help to attract new clients. The access contracts between HŽ Infrastructure and railway operators presently allow for cancelling the contracted transport capacity (train pathways): (i) 30 days before service provision without charge; (ii) from 30 days up to 1 week before service provision with 10% of the charge for the entire train path; and (iii) less than a week before service provision with payment of the whole charge for the entire train path. Penalties for the cancellation of allocated pathways are recommended mainly on congested infrastructures, which is not the case in Croatia. Such inflexible policies are transferred by HŽ Cargo or by other future freight operators into the rates they charge to their final clients—making railways less attractive in comparison with other modes of transport.

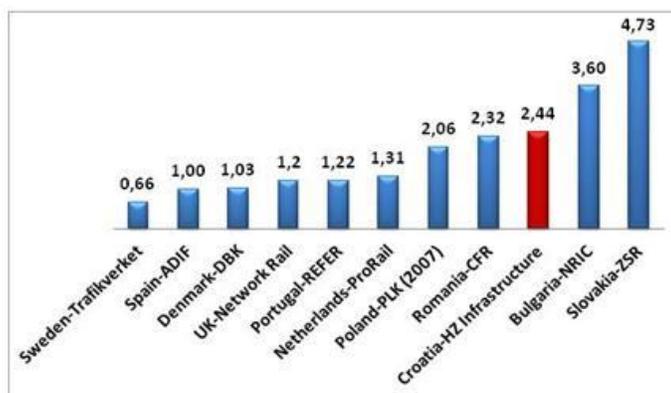
**Figure 13: Traffic Intensity (traffic units/km)**



Source: HŽ holding, Eurostat, WB calculation

45. **HŽ Infrastructure should improve the productivity of maintenance and operations.** The analysis of staff productivity at HŽ Infrastructure—measured in the number of staff per km of track—shows small variations in productivity over the course of the past six years. In 2011, the productivity of HŽ Infrastructure was 2.44 staff per track-km—a good value for South East Europe, but lower than most EU-27 infrastructure managers (Figure 14). Improving staff productivity could result in important savings in operating costs, considering that: (i) the average annual cost per staff was about HRK 131,174 (EUR 17,420) in 2011; and (ii) the total staff costs climb up to 68.9% of the operating costs of HŽ Infrastructure. For example, an improvement in productivity from the current value of 2.44 to 1.9 staff per track-km—which would still be only half of the productivity of Western European railways—would translate into HRK 160 million (EUR 21.2 million) of annual savings in operating costs. Taking into account that this indicator varies with the level of mechanization of maintenance activities in a railway, HŽ Infrastructure should review working methods to increase work productivity and decrease State subsidies for operating costs. This would make room in the State budget for financing the necessary investments in railway infrastructure. A medium-term action plan with specific productivity targets for HŽ Infrastructure, included in the MAIC, is necessary; the annual allocation of public funds for railway infrastructure may be subject to the achievement of productivity goals.

**Figure 14: Infrastructure Managers in the EU – Number of Staff per track-km**



Source: HŽ Holding, Eurostat, WB calculations

46. **The financial results of HŽ Infrastructure illustrate the need for cost cutting.** Table 5 shows that the State contribution for operations was almost constant from 2005-2008, and has been decreasing since 2009, while the TACs have been gradually rising. With HRK 855 million of public funds allocated for operating costs in infrastructure and a higher level of TACs in 2012 (which are almost double the 2011 levels, and are envisaged to further increase in 2013), HŽ Infrastructure is in a relatively stable financial position—with a cost recovery ratio of 99%. This is an estimate based on two rather optimistic assumptions: (i) that the same level of costs as in 2011 will be maintained; and (ii) that the raised TACs will not reduce the transport market of HŽ Cargo and HŽ Passenger Transport. Moreover, that estimate also assumes that the two operators will be able to pay the expected charges—which has often been problematic when similar raises in TACs were made in other EU member states. The two companies have also been pushing for renegotiation of the TACs since early 2012, and the final Government decision on this issue was not known at the time of the Note. Due to the above factors, it is very likely that after 2012, HŽ Infrastructure will face serious financial issues. Serious cost cutting must be considered to overcome the adverse factors of the market. *This means that to converge with the EU-27 average in terms of operating costs (labor productivity, traffic intensity) and to obtain a quality network, it would be necessary to put in place a five-year program for gradual resizing of staff and length of network, in parallel with modernization of maintenance procedures and reorganization of maintenance facilities along the network.* Further outsourcing could even be envisaged, even if this has never been tried in an EU context (e.g., performance-based contracting of maintenance to private operators).

47. Cost cutting at HŽ Infrastructure would facilitate the increase of investment funds. Table 5, which presents the financial performance of HŽ Infrastructure, does not include investment costs (track renewal and/or modernization). HŽ Infrastructure is only the administrator and not the owner of the railway infrastructure assets—which are public property. As a result, investment costs are not part of the financial statements of HŽ Infrastructure. However, a sound assessment of the financial status of HŽ Infrastructure cannot be done while ignoring the need for investments or the desired size of the network for operations—because the assets are old and bound to deteriorate even on the core network, due to the age of most elements (see Chapter G of the Note on investment needs). Knowing that all investment costs must be covered by the State—and given the fiscal constraints—a portion of the public funds currently allocated to operations of railway infrastructure should be reallocated to investment.

**Table 5: HŽ Infrastructure Income Statement, 2005-2012**

| INDICATORS   |                                  | 2005           | 2006           | 2007           | 2008           | 2009           | 2010           | 2011           | Plan 2012      |
|--|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Network length (route km)</b>                               |                                  | 2,726.0        | 2,722.0        | 2,722.0        | 2,722.0        | 2,722.0        | 2,722.0        | 2,722.0        | 2,722.0        |
| <b>Double lines (km)</b>                                       |                                  | 248.0          | 254.0          | 254.0          | 254.0          | 254.0          | 254.0          | 254.0          | 254.0          |
| <b>Electrified lines (km)</b>                                  |                                  | 984.0          | 980.0          | 980.0          | 985.0          | 984.0          | 984.0          | 984.0          | 984.0          |
| <b>Number of staff (on December 31)</b>                        |                                  | 6,641.0        | 6,390.0        | 7,329.0        | 7,263.0        | 7,019.0        | 6,799.0        | 6,839.0        | 6,644.0        |
| <b>Passengers Train-km (mil)</b>                               |                                  | 18.4           | 19.3           | 19.0           | 19.2           | 19.3           | 19.0           | 19.3           | 18.7           |
| <b>Freight Train-km (mil)</b>                                  |                                  | 7.7            | 8.3            | 8.3            | 8.1            | 6.8            | 6.8            | 6.2            | 6.2            |
| <b>Revenue (mil)</b>   | TAC from HŽ Cargo                |                |                | 8.0            | 40.0           | 45.4           | 41.7           | 61.1           | <b>109.2</b>   |
|  | TAC from HŽ Passenger            |                |                | 8.0            | 39.8           | 59.0           | 51.6           | 68.8           | <b>187.2</b>   |
|  | IT and Other                     |                |                | 13.1           | 13.9           | 14.8           | 24.6           | 13.5           | 13.5           |
|  | Other revenue                    | 184.1          | 350.8          | 322.9          | 184.2          | 128.5          | 167.5          | 126.2          | 126.2          |
|  | <b>Total operating revenue</b>   | <b>184.1</b>   | <b>350.8</b>   | <b>352.0</b>   | <b>277.9</b>   | <b>247.7</b>   | <b>285.4</b>   | <b>269.6</b>   | <b>436.1</b>   |
|  | State contribution in operations | 1,538.9        | 1,381.9        | 1,346.7        | 1,405.8        | 1,198.9        | 1,165.3        | 1,079.0        | <b>855.0</b>   |
| <b>Expenses (mil)</b>  | Materials                        | 116.2          | 123.5          | 98.9           | 114.1          | 84.4           | 52.8           | 59.7           | 59.7           |
|  | Fuel, Electricity                | 17.0           | 21.6           | 95.5           | 104.9          | 96.4           | 101.9          | 125.3          | 125.3          |
|  | Wages and salaries               | 776.7          | 765.6          | 819.1          | 942.0          | 915.6          | 892.9          | 897.1          | 897.1          |
|  | Charges paid to HŽ Holding       |                |                | 33.1           | 27.7           | 24.0           | 18.0           | 18.2           | 18.2           |
|  | Hired servicers and others       | 171.6          | 174.5          | 135.1          | 148.9          | 129.8          | 114.3          | 131.5          | 131.5          |
|  | Depreciation                     | 195.8          | 202.9          | 45.6           | 33.2           | 34.8           | 45.1           | 70.4           | 70.4           |
|  | <b>Total operating expenses</b>  | <b>1,277.3</b> | <b>1,288.1</b> | <b>1,227.3</b> | <b>1,370.8</b> | <b>1,285.0</b> | <b>1,225.0</b> | <b>1,302.2</b> | <b>1302.2</b>  |
|  | Non-operating expenses           | 253.3          | 286.8          | 453.7          | 312.3          | 161.1          | 244.3          | 111.2          | 111.2          |
|  | <b>Total expenses</b>            | <b>1,530.6</b> | <b>1,574.9</b> | <b>1,681.0</b> | <b>1,683.1</b> | <b>1,446.1</b> | <b>1,469.3</b> | <b>1,413.4</b> | <b>1,413.4</b> |
| <b>State contribution for investments</b>                      |                                  | 573.2          | 518.8          | 608.9          | 767.7          | 529.5          | 434.4          | 251.2          | 170.2          |
| <b>Total State contribution (operations &amp; investments)</b> |                                  | 2,112.1        | 1,900.7        | 1,955.6        | 2,173.5        | 1,728.4        | 1,599.7        | 1,330.2        | 1,025.2        |
| <b>Cost recovery ratio</b>                                     |                                  | 135%           | 135%           | 138%           | 123%           | 113%           | 118%           | 104%           | <b>99%</b>     |
| <b>Viability ratio</b>   |                                  | 14%            | 27%            | 29%            | 20%            | 19%            | 23%            | 21%            | <b>33%</b>     |

Source: HŽ Holding, WB calculations

## F.2. Assessment of HŽ Cargo Performance

48. Upon EU accession, HŽ Cargo will be the entity of HŽ Holding most exposed to competition; therefore, it must improve its operational and financial performance. The freight transport market for railways is open to competition in the EU, and Croatia's transit market will be attractive for many freight operators. Transit traffic through Corridor X and shipments to/from Rijeka are the most attractive market segments. In 2011, 42% of Croatia's

freight traffic was transit, 11% represented import traffic, and 21% export. This means that the share of international traffic in total business of HŽ Cargo represents 74%. HŽ Cargo must be able to offer highly competitive tariffs and quality of services to preserve these volumes in an open transport market. The analysis of the present operational and financial performance of HŽ Cargo will offer a clearer image of its capacity to compete successfully in this segment. Creating international alliances with other important railway operators in Europe would be a good method by which to consolidate the important transit flows of freight on Corridor X in Croatia.

49. **Creating better conditions under which to compete in the open transport market is paramount.** After EU accession, HŽ Cargo will have to compete against other rail freight operators that will be focusing on attracting the company's customers, especially those for whom rail offers the greatest competitive advantage. In this context, private operators in particular are generally more flexible than State-owned railways—with less structure costs, and a greater capacity to make rapid decisions and adapt to market needs. Another source of competition is a highly decentralized, deregulated and entrepreneurial road freight haulage industry that faces minimal constraints on entry, movement, management or pricing. If HŽ Cargo does not quickly adapt its business practices, private freight operators and road freight transport may take all of the most profitable freight business in Croatia and leave HŽ Cargo with the least profitable or unprofitable segments. This future competition combined with the prohibition of State aid to railway freight in the EU context may put HŽ Cargo in serious financial difficulties.

50. **Therefore, the potential privatization of HŽ Cargo would normally represent the best solution to ensure its survival.** However, this would be a complex task and would require preparation that could take at least 12-18 months—unless there is an extremely well-prepared process supported at the highest political level. Preparatory actions would include legal, regulatory, financial and technical due diligence to privatize freight services, clarify all property issues, develop appropriate financial models to assess the profitability of HŽ Cargo under various scenarios of competition and traffic levels, staffing and other operating costs, investments, or exclusivity periods.

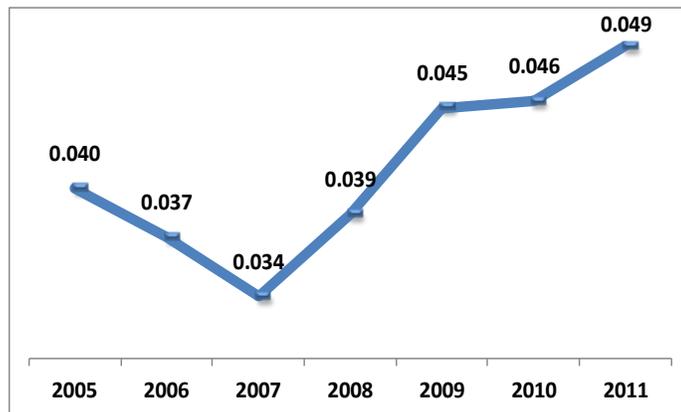
51. **There has been a lack of significant progress to improve the operational performance of HŽ Cargo, as reflected by increasing unit costs<sup>20</sup> since 2007 (Figure 15).** Under these conditions, HŽ Cargo achieved a viability ratio of 106% (Figure 16), illustrating its ability to cover costs from operating revenues without State support. The main challenge after the EU accession will be to achieve a level of viability ratio that would allow for the replacement of life-expired assets (mainly wagons and locomotives) in addition to financing operating costs. *The enhancement of the financial performance of HŽ Cargo could be based on a precise set of actions, such as:*

- a) *Transferring part of HŽ Traction's locomotives, staff, and assets to its own administration for better cost control;*
- b) *Resizing the staff, and the locomotive and wagon fleets to mirror market needs and achieve better productivities.*

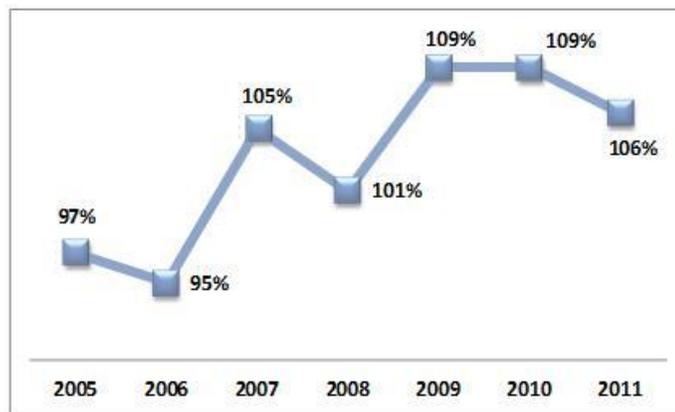
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<sup>20</sup> Unit cost = average operating cost for transporting one ton-km.

**Figure 15: HŽ Cargo Average Unit Operating Cost Including Depreciation (Eurocents)**



**Figure 16: HŽ Cargo Viability Ratio**



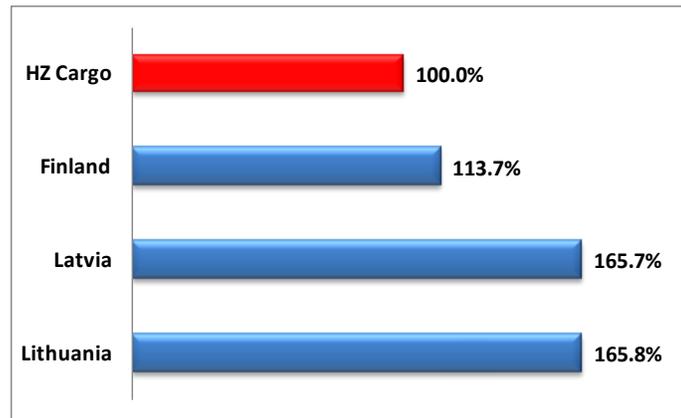
*Source: HŽ Holding, WB calculations*

52. In the past several years, the labor productivity of HŽ Cargo has fallen (Figure 17 and 18<sup>21</sup>). The current staff productivity of slightly below 1 million ton-km per staff is a good figure for a freight operator preponderantly oriented toward domestic traffic. For HŽ Cargo, whose business is mainly focused on transit and international traffic, the productivity must be higher in order to successfully compete for more traffic. Since operation of transit traffic is considerably cheaper than operation of domestic traffic, the productivity of staff must be higher to preserve the current market. The benchmarking shows that HŽ Cargo could be more competitive if it improves labor productivity by at least 20-30%. The current labor productivity of HŽ Cargo is similar to that of Finland. However, Lithuania and Latvia, countries that are transit on corridors similar to Croatia, have 65% higher labor productivities than HŽ Cargo<sup>22</sup>.

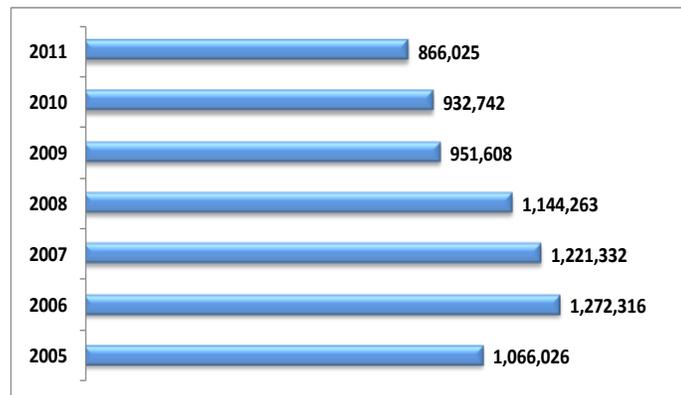
<sup>21</sup> For the calculation of labor productivity, the staff of HŽ Cargo was raised by adding 30% of the staff of HŽ Traction (considering that freight trains represent about 26% of the total volume of train-km operated annually in Croatia).

<sup>22</sup> Latvia, Finland, and Lithuania do not provide statistical data for each line of business. The labor productivity is calculated by dividing the volume of ton-km by the total staff number (including freight, passenger, and infrastructure activities). It makes the productivity increase target at HŽ Cargo even more relevant.

**Figure 17: HŽ Cargo Labor Productivity, 2011**  
Basis: Croatia = 100%



**Figure 18: HŽ Cargo Labor Productivity (traffic units/staff)**

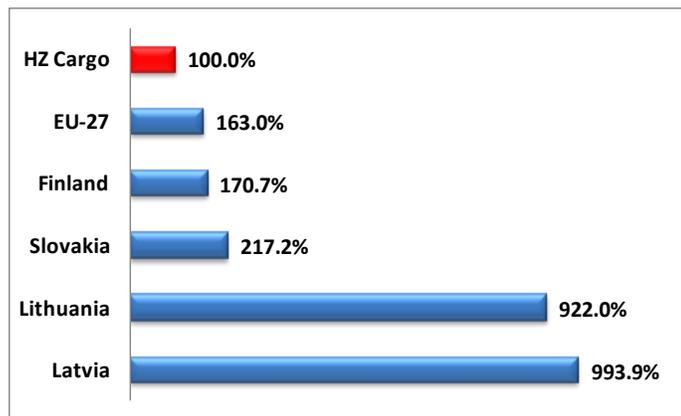


*Source: HŽ Holding, Eurostat, WB calculations*

53. **Traffic intensity preconditions the utilization of assets (wagons and locomotives).** Low annual traffic volumes pose a major problem for HŽ Cargo, because they lead to a deterioration of the company's operational performance. Compared to the railways selected for benchmarking, HŽ Cargo transports significantly less ton-km—considering the length of the railway network it uses for its operations. The traffic intensity realized in 2011 was 60% lower than the average EU-27 traffic intensity; transit railways (i.e., Slovakia, Latvia, Lithuania) realized up to nine times higher traffic intensities than HŽ Cargo (

Figure 19). This indicator raises the problem of evaluating the size of the railway network open for freight traffic in Croatia—especially in secondary lines with a low volume of traffic and high operating costs. Nevertheless, attracting more traffic along Corridor X in cooperation with the neighboring railways is paramount to improve HŽ Cargo’s financial strength.

**Figure 19: HŽ Cargo Traffic Intensity Compared to the EU, 2011**  
Basis: Croatia = 100%



Source: HŽ Holding, Eurostat, WB calculations

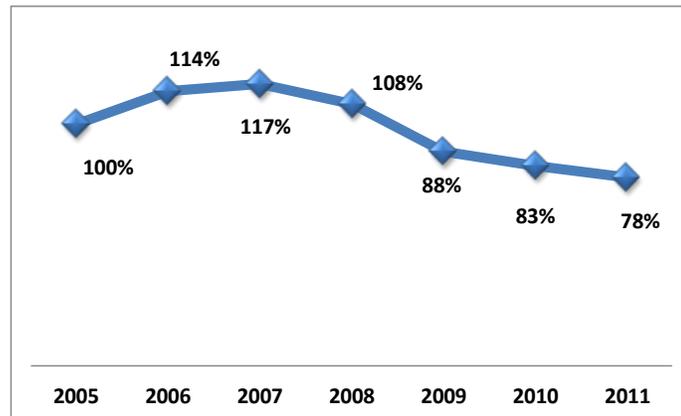
54. **The evolution of wagon productivity since 2005—measured in volume of freight traffic units transported annually by one car—is another worrying indicator in terms of the competitiveness of HŽ Cargo** (Figure 20). Following the economic crisis, reduced transport volumes had adverse effects on productivity: in 2011, HŽ Cargo achieved 78% of the wagon productivity it realized in 2005. With about a half million ton-km transported annually per wagon, HŽ Cargo is below the EU-27 average, and superior only to Slovakia in the list of selected railways for benchmarking (Figure 21). Considering the traffic structure (53% of traffic in 2011 was transit and import, which did not require utilization of the wagon fleet of HŽ Cargo<sup>23</sup>), wagon productivity is considerably low, and has a detrimental impact on the company’s operating costs. Traffic forecasts do not assume significant volume increases over the next five years. Therefore, HŽ Cargo is looking at one of the following two scenarios: (i) operating with a wagon surplus, which would mean that the fleet would have to be decreased in order to achieve higher productivity and lower operating costs; or (ii) operating with a very low availability of the wagon fleet, which would impose a larger number of wagons for operation and require that the fleet be modernized in order to increase availability.

55. **The low locomotive productivity has a serious negative impact on operating costs.** The efficiency of utilization of the locomotives was addressed earlier—in the paragraph regarding the disadvantages of the existence of HŽ Traction (see chapter E4 of the Note). Considering the current locomotive fleet—shared between HŽ Cargo and HŽ Passenger Transport—the following analysis is equally relevant to operational performance in both companies. Compared with the productivities of other EU railways, HŽ Cargo and HŽ Passenger Transport would need a 50% increase in locomotive productivity to achieve the average EU-27 productivity. Given that the traction costs represent 35-45% of the total operating costs of HŽ Cargo and HŽ Passenger Transport, addressing this issue is extremely important.

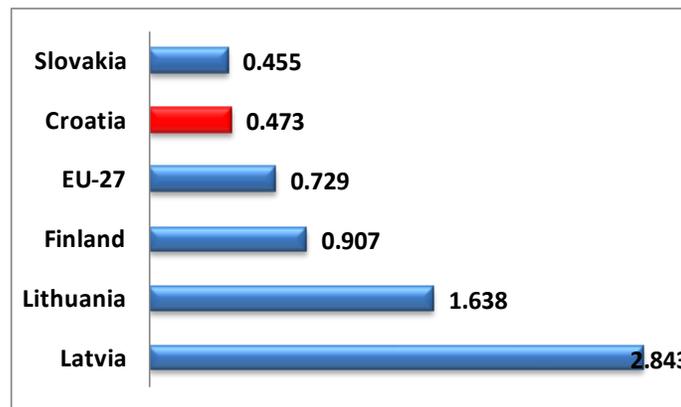
<sup>23</sup> Transit traffic in Croatia means mainly flows of freight between Western Europe and Turkey; this traffic is operated in wagons owned by German or other Western railways. The major cost of HŽ Cargo on this traffic is allocation of locomotives to pull trains between the two border stations. Rough estimates show that for 45% of traffic (transit traffic) HŽ Cargo does not need wagons.

**Figure 20: Evolution of Wagon Productivity**

Year 2005 = 100%



**Figure 21: Wagon Productivity Benchmark, 2011 (million ton-km per wagon)**



*Source: HŽ Holding, Eurostat, WB calculations*

56. **Concrete cost reduction measures are necessary for HŽ Cargo to achieve a balanced financial position.** These measures should be focused on improving the viability ratio, because over the past several years the company has managed only to cover operating costs without State support (Table 6). Considering a similar level of traffic and of operating costs as in 2011, the forecasted viability ratio of 95% in 2012 is not sufficient. This is mainly due to increased TACs (a 170% increase compared to 2011) that HŽ Cargo has started to pay beginning in 2012, and a complete cut of State support to the company. The cost cutting solutions are to be identified in staff resizing, but mostly tuning of fleet with traffic needs, and better operating practices. Concrete suggestions for cutting costs at HŽ Cargo are presented in Chapter I of the Note.

**Table 6: HŽ Cargo Income Statement, 2005-2012**

| INDICATORS   |                                   | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | Plan 2012      |
|--|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|----------------|
| <b>Number of staff (on December 31)</b>                        |                                   | 2,294   | 2,212   | 2,549   | 2,509   | 2,397   | 2,309   | 2,308   | 2,470          |
| <b>Net-tons (mil)</b>  | Domestic                          | 3.3     | 3.5     | 3       | 3.1     | 2.8     | 2.4     | 2.5     | 2.3            |
|  | Import                            | 2.4     | 2.6     | 2.5     | 2.3     | 1.4     | 1.2     | 1.1     | 1.0            |
|  | Export                            | 2       | 2.4     | 2.5     | 2.2     | 2.1     | 2       | 2       | 1.7            |
|  | Transit                           | 8.1     | 8.5     | 9.2     | 8.6     | 6.4     | 7       | 6.5     | 6              |
|  | Total international               | 12.5    | 13.5    | 14.2    | 13.1    | 9.9     | 10.2    | 9.6     | 8.7            |
| <b>Net-ton-km (mil)</b>  | Domestic                          | 749     | 825.7   | 763.2   | 783.1   | 723     | 683     | 654     | 624            |
|  | Import                            | 589.6   | 691.5   | 736.0   | 687.1   | 356.0   | 333.0   | 288.0   | 266.0          |
|  | Export                            | 480.2   | 592.2   | 622.1   | 541.8   | 578.0   | 542.0   | 522.0   | 467.0          |
|  | Transit                           | 1,287.6 | 1,493.8 | 1,749.1 | 1,568.4 | 1,214.0 | 1,174.0 | 1,057.0 | 1,013.0        |
|  | Total international               | 2,357.4 | 2,777.5 | 3,107.2 | 2,797.3 | 2,148.0 | 2,049.0 | 1,867.0 | 1,776.0        |
| <b>Train-km (mil)</b>  | Domestic                          | 5.8     | 6.3     | 6.0     | ...     | ...     | 5       | 4.4     | 4.4            |
|  | International                     | 1.9     | 2       | 2.3     | ...     | ...     | 1.8     | 1.8     | 1.8            |
|  | Total                             | 7.7     | 8.3     | 8.3     | 8.1     | 6.8     | 6.8     | 6.2     | 6.2            |
| <b>Revenue (mil)</b>   | Freight transport revenue         | 641.4   | 723.98  | 763.8   | 770.0   | 630.1   | 616.7   | 623.7   | 623.7          |
|  | Public Service Contracts          | 5       | 5       | 15      | 14.0    | 44.0    | 30.0    | 37.5    | 1.0            |
|  | Other revenue                     | 249.1   | 207.7   | 174.8   | 176.7   | 319.6   | 293.8   | 281.0   | 281.0          |
|  | Charges from the HŽ Passenger     |         |         | 53      | 48.1    | 45.5    | 45.4    | 35.4    | 35.4           |
|  | Total operating revenue           | 895.5   | 936.7   | 1,006.6 | 1,008.8 | 1,039.2 | 985.9   | 977.6   | 926.4          |
|  | Other State contribution          | 139.4   | 153.1   | 21.7    | 4.6     | 11.0    | 21.4    | 1.4     |                |
| <b>Expenses (mil)</b>  | Materials                         | 17.0    | 16.7    | 8.5     | 11.6    | 10.8    | 4.2     | 6.1     | 6.1            |
|  | Fuel, Electricity                 | 146.7   | 164.3   | 1.6     | 2.2     | 1.7     | 2.0     | 2.0     | 2.0            |
|  | Wages and salaries                | 441.6   | 443.1   | 271.5   | 306.0   | 290.2   | 274.6   | 272.7   | 272.7          |
|  | Charges paid to HŽ Infrastructure |         |         | 8.0     | 40.0    | 45.4    | 42.6    | 57.0    | <b>109.2</b>   |
|  | Charges paid to HŽ Traction       |         |         | 444.3   | 441.0   | 372.3   | 371.5   | 354.1   | 354.1          |
|  | Charges paid to HŽ Holding        |         |         | 8.8     | 8.1     | 8.1     | 8.1     | 7.5     | 7.5            |
|  | Charges paid to IT                |         |         | 3.7     | 3.7     | 2.5     | 5.2     | 6.3     | 6.3            |
|  | Hired servicers and others        | 227.5   | 256.2   | 138.9   | 106.8   | 66.4    | 40.0    | 50.9    | 50.9           |
|  | Depreciation                      | 93.3    | 105.9   | 74.2    | 82.5    | 154.7   | 159.2   | 168.2   | 168.2          |
|  | Total operating expenses          | 926.1   | 986.2   | 959.5   | 1,001.9 | 952.1   | 907.4   | 924.8   | <b>977.0</b>   |
|  | Non-operating expenses            | 251.0   | 211.0   | 68.7    | 74.3    | 97.5    | 99.1    | 53.9    | 53.9           |
|  | Total expenses                    | 1,177.1 | 1,197.2 | 1,028.2 | 1,076.2 | 1,049.6 | 1,006.5 | 978.7   | <b>1,030.9</b> |
| <b>State contribution for investments</b>                      |                                   | 40.0    | 99.6    | 78.0    | 128.0   | 98.3    | 60.0    | 62.0    | 10.0           |
| <b>Total State contribution (operations &amp; investments)</b> |                                   | 179.4   | 252.7   | 99.7    | 132.6   | 109.3   | 81.4    | 62.0    | 11.0           |
| <b>Viability ratio</b>   |                                   | 112%    | 111%    | 107%    | 101%    | 110%    | 111%    | 106%    | <b>95%</b>     |
| <b>Cost recovery ratio</b>                                     |                                   | 96%     | 94%     | 103%    | 99%     | 105%    | 105%    | 102%    | <b>95%</b>     |

Source: HŽ Holding, WB calculations

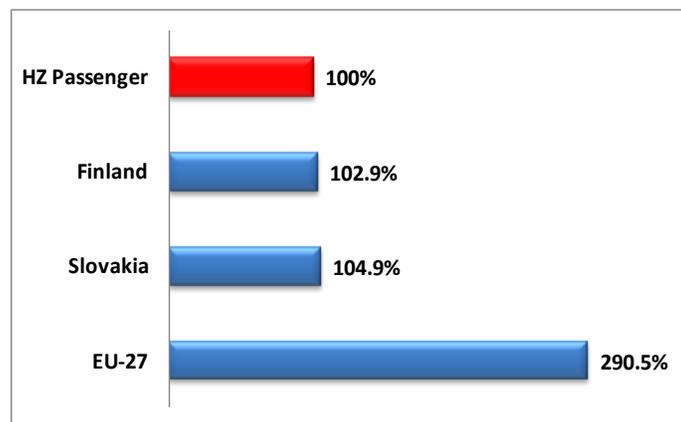
### F.3. Assessment of HŽ Passenger Transport Performance

57. **HŽ Passenger Transport is an important player in the Croatian transport market, accounting for over 20% of Croatia’s total passenger transport.** It operates in accordance with EU regulations, based on annual PSCs signed with public authorities for passenger transport service provision. Upon EU accession, HŽ Passenger Transport will not be exposed to additional market pressure in most domestic segments—but it will need to maintain its role and market share compared to other modes. The company should focus on drastic improvement in the quality of service—which is generally perceived as low. The annual State contribution for PSCs is rather significant in sustaining the operating costs and the investments (it was about 49% of total costs in 2011—both the cost of traction and the cost of infrastructure are de facto subsidized). Therefore, it is important for HŽ Passenger Transport to improve its operational performance with a view toward reducing State subsidies.

58. **The average European passenger traffic intensity is three times higher than that of Croatia, whereas the railway network for passenger traffic is comparable in size to the railways selected for benchmarking (Figure 22).** This fact consolidates the findings concerning the traffic intensity presented previously in the Note. Low passenger traffic intensity—together with weak freight traffic intensity—clearly signals that the HŽ Companies should either find ways to attract more traffic, or that the size of the network should be reviewed.

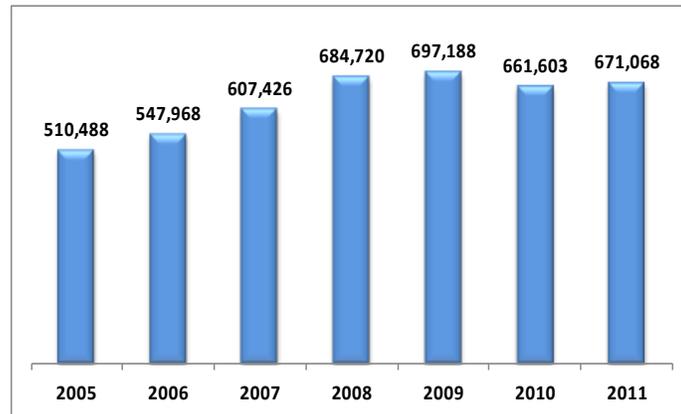
59. Since 2005, the labor productivity<sup>24</sup> of HŽ Passenger Transport has surged by 31%, making it nominally higher than the EU-27 average or comparable railways. Latvia and Lithuania are not included in the chart, because they are mostly freight railways with insignificant volumes of passenger traffic (Figures 23 and 24).

**Figure 22: HŽ Passenger Transport Traffic Intensity, 2011 (passenger-km/km of track)**  
Basis: Croatia = 100%

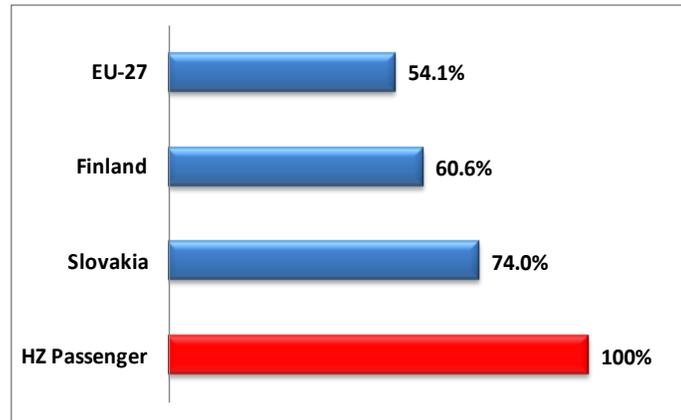


<sup>24</sup> For the calculation of labor productivity, the staff of HŽ Passenger Transport was raised by adding 70% of the staff of HŽ Traction (considering that passenger trains represent about 74% of the total volume of train-km operated annually in Croatia). The restructuring plan of HŽ implies a lower share of staff and assets from HŽ Traction to be passed on to HŽ Passenger Transport, and would imply a higher productivity after the plan is implemented in the years to come.

**Figure 23: HŽ Passenger Transport Labor Productivity (traffic units/staff)**



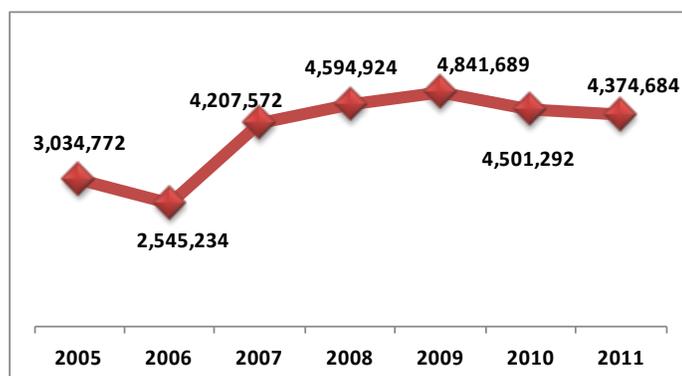
**Figure 24: HŽ Passenger Transport Labor Productivity Benchmark, 2011**  
Basis: Croatia = 100%



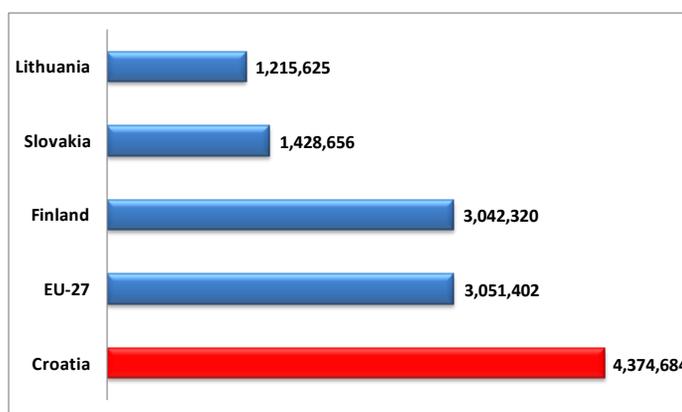
*Source: HŽ Holding, Eurostat, WB calculations*

60. **The productivity of the passenger coaches is a sign of good fleet utilization.** In spite of the negative impact of the global crisis, HŽ Passenger Transport has maintained good productivity since 2005. The productivity decreased slightly after 2009, but not to the extent that it affected the company's performance (Figure 25). Compared to the railways selected for benchmarking, HŽ Passenger Transport has accomplished significantly better productivity of coaches: 40% higher than the EU-27 average (Figure 26). These results indicate that HŽ Passenger Transport is capable of very good assets utilization, and that the current dimension of the coach fleet is appropriate for the existing level of traffic. In order to continue operating transport services in Croatia's railway network, the main objective of HŽ Passenger Transport should be to preserve the existing transport capacity by timely replacement of assets that are obsolete.

**Figure 25: Evolution of Coach Productivity**



**Figure 26: Coach Productivity Benchmark, 2011 (passenger-km/coach per year)**



Source: HŽ Holding, Eurostat, WB calculations

61. **The financial results of HŽ Passenger Transport point toward potential future risks** (Table 7). In 2012, HŽ Passenger Transport will be facing two major challenges: (i) higher TACs, and (ii) revised traction costs. During the past several years, HŽ Passenger Transport has enjoyed an advantage similar to HŽ Cargo, in having the price correction coefficient ( $K < 1$ ) incorporated into the TAC calculation. This has allowed HŽ Passenger Transport to pay a low tariff for using the railway network. With a viability ratio of 100% achieved in 2011, strict cost control becomes the main concern for HŽ Passenger Transport for 2012. An increase in TACs by about 272% in 2012, and by an additional 12% in 2013, would seriously impact the company's financial situation<sup>25</sup>. The company should assess as soon as possible how much of a tariff increase the market can bear, and develop a program to operate services without financial losses in light of the increased charges. Considering the same level of traffic as in 2011 (which is unlikely to happen as tariffs are substantially increased), and the same operating costs, the predicted viability ratio for 2012 would be only 87%. This illustrates that HŽ Passenger Transport cannot continue to operate with the same costs as in 2011. The company needs to explore the possibilities of cutting costs in operations, cutting some transport services, increasing tariffs, obtaining an increase in the

<sup>25</sup> The paragraph refers to the TAC level that was initially proposed in the Network Statement for 2013. In December 2012, the corrected version of the Network Statement for 2013 was approved with a lower level of TACs for both freight and passenger service providers.

State compensation for contracted services, or a combination of all of these steps. Concrete suggestions for cutting costs at HŽ Passenger Transport are presented in Chapter I of the Note.

**Table 7: HŽ Passenger Transport Income Statement, 2005-2012**

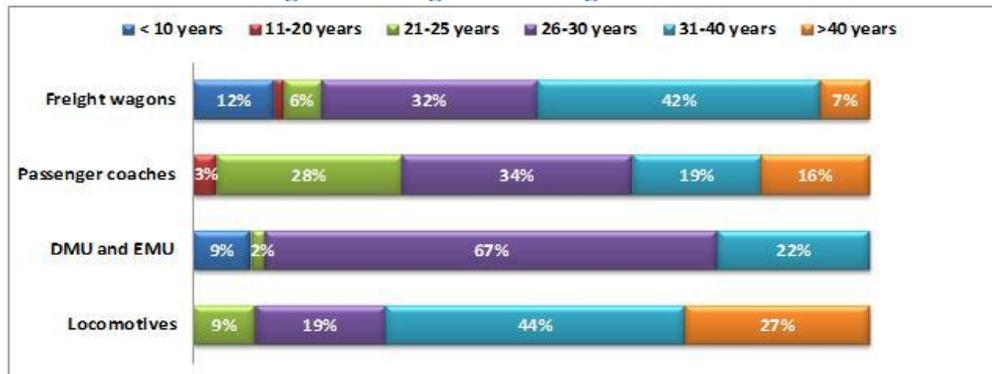
| INDICATORS   |                                   | 2005    | 2006    | 2007  | 2008  | 2009  | 2010  | 2011  | Plan 2012 |
|--|-----------------------------------|---------|---------|-------|-------|-------|-------|-------|-----------|
| <b>Number of staff (on December 31)</b>                        |                                   | 1,033   | 1,039   | 1,207 | 1,198 | 1,186 | 1,187 | 1,129 | 1,153     |
| <b>Passengers (mil)</b>  | Domestic                          | 39      | 45      | 62    | 70    | 73    | 69    | 49    | 49        |
|  | International                     | 1       | 1       | 1     | 1     | 1     | 1     | 1     | 1         |
|  | <b>Total</b>                      | 40      | 46      | 63    | 71    | 74    | 70    | 50    | 50        |
| <b>Passenger-Km (mil)</b>                                      | Domestic                          | 1,161   | 1,257   | 1,508 | 1,703 | 1,745 | 1,660 | 1,486 | 1,486     |
|  | International                     | 105     | 105     | 103   | 108   | 90    | 82    | 81    | 81        |
|  | <b>Total</b>                      | 1,266   | 1,362   | 1,612 | 1,810 | 1,835 | 1,742 | 1,728 | 1,728     |
| <b>Train-km (mil)*</b>   | Domestic                          | 16.9    | 17.7    | ...   | ...   | ...   | 17.6  | 16.9  | 16.9      |
|  | International                     | 1.5     | 1.6     | ...   | ...   | ...   | 1.4   | 1.6   | 1.6       |
|  | <b>Total</b>                      | 18.4    | 19.3    | 19.0  | 19.2  | 19.3  | 19.0  | 18.5  | 18.5      |
| <b>Revenue (mil)</b>   | Passenger transport revenue       | 310.4   | 336.3   | 370.5 | 390.7 | 384.7 | 374.4 | 394.6 | 394.6     |
|  | Other commercial revenue          | 179.2   | 130.2   | 90.2  | 107.8 | 134.2 | 118.0 | 160.5 | 160.5     |
|  | <b>Total operating revenue</b>    | 489.6   | 466.5   | 460.7 | 498.5 | 518.9 | 492.4 | 494.5 | 494.5     |
|  | Public Service Contracts          | 493.3   | 413.9   | 402.0 | 400.0 | 370.0 | 347.5 | 360.0 | 350.6     |
|  | Other State contribution          | 154.2   | 168.3   | 11.7  | 6.4   | 8.2   | 6.2   | 1.8   |           |
| <b>Expenses (mil)</b>  | Materials                         | 9.9     | 9.0     | 3.0   | 3.4   | 4.5   | 3.9   | 11.3  | 11.3      |
|  | Fuel, Electricity                 | 128.9   | 137.3   | 5.5   | 1.2   | 0.8   | 0.8   | 1.0   | 1.0       |
|  | Wages and salaries                | 353.3   | 335.0   | 130.1 | 149.7 | 143.7 | 143.1 | 143.1 | 143.1     |
|  | Charges paid to HŽ Infrastructure |         |         | 8.0   | 39.8  | 59.0  | 52.6  | 68.8  | 187.2     |
|  | Charges paid to HŽ Traction       |         |         | 416.0 | 416.0 | 402.8 | 396.5 | 375.0 | 375.0     |
|  | Charges paid to HŽ Cargo          |         |         | 53.0  | 48.0  | 45.5  | 45.0  | 35.0  | 35.0      |
|  | Charges paid to Holding           |         |         | 4.3   | 3.9   | 3.9   | 3.8   | 3.9   | 3.9       |
|  | Charges paid to IT                |         |         | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5       |
|  | Hired servicers and others        | 313.4   | 312.6   | 140.0 | 126.8 | 115.6 | 107.4 | 97.1  | 97.1      |
|  | Depreciation                      | 111.8   | 115.6   | 59.7  | 69.7  | 104.0 | 107.5 | 109.5 | 109.5     |
|  | <b>Total operating expenses</b>   | 917.3   | 909.5   | 823.1 | 862.0 | 883.3 | 864.1 | 851.9 | 970.3     |
|  | Non-operating expenses            | 219.8   | 174.2   | 50.8  | 42.5  | 29.6  | 27.5  | 35.6  | 35.6      |
|  | <b>Total expenses</b>             | 1,137.1 | 1,083.7 | 873.9 | 904.5 | 912.9 | 891.6 | 887.5 | 1,005.9   |
| <b>State contribution for investments</b>                      |                                   | 87.0    | 152.0   | 141.1 | 109.0 | 33.3  | 92.8  | 54.0  | 13.0      |
| <b>Total State contribution (operations &amp; investments)</b> |                                   | 734.5   | 734.2   | 554.8 | 515.4 | 411.5 | 446.5 | 415.8 | 363.6     |
| <b>Viability ratio</b>   |                                   | 124%    | 115%    | 106%  | 105%  | 102%  | 98%   | 101%  | 87%       |
| <b>Cost recovery ratio</b>                                     |                                   | 53%     | 51%     | 56%   | 58%   | 59%   | 57%   | 58%   | 51%       |
| <b>Cost recovery ratio (including PSC)</b>                     |                                   | 107%    | 97%     | 105%  | 104%  | 101%  | 97%   | 100%  | 87%       |

Source: HŽ Holding, WB calculations

## G. THE INVESTMENT CAPACITY OF HŽ HOLDING COMPANIES

62. **The HŽ Companies urgently need to engage in assets modernization.** Most of the railway infrastructure components—and both passenger and freight rolling stock—are more than 30 years old, or in poor technical condition. This is partly due to war damage, but more a product of negligible investment and insufficient maintenance during the past two decades (Figure 27 and Figure 28). The integration of the Croatian railway network into the seamless European railway network will require large investments to gradually achieve the same quality and safety standards. The main issue is not the age of the assets (many other European railways face the same problem), but the capacity of the railway companies to invest in replacement of obsolete assets. The modernization of infrastructure will be financed by combining EU grants and the State budget, but rolling stock modernization remains a responsibility of the operators. It will be very challenging for the HŽ Companies to finance rolling stock investments from their own resources—particularly for HŽ Cargo, which will no longer receive State subsidies. It is also important to bare in mind that the majority of EU funds for infrastructure investments will be limited to segments of TEN-T Corridors. Therefore, the modernization of any other railway lines important for domestic traffic will have to be covered by the internal resources of the Croatian Government—and ideally, HŽ Infrastructure should also finance its own capital investments in maintenance equipment if it wants to modernize and automate that equipment.

**Figure 27: Age of Rolling Stock Fleet**



**Figure 28: Age of Infrastructure Assets**



Source: HŽ Holding

63. **Estimates of investment needs for the modernization and renewal of the rolling stock fleet.** In order to maintain a good quality of service and introduce new types of services for freight and passengers, HŽ Cargo and HŽ Passenger Transport must be able to rehabilitate and renew the rolling stock in operation. Table 8 presents a conservative scenario of necessary investments, with the following hypotheses: (i) a life cycle of 40 years for coaches and wagons (very conservative, especially for maintaining good quality services for passengers); (ii) each unit to be modernized after 20 years of operation for another 20 years of operation; (iii) new rolling stock acquisition after 40 years of operation of the existing fleet. Based on these assumptions and the unit costs for modernization or acquisition of new assets received from HŽ Holding, the Croatian Railways would need to invest about EUR 74 million (HRK 555.4 million) annually into the rolling stock. HŽ Cargo would have to allocate HRK 222 million (EUR 29.6 million), and HŽ Passenger Transport HRK 333 million (EUR 44.5 million) annually for the modernization and/or replacement of their fleets (locomotives and wagons of coaches). These amounts would be necessary for maintaining the current level of business—they would not be sufficient to develop new business. However, important savings in investment needs may be achieved by increasing the rolling stock productivity (freight wagons and locomotives).

**Table 8: Investment Estimates for Rolling Stock**

| Type of rolling stock            | Units | Life cycle (years) | Average unit cost modernization [Euro] | Average unit cost acquisition [Euro] | Average annual                       |                               |                             |
|----------------------------------|-------|--------------------|--|--------------------------------------|--------------------------------------|-------------------------------|-----------------------------|
|                                  |       |                    |  |                                      | 50% modernized assets after 20 years | 50% new assets after 40 years | Necessary investment [Euro] |
| Freight wagons                   | 6,062 | 20                 | 14,565                                 | 87,995                               | 152                                  | 152                           | 15,542,968                  |
| Passenger coaches                | 300   | 20                 | 450,000                                | 1,800,000                            | 8                                    | 8                             | 16,875,000                  |
| Multiple unit sets               | 94    | 20                 | 1,000,000                              | 4,750,000                            | 2                                    | 2                             | 13,512,500                  |
| Locomotives                      | 250   | 20                 | 750,000                                | 3,750,000                            | 6                                    | 6                             | 28,125,000                  |
| <b>TOTAL EUR</b>                 |       |                    |  |                                      |                                      |                               | <b>74,055,468</b>           |
| <b>TOTAL HRK (1 € = 7.5 HRK)</b> |       |                    |  |                                      |                                      |                               | <b>555,416,010</b>          |

Source: HŽ Holding, WB calculations

64. Table 9 presents rough estimates of the average annual investment needs in Croatia's railway infrastructure. This calculation was developed only to preserve the existing transport capacity (general overhaul of the track and of the related systems), considering a 30-50 years life cycle of infrastructure components. The estimates are based on the existent unit costs for different railway infrastructure investments received from HŽ Holding. According to data presented in Table 9, HŽ Infrastructure should invest at least HRK 425 million (EUR 56.5 million) annually to maintain the current transport capacity. This does not include modernization and extension of transport capacity by doubling lines, increasing the maximum speed, or constructing new lines. However, the Government's position on the appropriate size of the network may diminish the annual rehabilitation investment needs—and probably in the short-term, an assessment of the sections that require a more or less

immediate rehabilitation of the core network to keep the main corridors in operation should be done to reduce this figure.

**Table 9: Investment Estimates for Infrastructure**

| Element of infrastructure   | Total length /<br>Number of units | Lifecycle<br>(years) | Annual<br>investment<br>[Euro] |
|---|-----------------------------------|----------------------|--------------------------------|
| <b>Total number of km of railway lines on the network</b>               | 2,722                             | 50                   | 43,552,000                     |
| <b>Total number of km of electrified lines (AC and DC)</b>              | 1,821                             | 40                   | 5,463,000                      |
| <b>Total number of km of lines equipped with automatic block system</b> | 652                               | 30                   | 2,173,333                      |
| <b>Total number of electric sub-stations for traction</b>               | 23                                | 30                   | 3,833,333                      |
| <b>Total number of relay interlocking systems on the network</b>        | 115                               | 30                   | 1,533,333                      |
| <b>TOTAL EUR</b>  |                                   |                      | <b>56,555,000</b>              |
| <b>TOTAL MILLION HRK (1 € = 7.5 HRK)</b>                                |                                   |                      | <b>424,162,500</b>             |

Source: HŽ Holding, WB calculations

65. **Needs will be exceeding resources for the foreseeable future.** The calculations above indicate an annual need of more than 900 million HRK of investments to maintain the network as is. This amount should theoretically be complemented by the necessary funds to eliminate—over the next 7-10 years—the large backlog of investments from the past several years. Failure to act on both counts would have a significant negative impact on maintaining or further developing the railway transport market share in Croatia. In the current situation, public funds cannot sustain such a large volume of investment for the next 10-15 years. The private sector may help in reducing the burden of investments in rolling stock, but the European experience shows a limited interest of the private sector in investing in infrastructure (due to a very long-term return on investment, strict regulations for operations and safety standards, unpredictability of the market, etc.). In the context of the EU accession, it is also de facto mandatory to orient most of the investment program railways towards EU Structural Funds—which are likely to concentrate only on Corridors X and Vb, and require a budget allocation of several hundred million HRK.

66. **There is a need to promote a wise investment policy in the railway sector.** It is critical for the Government to approach these investment needs in an organized way. This requires the immediate elaboration of a comprehensive strategic multimodal transport plan—as the basis for the OP Transport in accordance with the EU funding—for the 2014-2020 EU financing period. Ex ante conditionalities of the European Commission for the financing period also require that the Government make an assessment of how the system proposed can be sustained from a financial standpoint. Given the resources available in the current context, this would require: (i) a lessening of the financial needs of operating subsidies to make room for investment (hence, the cost cutting measures proposed in the following sections); (ii) a realistic expectation of the timing of investment programs for the largest operations; and (iii) a clarification of the Government’s position on the appropriate size of the network to ensure that resources are concentrated on a network with enough traffic density. This would require detailed and neutral studies of traffic and needs—and, in isolated areas, linking the closing of lines with alternative transport solutions.

67. **There is a need to ensure that the investment program is managed professionally.** Based on the experience of the most recent EU member states and of the implementation of pre-accession funds, a major challenge for the Government and HŽ Infrastructure will be to put in place a professional team for the preparation, contracting, and monitoring of the major investment projects—which will be several times larger than what the system has managed over previous years—to avoid having railways continue to be a slow disburser and user of EU funds<sup>26</sup>.

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<sup>26</sup> According to a Report from the European Court of Auditors (Special Report No 14/2011 – Has EU assistance improved Croatia’s capacity to manage post accession funding?), under IPA-IIIa 2007-09, only 20% of the budget has been contracted, and 4% disbursed for railway projects. These figures illustrate the urgent need to improve the institutional capacity of developing and implementing projects financed by EU funds in Croatia.

## H. THE RESTRUCTURING PLAN PROMOTED BY HŽ HOLDING (JUNE 2012)

68. **The Restructuring Plan included the reorganization of HŽ Holding as suggested by the World Bank Team.** The Restructuring Plan for HŽ Holding, which was prepared by HŽ Holding itself, was adopted by HŽ Holding's Assembly (headed by the Minister of Transport) on June 30, 2012. The most important outcome of this program was the dissolution of the railway holding into three independent companies: HŽ Infrastructure, HŽ Cargo, and HŽ Passenger Transport. For each company, the Restructuring Plan outlined a detailed program that was to be implemented over the period of 2012-2016. In addition to the analysis of current business, it laid out strategic goals, and an assessment of infrastructure and human resources, investment needs, and financial plans. The most significant changes for each company were the following:

- a) **HŽ Holding:** The railway holding ceased to exist in November 2012, after all of the individual companies had initiated activities according to their restructuring programs. Until then, HŽ Holding had served as a coordinating body to ensure a smooth transition to the new organizational structure. Its business shares, as well as most of its 114 employees, were reallocated between the three new independent HŽ Companies, most of them going to HŽ Infrastructure.
- b) **HŽ Infrastructure:** HŽ Infrastructure became an independent State company in charge of the management of railway infrastructure. Its strategic goal was the overall modernization of railway infrastructure through an ambitious series of investments that would in total require HRK 17.6 billion<sup>27</sup> over the period of 2012-2016. By 2017, HŽ Infrastructure planned to grow its share of revenues from TACs by 22% as compared to 2012<sup>28</sup>, and to increase its operated freight train-km by 24%; it expected that its passenger train-km would decline slightly over the same period. Additional revenue of around HRK 684 million was to be created through the sale and lease of real-estate assets, and by providing secondary services. During the same period, the number of employees was to be reduced by 21% and retrenchment costs covered by the State—although such funds have not yet been envisaged in the State budget. The direct effect of the restructuring would be an increase in total annual revenues to HRK 1.6 billion by 2016, while maintaining a steady level of expenses. The total revenues would also include a State contribution to railway infrastructure—which would be increased from HRK 855 million in 2012 to HRK 860 million in 2014, and then held flat until 2016. This would result in a very minor loss in 2016—as in 2013—and would correspond to activities essentially even from a financial standpoint during the period of 2012-2016.

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<sup>27</sup> A total investment need should be financed from several sources, including the State budget, EU funds, commercial loans, and HŽ Infrastructure's own funds.

<sup>28</sup> Revenues from TACs in 2012 assume maintained traffic level for freight and passengers, as well as TAC prices according to the Network Statement 2011/2012. These revenues seem to be inflated, as railway undertakings expect a traffic decrease in 2012 (forecast also in their restructuring plans), while the actual level of TACs paid by HŽ Cargo and HŽ Passenger Transport historically was below the price charged by HŽ Infrastructure and in fine diminished in October 2012.

- c) **HŽ Traction:** The traction company has been dissolved, and its assets and liabilities divided between HŽ Cargo and HŽ Passenger Transport. However, this split has not been even: the cargo company took on the majority of HŽ Traction's liabilities, while receiving only half of the rolling stock and employees. HŽ Cargo and HŽ Passenger Transport have these changes reflected in their Restructuring Plans, and all calculations and projections for the period of 2012-2016 have been made taking into account the agreed upon split of traction.
- d) **HŽ Cargo:** By 2016, HŽ Cargo aims at increasing tariffs by an average of 2.2% annually, decreasing operating costs by an average of 3.6% annually, and signing 5-year business contracts with their clients. The opening of the Croatian railway market to other operators will curtail the market power of HŽ Cargo such that the company can expect about 9% lower revenues in 2016 as compared to 2012. Over this period, the company plans to invest around HRK 2.9 billion—mainly in rolling stock—which is foreseen to directly reduce costs by HRK 113 million. An additional HRK 176.5 million of savings are expected through a staff cutting of 54% over the period of 2012-2016. Funds for retrenchment of approximately HRK 289 million are still to be secured. If the required investments and staff cuts take place, HŽ Cargo expects to reduce its costs by 14.3% and break-even by end 2016. In the absence of such measures, both revenues and costs are likely to decrease substantially, and the company would thus be accumulating losses throughout the restructuring period—finishing 2016 with a net loss of HRK 35.5 million. Given the current state of the economy, the financial position of the cargo company, and an unfavorable market—plus the need for large investments for modernizing the company, the Restructuring Plan also mentions the possibility of privatizing HŽ Cargo prior to Croatia's EU accession.
- e) **HŽ Passenger Transport:** The passenger company set relatively ambitious targets to be achieved through the restructuring process during a 5-year period. These entail an increase in the number of transported passengers by 22%, revenue growth of 23.3%, and a decrease of State subsidies to below 45% of total revenue, along with development of long-term PSC contracts. The program also contains a plan for a series of investment activities—in rolling stock, real-estate assets, logistics centers—and an upgrade of sales channels. Therefore, the overall investment need is estimated at around HRK 4 billion, to be secured solely through the State budget. The 24% staff cut between 2012 and 2016 should be covered by State funds as well. The Restructuring Plan provides three financial scenarios, which test various access charge levels over the medium-term. The most realistic, version II of the proposed financial plans—which assumes TAC levels as defined by HŽ Infrastructure and an active investment strategy—produces a net loss that gradually decreases to HRK 120 million in 2016.
- f) **Subsidiary companies:** The Restructuring Plan also gave an assessment of the portfolio of HŽ Holding subsidiaries. Each subsidiary has been reviewed and proposed for (partial) privatization, liquidation or absorption. The subsidiaries

that are or will be absorbed are fully incorporated into calculations made for the Restructuring Program of each railway undertaking. Detailed information on subsidiaries has not been shared with the World Bank.

69. **Dissolution of HŽ Holding and HŽ Traction.** From an institutional standpoint, several of the key policy decisions that would help turn the former HŽ Holding into viable railway undertakings have been approved. These include dissolution of the railway holding and split of the traction company, accompanying changes in law, improvements in the infrastructure contract (MAIC), elimination of subsidies that breach EU regulations, and an overall decrease in the level of operating subsidies in the companies' operating revenues.

70. **The Restructuring Plan requires very large financial support from the State for investments.** However, the most challenging part of the Restructuring Plan is its financial sustainability. In terms of investment financing, the three companies would in total require around HRK 24.5 billion over the period of 2012-2016<sup>29</sup>. Part of these funds—amounting to nearly HRK 6.3 billion (HRK 1.27 billion annually)—are expected to be secured through the State budget. Given a decreasing trend in the State contribution to railway investments—which in 2010 and 2011 put together amounted to less than HRK 1.1 billion—and the overall reduction in public spending, it remains unclear how some projections have been made. Moreover, a large part of the Restructuring Plan would also require EU Structural Funds influx, out of which at least 15% should constitute an additional counterpart.

71. **The Restructuring Plan would fail to accomplish the important objective of eliminating the financial losses in the railway system.** Ultimately, all three companies would likely make yearly losses under the plan: HŽ Passenger Transport's losses would likely be substantial (over 100 million HRK annually), and—under very optimistic assumptions—HŽ Infrastructure might break even. This situation could jeopardize the capacity of these companies to raise the required commercial loans (more than HRK 10 billion in the case of HŽ Infrastructure: see Table 10), or substantially increase the need for the Government to guarantee these commercial loans.

**Table 10: HŽ Restructuring Plan: Investment Financing Plan for HŽ Infrastructure (in HRK thousands)**

| INVESTMENT SOURCE | PLANNED          |                  |                  |                  |                  | TOTAL PLANNED     |
|-------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
|                   | 2012             | 2013             | 2014             | 2015             | 2016             | 2012-2016         |
| STATE BUDGET      | 170,235          | 120,000          | 170,000          | 410,000          | 596,000          | 1,466,235         |
| EU FUNDS          | 188,639          | 168,000          | 456,000          | 1,815,000        | 2,870,000        | 5,497,639         |
| INVENTORY         | 38,174           | 50,000           | 80,000           | 100,000          | 70,000           | 338,174           |
| OWN SOURCES       | 46,237           | 110,000          | 110,000          | 90,000           | 90,000           | 446,237           |
| LOANS             | 610,120          | 1,151,000        | 2,024,000        | 2,975,000        | 3,138,000        | 9,898,120         |
| <b>TOTAL</b>      | <b>1,053,405</b> | <b>1,599,000</b> | <b>2,840,000</b> | <b>5,390,000</b> | <b>6,764,000</b> | <b>17,646,405</b> |

Source: HŽ Holding

<sup>29</sup> The HŽ Holding investment agenda of around HRK 24.5 billion for 2012-2016 is comprised of several financing sources, including HRK 6.3 billion of State budget funds, HRK 6.3 billion of EU funds, and HRK 10 billion to be secured through commercial loans.

72. **The financing of rolling stock for passenger traffic using public funds is a sensitive issue, considering the EU rules.** The EU regulations require railways to operate without subsidies—they only allow the Government to finance the railway infrastructure and PSC contracts (which can include both investment subsidies and operating subsidies). Providing State money outside this framework is characterized as State aid, and needs to be authorized by the EC. In addition to almost HRK 1.4 billion needed for PSC contracts from 2013-2016, HŽ Passenger Transport anticipates receiving HRK 3.6 billion from the State budget for modernization and purchase of rolling stock. The passenger company will have to ensure that these investments are clearly contributing to subsidized services and are not providing benefits to services in competition, such as international passenger services.

73. **The cost of severance payments for staff reduction is assumed to be paid by the State, which will increase the financial burden for the Government.** As a part of the reform process, the staffs of the HŽ Companies should be reduced by more than 35% over the next five years. This measure, which would lower operating expenses and increase operational productivity, has been suggested by the Bank Team throughout the Note. However, covering the cost of severance pay would require between HRK 520-760 million of additional funds. HŽ Passenger Transport is the only HŽ Company that identifies its source of funding (Government); the others imply that this expense should be covered by the Government. The retrenchment cost—an average of HRK 105-150 million annually—would be a significant burden on the State budget, on top of the above mentioned contributions to investment.

74. **Overoptimistic traffic forecasts for passengers have created unrealistic expectations related to projected revenues.** Some trends and forecasts in the Restructuring Plan should also be reassessed. In particular, a 22% increase in the number of transported passengers over the following four years remains optimistic—most European railways have experienced little or no increase in passenger traffic in recent years. This assumption is also not consistent with those of HŽ Infrastructure. The shift of passengers from other means of transportation to railways would require a very strong incentive, such as a significant improvement in the quality of services. This could be achieved through a combination of rolling stock modernization and infrastructure investments, which would facilitate high rolling stock utilization. However, given its reliance on EU funding, it still remains unclear whether the proposed financing scheme allows for such investments to materialize by 2016—and therefore, calls into question the accuracy of the traffic forecast.

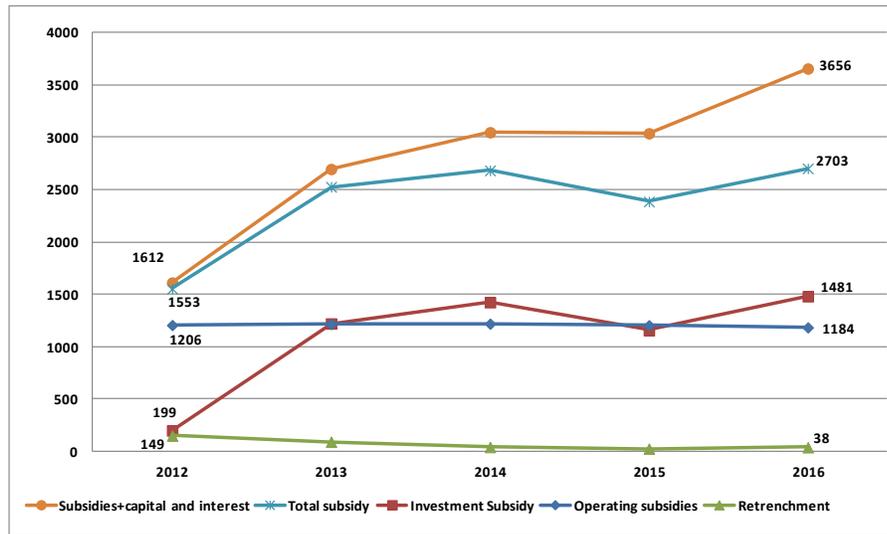
75. **Unrealistic revenue growth forecasts for HŽ Infrastructure reduce the reliability of the Restructuring Plan, and hide additional increases in the State contribution to the railway sector.** Likewise, HRK 75-100 million of annual increases in HŽ Infrastructure's revenues through lease and sale of real estate assets might have been possible if preparatory activities for this measure had started before the approval of the Restructuring Plan. Some delays are expected because of bureaucratic procedures related to long-term leases (all real-estate leases longer than five years need Government approval), and it will be challenging to identify potential buyers and lessees for these assets in the current economic environment.

76. **It is uncertain whether uncorrelated investment projects among the railway companies will be financed by the EU funds.** The Restructuring Plan identifies a number of projects for overhaul, modernization and construction of railway infrastructure. Many of these works have already started, but a number of projects are still in draft form, and will not be proposed for EU financing until a later time. There is a high level of uncertainty about whether these projects will be approved for financing through Structural Funds. Therefore, it is difficult to assess the investment dynamics and corresponding financial needs of HŽ Infrastructure (in many countries there is a more than a 2-year gap between the start of the EU funding period and the investment start itself). Additional issues arise from the fact that the Restructuring Plans of HŽ Cargo and HŽ Passenger Transport, and their accompanying forecasts, are based on the assumption that all infrastructure investments will take place as laid out in those forecasts. However, those forecasts do not correspond to the ones of HŽ Infrastructure for the same time period.

77. **Limited actions for operating cost cutting and Governmental subsidies are proposed.** Moreover, the cost cutting measures are probably not ambitious enough—especially with regard to HŽ Infrastructure, because this company decreases staffing by only slightly more than 20%, while it has one of the lowest EU productivities. There is also no objective to decrease the network on the basis of economic interest, while network concentration should normally improve productivity and reduce costs. Likewise, while some initial measures to cut expensive and less travelled passenger services have been made, they have proven to be very hard to implement and have not been sustained. To date, there is no overall strategy to further strengthen the cost efficiency of PSC expenditures. Furthermore, operating subsidies are not substantially reduced over the proposed period (less than HRK 40 million out of more than HRK 1 billion), while productivity gains should call for a transfer of public resources from operations to investment.

78. **Predictions of an increased State contribution for the railway sector do not conform to the Government’s mandate for better public funds utilization in the railway sector.** The Restructuring Plan is unclear about whether loans taken by HŽ Infrastructure and HŽ Passenger Transport will be subject to reimbursement subsidies from the State—which has been common practice in the past, both for capital and interest. The following graph attempts to simulate the Government’s resulting annual sector contribution under the Plan, assuming the direct financing of HŽ Passenger Transport’s investments, and a contribution to capital reimbursement under the loans taken by HŽ Infrastructure.

**Figure 29: HŽ Restructuring Plan: Level of Public Funds to the Railway Sector Needed during the Period of 2012-2016 (in HRK thousands)**



Source: HŽ Holding

79. **The Restructuring Plan needs to be reassessed within a coordinated approach among the railway companies in order to achieve the financial stability of the railway sector.** In conclusion, the Restructuring Plan went a long way toward securing an efficient institutional setting. However, it was still hampered by an implicit financial sustainability issue, given its dependence on public funds, most likely at a level significantly beyond current funding. The key issues of network and service size still need to be addressed, and even the main social cost cutting measures are not fully in place. As a result, it is highly advisable to complement the intentions of the Plan with deeper reforms both on the structure side (definition of the network and of the service provision) and on the operating cost cutting side.

## I. GOING BEYOND THE RESTRUCTURING PLAN: SETTING TARGETS TO INCREASE OPERATIONAL PERFORMANCE AND ACHIEVE FINANCIAL SUSTAINABILITY

80. **The ultimate goal of the Restructuring Plan should include achieving financial sustainability of the railway system.** All measures proposed in the Note are meant to create an adequate environment for putting in place strong railway companies, capable of competing successfully in the seamless European transport market. To achieve this goal, the HŽ Companies must operate without financial losses—and they must be less dependent on State financial support. The Bank Team has designed a financial model to verify various scenarios by which to achieve the targeted financial performance. The model has been shared with the HŽ Companies and the Government as a useful tool for the assessment of their assumptions of cost cutting and operating performance improvement for various conditions of traffic.

81. **The financial model developed by the World Bank Team cannot be used to verify the Restructuring Plan elaborated by HŽ Holding in June 2012.** The Restructuring Plan presents a set of isolated actions for each railway company without considering the companies' interdependencies and the impact that the actions of one of the companies may have on the financial performance of the others. The precise sources of financing for some of the proposed actions are also missing. Annex 2 of the Note provides, in a more detailed manner, the inconsistencies in the Restructuring Plan that make the mathematical modeling of the Plan impossible.

82. **Scenarios to achieve financial sustainability of the railway system in Croatia.** The Bank Team simulated various solutions to achieve the financial sustainability of the system in the shortest period of time. The Team attempted to find the best compromise between the affordability of allocations of State support and the supportability of cost cutting actions, in an uncertain environment of market forecast. The following paragraphs outline the main results for two potential scenarios. The differences between them are presented in Table 11:

- a. **The Optimistic Scenario:** Based on the findings presented in previous sections, the improvement of the operational and financial performance of the HŽ Companies is a medium-term target, requiring complex actions to cut operating costs. The Team developed a scenario, hereinafter referred to as 'the Optimistic Scenario' or 'the Recommended Scenario', which presents the way to achieve this financial sustainability goal for all holding companies by 2016 at the latest. The targets suggested in the Recommended Scenario most likely represent minimum cost reduction targets needed for this achievement<sup>30</sup>, and have been refined after discussions with the Government. They are organized around three sets of actions: (i) downsizing operating expenses and focusing on network and staff; (ii) introducing sustainable pricing levels for operators

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<sup>30</sup> The proposed cost cutting scenarios have been defined through a financial model of the World Bank, used to verify their impact on the financial performance of each railway company until 2016.

and infrastructure managers; and (iii) reassessing the level of the State contribution, trying to keep it constant or lower in operations.

- b. The Pessimistic Scenario:** An alternative scenario, hereinafter referred to as ‘the Pessimistic Scenario’, is driven by low demand and less ambitious measures. The Team developed this scenario to identify the long-term gap that might arise between the approach suggested in the Note and minimal reforms that could be occurring in a negative environment. The Pessimistic Scenario’s main assumptions are low traffic volumes and fixed pricing policies for both railway undertakings and the infrastructure manager, while network size and staff reduction incorporate the proposals of the Restructuring Plan rather than the stronger actions suggested by the Team. Under those conditions, the HŽ Companies would not achieve financial sustainability—or, at best, they would reach it much later than in the case of the Optimistic Scenario, and at the cost of correcting subsidies or the late addition of bold measures.

**Table 11: Comparison of Main Differences between the Assumptions of the Optimistic and Pessimistic Scenarios**

|                      | Traffic trends   | Tariffs  | TACs   | Staff size   | Network size                        |
|----------------------|--|--|--|--|-------------------------------------|
| OPTIMISTIC SCENARIO  | Traffic level increases in 2016 as compared to 2011: 22% for cargo; 8% for passengers  | Average passenger tariffs increased by 19% as compared to 2011 | Set at the level of Network Statement during 2011-2013 (where it reaches operation cost recovery, after which it is held constant) | WB recommendations (total staff reduction: 48%)    | 350 km network cut during 2012-2016 |
| PESSIMISTIC SCENARIO | Traffic level decreases in 2016 as compared to 2011: 35% for cargo; 15% for passengers | Average tariffs set at 2011 level for each company             | Set at the level of Network Statement in 2011 (lower than operating cost recovery)   | HŽ Restructuring Plan (total staff reduction: 30%) | No change                           |

Source: WB calculations

83. **The Optimistic Scenario, i.e., implementation of a strong reform program would allow for medium-term sustainability.** The Restructuring Plan had as a major goal to transform each of the HŽ Companies into a financially viable business-oriented entity. It is in the interest of all stakeholders to carry out the restructuring in the shortest period of time (i.e., about five years—as proposed by the Bank Team), in order to avoid the adverse impacts of market condition changes, several election cycles, or even stakeholders’ fatigue to sustain the change. Any option that would prolong the implementation of the restructuring measures would essentially be more costly for the Government. Opting for the Pessimistic Scenario would induce further losses and weaken the financial position of the HŽ Companies. To overcome lower revenue and fewer cost cutting measures, it would also require pouring at least an additional HRK 800 million of public funds into the system during the period of

2013-2016—without guarantee of avoiding the need to make additional State transfers over a longer (if not indefinite) period of time. The cost cutting actions presented in the Optimistic Scenario are considered to be the minimum required to achieve sustainability. Thus, any delay in their implementation would seriously imperil the achievement of the restructuring goals—or it would generate the need for more stringent measures to be implemented.

## I.1. General Presentation of the Assumptions and Goals of the Recommended Scenario

84. **Market conditions anticipated in the Recommended Scenario.** Table 12 presents the traffic evolutions (freight and passenger), annual inflation rates, annual contributions of the State, and levels of TACs advocated in the Recommended Scenario. The scenario assumes that HŽ Cargo will retain most of its traffic after EU Accession, which—because the market will be open—is very optimistic. Passenger traffic is anticipated to increase annually until 2014, which is also an optimistic assumption, but would be needed for the company’s balance (see section I.2 below).

**Table 12: Market Conditions**

| ELEMENTS                         |                        | 2011                                  | 2012   | 2013   | 2014   | 2015   | 2016   |
|----------------------------------|------------------------|---------------------------------------|--------|--------|--------|--------|--------|
| Volume of traffic                | Ton-km                 | 2,521                                 | 2,622  | 2,727  | 2,836  | 2,949  | 3,067  |
|                                  | Pass-km                | 1,486                                 | 1,560  | 1,592  | 1,607  | 1,607  | 1,607  |
| Annual Inflation Rate            |                        | 2.30%                                 | 3.50%  | 3.50%  | 3.50%  | 3.50%  | 3.50%  |
| State Contribution <sup>31</sup> | HŽ Infrastructure      | 1,114.80                              | 855.00 | 887.00 | 890.10 | 921.25 | 953.50 |
|                                  | HŽ Passenger Transport | 559.00                                | 377.90 | 399.41 | 413.39 | 427.85 | 442.83 |
|                                  | HŽ Cargo               | 244.67                                | 1.00   |        |        |        |        |
| Track Access Charge              |                        | According to Network Statement - 2012 |        |        |        |        |        |

Source: WB calculations

85. **Major cost cutting targets assumed by the Recommended Scenario.** The proposed cost cutting targets have been tuned through a financial model that the Bank Team used to verify their impact on the financial performance of each HŽ Company up to 2016. After a number of iterations, the Recommended Scenario assumes the realization of the annual actions as presented in Table 13. It includes staff reduction goals varying from 8-14% annually, and the reduction of freight wagon and locomotive fleets by 3-5% starting from 2012. These assumptions are stronger than the ones made in the Restructuring Plan, especially in terms of the staffing of HŽ Infrastructure.

<sup>31</sup> The State contribution to operations is adjusted to the annual rate of inflation, in HRK million.

**Table 13: Major Cost Cutting Assumptions of the Recommended Scenario**

|                                 |                                    |                   |
|---------------------------------|------------------------------------|-------------------|
| <b>Rail Network length [km]</b> | <b>350 km less (70km annually)</b> |                   |
| <b>Staff</b>                    | Infrastructure                     | 8% less annually  |
|                                 | Freight                            | 14% less annually |
|                                 | Passengers                         | 8% less annually  |
| <b>Locomotives</b>              | 5% less annually                   |                   |
| <b>Wagons</b>                   | 3% less annually                   |                   |
| <b>Coaches</b>                  | unchanged                          |                   |

Source: WB calculations

86. **Annual targets to be attained by the HŽ Companies to achieve financial viability by 2016.** Table 14 presents the annual targets for numbers of staff and assets that each of the HŽ Companies would reach if they were to implement the annual cost cutting proposed in the Recommended Scenario:

**Table 14: Recommended Scenario Results**

| ELEMENTS                          |                | 2011   | 2012   | 2013   | 2014  | 2015  | 2016  |
|-----------------------------------|----------------|--------|--------|--------|-------|-------|-------|
| <b>Network Length in Use [km]</b> |                | 2,632  | 2,562  | 2,492  | 2,422 | 2,352 | 2,282 |
| <b>Number of staff</b>            | Infrastructure | 6,953  | 6,408  | 5,863  | 5,318 | 4,773 | 4,229 |
|                                   | Freight        | 3,346  | 2,900  | 2,430  | 1,960 | 1,495 | 1,030 |
|                                   | Passenger      | 2,167  | 1,990  | 1,813  | 1,636 | 1,459 | 1,284 |
|                                   | Total          | 12,466 | 11,298 | 10,106 | 8,914 | 7,727 | 6,543 |
| <b>Number of assets</b>           | Locomotives    | 250    | 238    | 226    | 214   | 204   | 193   |
|                                   | Wagons         | 5,400  | 5,238  | 5,081  | 4,928 | 4,781 | 4,637 |
|                                   | Coaches        | 388    | 388    | 388    | 388   | 388   | 388   |

Source: WB calculations

87. **Benchmarking the impact of the proposed cost cutting targets for the operational performance of the railway system in Croatia.** The proposed annual targets for cost cutting would have a direct impact on increasing the productivity of the staff and the assets. The Team produced these targets by using a number of selected indicators that measure in percentages the performance of the HŽ Companies compared with the average values for EU-27 railways. Considering a 1% annual increase in the performance of the European railways from 2012-2016 and the accomplishment by the HŽ Companies of the cost cutting targets presented above, the evolution of the selected indicators is summarized in Table 15. It illustrates that by implementing the proposed cost cutting targets, the performance gap between Croatian Railways and the European railways will be narrowed significantly, putting the HŽ Companies in a better position in the integrated transport market of the EU.

**Table 15: Scenarios for Improving the Current Performance**

| Performance of HŽ Holding compared with EU-27 | Staff productivity | Locomotive productivity | Wagon productivity | Coach productivity | Traffic intensity | Infra staff per km |
|---|--------------------|-------------------------|--------------------|--------------------|-------------------|--------------------|
| <b>Current Status of HŽ Holding (2012)</b>    | 54.60%             | 64.80%                  | 72.50%             | 128.50%            | 55.30%            | 166.70%            |
| <b>Scenario WB (2016)</b>                     | 102.7%             | 82.4%                   | 89.8%              | 111.4%             | 66.9%             | 103.6%             |

Source: WB calculations

88. **The Recommended Scenario suggests a general monitoring tool to improve the operational and financial performance of the HŽ Companies.** Most of the cost cutting measures are the same as in the Restructuring Plan (staff allocation, assets utilization, network length), but differences appear in the dynamics of the implementation of changes. The market conditions will also change dynamically, and the actions of each of the HŽ Companies will have to be adapted up to 2016 every year (and most likely with a frequency of every quarter for some indicators) in order to achieve the targeted results. For the specific cases of HŽ Infrastructure and HŽ Passenger Transport, more detailed analyses are necessary for fine-tuning the achievable targets based on a careful evaluation of various factors. This will include:

- a) A detailed railway network traffic analysis, and identification of the railway lines that are eligible for downsizing;
- b) An assessment of the social acceptance of closing railway lines;
- c) An assessment of the social impact of the staff reductions.

89. **Investments must be kept at a level that allows the HŽ Companies to progressively recover the backlog of infrastructure and assets described in Chapter G, and to realistically absorb EU Funds.** HŽ Infrastructure will remain the main investor. A tentative structure of the funding of investments is presented below.

**Table 16: Investment Financing Plan for HŽ Infrastructure during the Period of 2012-2016 Proposed by the World Bank (in HRK thousands)**

| INVESTMENT SOURCE | PLANNED        |                |                  |                  |                  | TOTAL PLANNED    |
|-------------------|----------------|----------------|------------------|------------------|------------------|------------------|
|                   | 2012           | 2013           | 2014             | 2015             | 2016             | 2012-2016        |
| STATE BUDGET      | 158,768        | 129,900        | 207,300          | 354,634          | 751,574          | 1,602,177        |
| EU FUNDS          | 188,639        | 168,000        | 456,000          | 947,113          | 2,240,248        | 4,000,000        |
| INVENTORY         | 38,174         | 50,000         | 80,000           | 100,000          | 70,000           | 338,174          |
| OWN SOURCES       | 46,237         | 110,000        | 110,000          | 90,000           | 90,000           | 446,237          |
| LOANS             | 238,412        | 185,500        | 164,500          | 164,500          | 185,500          | 938,412          |
| <b>TOTAL</b>      | <b>670,231</b> | <b>643,400</b> | <b>1,017,800</b> | <b>1,656,247</b> | <b>3,337,322</b> | <b>7,325,000</b> |

Source: WB calculations

90. **Variations from the above proposed scenario were simulated by using the World Bank financial model included in the railway toolkit<sup>32</sup>, but not the Government Restructuring Plan per se.** This allowed for a change in targets, and measured the impact on the results of each of the HŽ Companies. The Bank Team took into account many of the Restructuring Plan features in its own scenario, but was unable to simulate the Restructuring Plan as a separate scenario due to a lack of essential information needed to create a financial model and some data inconsistencies discovered in the Restructuring Plan—particularly in the traffic projections and the TAC levels applied by each company. Additional information regarding the reasons why it was not possible to present the impact of the Restructuring Plan is presented in Annex 2.

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<sup>32</sup> [http://www.ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/toolkits/railways\\_toolkit/ch2\\_4.html](http://www.ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/toolkits/railways_toolkit/ch2_4.html).

## I.2. Expected Results from Implementation of the Recommended Restructuring Actions

91. **The financial model for the Optimistic Scenario was developed for the period of 2011-2040.** This means that the model verifies the capacity of the HŽ Companies to achieve a balanced financial status by 2016 (see I.1 above) and to preserve the achieved efficiency over the entire forecasted period. The model indirectly took into account the effect of cutting 350 km of network. However, these effects may be underestimated, because it is difficult to reflect the impact of network reduction beyond staff and operating cost reduction for the infrastructure manager, and operating cost reduction for the passenger company (which would no longer operate some services on heavily subsidized sections). A detailed description of the modeling results, together with a complete overview of assumptions and targets, is outlined in Annex 3. The main differences between the Recommended Scenario and the Restructuring Plan are that the former projects: (i) higher levels of staff reduction—especially in HŽ Infrastructure; and (ii) higher levels of traffic for HŽ Cargo. The model interpretation for the Recommended Scenario has taken into account a cash flow analysis to determine the financial position of each HŽ Company.

92. Upon implementation of the Optimistic Scenario, the HŽ Companies are expected to achieve significant improvements, as follows:

93. **HŽ Infrastructure:** Upon dissolution of the railway holding, the company will start to apply a higher level of TACs—the share of operating revenue of the latter will more than double by the end of the restructuring. Together with HRK 860 million of operating subsidies, this should result in HRK 1,475 million in operating revenues in 2016—representing a 7% increase as compared to 2011. Operating expenses are contracted mainly due to staff rationalization. **With HRK 112 million in net income, HŽ Infrastructure would become profitable in 2015.** Because profitability improves over the entire forecasted period, it is strongly suggested that the Government reassess the TAC levels or the level of subsidies to the infrastructure manager after 2016, depending on the market conditions. However, if the Government chooses to have a low level of TACs for 2013—as proposed in the corrected version of the Network Statement for the year—the situation may play out very differently, because TACs are the main revenue increase driver under the Optimistic Scenario. HŽ Infrastructure as administrator of public transport infrastructure does not have a profit-generating role; achieving a break-even status should be the goal, and this would create room for adjusting the TACs or State subsidies. Strengthened cash flow allows for capital expenditure financing starting in 2014. Outstanding loan obligations are forecast to be covered from HŽ Infrastructure’s own sources starting in 2016—a year in which the company would also be fully self-sustainable. However, new potential loans for investment in railway infrastructure should be mainly reimbursed from State contributions because: (i) HŽ Infrastructure’s assets themselves are not in the books of the company; and (ii) road transport’s assets are de facto fully-funded by the State, and this would therefore create a fair competition between HŽ Infrastructure and road transport.

94. **HŽ Cargo:** As a consequence of significant cost cutting measures—namely, substantial staff downsizing—and increasing freight traffic revenue (which in reality implies a very aggressive commercial policy), **the company is forecast to turn profitable in 2015 with a net income of HRK 25 million.** For compliance with EU regulations, subsidies will be abolished starting in 2012, and it will take six years for the company to recover the loss of this revenue. As of 2016, HŽ Cargo’s free cash flow would enable it to finance its capital expenditure program and settle its debt obligations, which would turn it into a fully self-sustainable company. If the Government does not succeed in a quick privatization of HŽ Cargo as-is—before entry in the EU—the Government may consider a cash injection or debt write-off or guaranteed loans to help bridge the financial gap in the first years of restructuring, and ease privatization—because traffic targets are unlikely to be achieved without a very strong partnership with an already strong operator in the EU market. These potential steps would also need to be assessed against EU commitments in terms of compliance with the Competition Policy.

95. **HŽ Passenger Transport:** This is the most exposed HŽ Company, and the conditions to achieve financial sustainability would be highly questionable with a level of State contribution similar to that of 2012. Despite a significant reduction of staff (about 41% by 2016), due to the important increase in TACs (in 2012 and 2013), the company will face serious challenges. **According to the simulated Recommended Scenario, the market evolution of HŽ Passenger Transport should turn it into a break-even company by end-2016—when it is estimated to realize HRK 1 million in net income—and strengthen this positive trend into the future.** Because the operating cost cutting was not sufficient to balance the financial status of the company, the financial forecast assumes a gradual increase in passenger fares from 2013-2016, with a rhythm of 5-6% every year. In total, in 2015 the tariffs for passengers will be about 25% higher compared with 2012; this will have a negative impact on traffic, which will cease to increase (a decrease in traffic is still possible, and the scenario must be adapted annually based on the market response). The State contribution in the final year of restructuring is forecast at HRK 385.9 million in real terms. It will be slightly higher than the HRK 359 million State contribution in 2012, but the total contribution of the State for the railway transport passengers will not be increased.

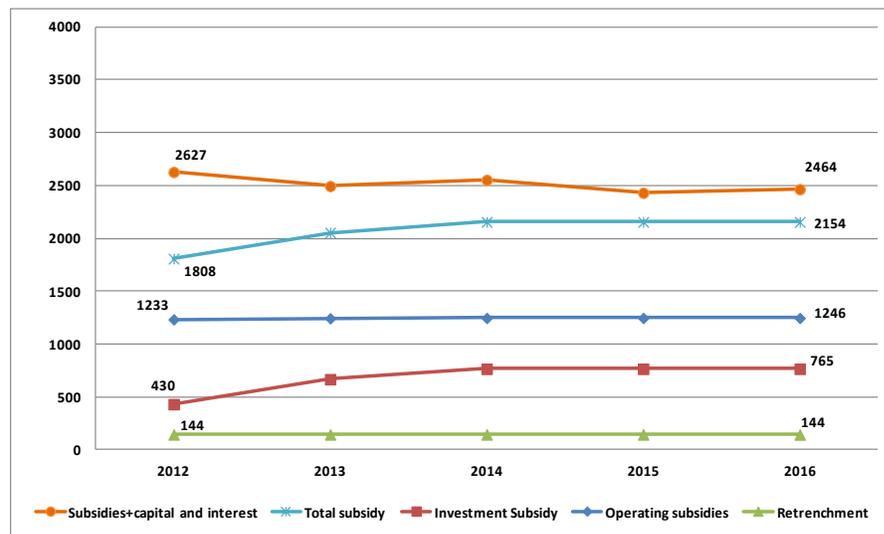
96. **Financing method of investments for HŽ Passenger Transport.** Currently, the State pays twice for the capital costs, because depreciation is included in the operating costs compensated by the State, and the latter additionally provides funds for investments. The financial model eliminated this anomaly. With the Recommended Scenario, the company only receives an operating subsidy, which includes a contribution to depreciation. Savings made through a cut of capital subsidies then allows for a slight increase in the annual operating subsidy. From 2016 on, the company will have an adequate amount of free cash to independently contribute to its capital investments in rolling stock. However, full financial viability would be achieved only as of 2018, because HŽ Passenger Transport does not have enough cash to repay its loan obligations before that date. An earlier attainment of financial viability could be facilitated by a temporary increase in the State subsidy, or a restructuring of the two bullet loans to be repaid in 2016 and 2017—given the specific economic circumstances. The weak point of this rationale is the unpredictable feedback of the market to the tariff increase policy. It would require good communication with the clients, explaining the goals of achieving better quality services over the next 3-5 years. It would also require

immediate investments for acquisition of new train sets (DMU's and EMU's) to increase quality. An alternative, whereby rolling stocks and large assets would be fully-funded by the State and taken out of HŽ Passenger Transport's books is also possible, but would yield a higher subsidy requirement in the short- and medium-term, and also would bring less responsibility to the operator for asset management.

97. **Several alternatives exist regarding the allocation of rolling stock to passenger operators in the EU context, if the Government wishes to diversify passenger transport operators.** EU directives allow (and actually suggest) competitively contracting passenger services against a level of operating subsidies, and the Government may choose to progressively open that market in consistency with the latest railway package. In such a context, the rolling stock investment policy could be modified with several options—taking care of the possibility of having several potential operators. One possibility would be to give the rolling stock to a company that would then lease it to the contracted passenger operator. Another possibility would be to have the contracting authority own the rolling stock and make it available to the operator. The contracting authority could also provide a financing guarantee to the operator, plus (possibly), a guarantee on the residual value at the end of the contract—with a requirement that the operator transfer it to the new operator at market rates.

98. **Public Funds Used for the Recommended Scenario.** The Recommended Scenario is based on a much narrower basis of investment than the Restructuring Plan. Under the Optimistic Scenario the level of public funding necessary for the whole system remains close to the current one, as reflected in the graph below.

**Figure 30: WB Scenario: Level of Public Funds to Railway Sector Needed during the Period of 2012-2016 (in HRK thousands)**



Source: WB calculations

### I.3. Outcomes of the Alternative Pessimistic Scenario

99. **Results of the Pessimistic Scenario.** The Pessimistic Scenario was developed to evaluate the cost of essentially not reforming the railway sector, based on the hypothesis that the minimal reform program is only partially implemented. It also served to illustrate the gap that would eventually open up in comparison with the Optimistic Scenario. The majority of assumptions in the two scenarios were the same. However, the Pessimistic Scenario differed in making negative pricing and traffic level forecasts, while the level of operating expenses—notably staff and network size—resembled the figures of the Restructuring Plan and would not be reduced as much as in the Optimistic Scenario at the beginning of the implementation period. **Under the Pessimistic Scenario, all of the HŽ Companies are forecast to operate with a net loss in 2016.** Considering the state of their cash flows, this would mean that the companies would either go bankrupt by that time, or require higher subsidies to survive. Provided that their liquidity problems had been solved, **financial sustainability would be achieved four years later, or in some cases not achieved at all**, which de facto implies that the Government would have to find a bridging solution up to 2018/2020 in terms of added funding and guarantees.

100. Considering that the system could not survive under these conditions, the Bank Team tested corrective measures to the Pessimistic Scenario to overcome the traffic and pricing challenges and to allow sustainability by 2016. In practice, HŽ Cargo could become financially viable by 2016, if it simultaneously decreased costs of staff and external services by an additional 71% and 8%, respectively, from 2012-2016. HŽ Passenger Transport is the most affected of all the HŽ Companies by the pessimistic assumptions. The company is projected to turn profitable by 2015 if it opts for a combination of an annual increase in operating subsidies by HRK 40 million in real terms (during the last four years of restructuring), and makes a further 16% cost reduction of staff and constant external services in 2016 compared to 2011. HŽ Infrastructure is projected to become profitable and fully self-sustainable in 2016 if it takes steps similar to those suggested for HŽ Passenger Transport (an HRK 50 million additional increase in operating subsidies, and a 23% further staff and constant external services cost cut).

101. **It is crucial to note that the Pessimistic Scenario only reinforces the recommendations outlined in the Optimistic Scenario.** A significant additional cost cutting (10-15% in staff and up to 20% in external services) and network and service resizing, together with around 5-20% higher subsidies than in the Optimistic Scenario (the amount varies depending on the company and policy actions introduced in parallel), would be needed under the Pessimistic Scenario to place the HŽ Companies on a viable path that could be maintained over the long-term. If the Government tried to keep subsidies constant, the cost cutting measures would need to be much stronger than presented here. If the economic context only affected traffic and the Government implemented the actions proposed in the Recommended Scenario, sustainability would require only a few additional subsidies or cost cutting measures. A detailed description of the Pessimistic Scenario and additional recommendations are presented in Annex 3.

## J. IMPLEMENTING A NEW BUSINESS CULTURE AT CROATIAN RAILWAYS<sup>33</sup>

102. As a part of a policy to move toward market-oriented and business-oriented railways, both the Government of Croatia and the HŽ Companies need to embrace and implement a new business model—with specific strategies to improve railway governance. The twofold approach should tackle the issue of sector as well as corporate governance, providing new solutions to improve organization, transparency, accountability, management and productivity of all railway stakeholders. Several principles of good governance are already being applied under the current system, and have been reinforced by the June 2012 Restructuring Plan (such as the separation between all entities, smaller boards, and performance-based contracts for managers). However, the implementation of these elements usually takes time, because the rail system has functioned historically within an integrated and often closed environment. Therefore, this chapter should serve as a reminder of the larger change objectives of the Restructuring Plan. It is particularly critical that future board and managerial appointments in the HŽ Companies be made in consistency with these principles.

### J.1. Redefining the Role of the Government

103. Multiple roles of the Government enable it to shape the railway sector environment, which in turn endows it with a responsibility to protect the public interest. To be able to effectively perform its manifold functions, this cultural change should encompass the following areas:

- a) **Separation of roles of the State and the railway companies.** This concept must be clearly implemented on two layers: (i) separation of the roles of the State as the policymaker, regulator, owner and a client of railway, and the railway companies as the service providers—by putting in place clear and transparent relationships between the two entities, and (ii) separation of State ownership functions from regulatory functions in the railway sector within the Government. The main role of the Government as policymaker should be to set up an overall policy and framework through a sustainable multi-modal transport strategy—which urgently needs to be elaborated in Croatia to reflect its vision for the coming years (inter alia to obtain EU Cohesion Funds in support of the sector). As regulator, the Government needs to protect the public interest, but also ensure that the interests of potential private competitors entering the market are taken into account. The subsidies for various railway activities must be allocated in a transparent way, without discriminating against private railway operators. The State-owned and the private railway companies should have equal access to finance, based on purely

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<sup>33</sup> Many of the recommendations of the present Chapter have already been defined in principle by the newly implemented legal framework for Croatia or in the June 2012 Restructuring Plan. Because many of the aspects presented in the present chapter are highly sensitive and it is not easy to simulate their implementation, the main reason to include them in the Note is to emphasize the necessity to continuously ensure that the parties concerned are adhering to these principles.

commercial grounds, and must be treated equally by the law when creditors decide to press their claims and to initiate insolvency procedures.

- b) **Adequate staffing and organization at the Governmental level.** The divisional organizational structure of the Ministry of Maritime Affairs, Transport and Infrastructure (MMATI) duplicates some functions, requiring more personnel, and thus increasing costs. At the same time, due to budget constraints, the administrative apparatus seems to be understaffed. Creating multi-modal units with functional separation of policy, administration of State-owned companies, and regulation would bring more flexibility to a rather complex system, decrease costs, and develop broader skills. Lack of human capacity could emerge as a potential threat in the forthcoming EU Accession, because it would generate an increase in workload, especially in the areas of: (i) defining comprehensive transport policies for all modes of transport, (ii) utilizing EU funds, which would be significantly high for the railway sector; and (iii) contracting of services by the State. The MMATI should continue to allocate adequate qualified human resources to fulfill its functions as per the EU framework for railways, including the licensing of new operators. Coordination should be established with the Ministry of Finance (MOF) and the Ministry of Regional Development and EU Funds (MRDEUF) for all policies and actions related to the railway sector and indicated in the Action Plan.
  
- c) **Establish clear and transparent policies for the State-owned railway companies.** The State as an owner of State-owned railway companies (both infrastructure and operators), should decide what it requires from the companies, and how they should be administered. In this context, the State must establish a clear and consistent ownership policy, define objectives for the medium- and long-term for the companies, and provide predictability regarding its long-term commitments (e.g., its contributions to infrastructure funding and requests for passenger services). The public consultation process is a good practice for developing these objectives. The ownership policy and associated objectives should be public documents accessible to the general public, and widely circulated amongst the relevant ministries, agencies, railway boards, management, and the parliament. As a matter of principle, the role of the State as an owner should be separated from its role as a buyer of services in the organization of the ministry.
  
- d) **Exercise the ownership power without interfering in the management of the railway companies.** The State should oversee the activities of the companies and exercise its ownership power by acting as an informed and active owner. It should avoid interfering in daily operational matters, allowing the railway full operational autonomy to achieve the defined objectives. The boards should exercise their responsibilities as independent entities. The exercising of ownership rights while avoiding meddling in the management should be achieved through the Supervisory Board—as a shareholder’s representative it is entitled to obtain information on the companies on a regular basis. Supervisory Boards should have

committees that deal with aspects such as audits, compliance, risk, transparency, human resources, for better oversight of different aspects within the companies.

- e) **The accountability of the managers of the HŽ Companies to the Government as owner.** The independence of the management of the HŽ Companies does not mean a lack of responsibility for the Government regarding the achievement of the owner's policy and objectives in the railway sector. In this respect, the Supervisory Board—as representative of the State as owner—has the role of monitoring the activities of management.
- f) **Clear rules and transparent selection of Railway Board members.** The State should appoint skilled, experienced, committed and independent individuals to its Supervisory Boards. The members of the Supervisory Board do not need to have detailed knowledge of railway operations. They should be skilled professionals with legal, financial, economic and management expertise, experienced in carrying out fiduciary responsibilities. Eligibility criteria for the appointment of Supervisory Board members should be transparent—and integrity is a fundamental requirement in choosing members. It is advisable for the Supervisory Board to develop guidelines or codes of ethics for both its own members and for those appointed as members of related boards—including State officials selected to serve on the Board of Directors. Any potential conflicts of interest for the members of the boards should be carefully evaluated. For example, members should disclose any personal ownership they have in the railway or in suppliers or customers of the railway, and follow the relevant trading regulations. It is essential that the members of the Railway Board do not act as a channel for unjustified political influence. Likewise, appointments of management board members or of chief executives of companies should follow a competitive process managed by the Supervisory Board with transparent eligibility and selection criteria.

## J.2. Embracing Modern Corporate Organization Principles

104. Aligning the governance structure with the best business practices, such as those outlined in the OECD Guidelines on Corporate Governance of State-owned Enterprises<sup>34</sup>, requires embarking on reforms and embracing good principles that already exist but are not duly followed. This could be achieved by engaging in the following activities:

- a) **Contractual relationships with the Government.** The agreements between the State and the railway enterprises relate to the administration of railway infrastructure and the social responsibilities of railway enterprises. They usually take the form of multi-annual contracts for maintenance of infrastructure, and Public Service Contracts to establish how and under which terms such obligations are managed with HŽ Passenger Transport. These must be multi-annual contracts that include clear and measurable conditions for the allocation of financial support

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<sup>34</sup> <http://www.oecd.org/dataoecd/46/51/34803211.pdf>.

from the State. In the case of the HŽ Companies (see paragraphs above) what is needed is essentially an improvement in the current setting for more time visibility and more incentives for efficiency.

- b) **Implement performance-based management.** The CEOs should be selected by a merit-based process with defined Supervisory Board involvement, and minimum fixed-term management contracts for CEOs—with performance targets. The managers of the key companies must be selected competitively according to transparent procedures, and must be given clear objectives for achievement. *Establishing management performance targets and linking them to an incentive system is essential. Performance contracts must increase the accountability of managers, and become motivational for the achievement of specific goals. Salaries of managers should then be linked to management’s performance and implementation of business plans agreed upon for the accomplishment of the goals of the Government strategy for its companies.*
- c) **Establish staff training and development programs.** Staff is the core of each organization, and professional development of that staff impacts the overall progress of the business. Therefore, in a fast-moving business environment, a company should continuously invest in the upgrade of skills and knowledge. Middle and senior management of the key companies should be regularly trained in up-to-date marketing, costing, financing and pricing. In a top-down approach, all employees must become familiar with the principles of client-driven and commercial culture.
- d) **Embrace transparency and disclosure.** The HŽ Companies have legal and social obligations to different stakeholders beyond their owner, including employees, investors, local communities and customers. Information on the companies’ performance—including State subsidies, public procurement, and awarding of contracts—should be easily accessible and always available publicly. Under HŽ Holding, the information was often presented in an aggregate manner, which makes it difficult to drill down specific data and accurately assess the performance of each company<sup>35</sup>, total subsidies, cost of staff, etc. This was clearly a constraint while preparing the Note.

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<sup>35</sup> HŽ Infrastructure has achieved significant progress in public reporting of data during the past several years, but other companies and HŽ Holding as an entity have been less transparent.

## K. CONCLUSIONS: TOUGH CHOICES NEED TO BE MADE

105. **Public Fund Contributions to the railway sector need to be defined upfront.** Under both the Restructuring Plan and the World Bank Recommended Scenario, the level of public support remains high, while the affordability of the services proposed is not guaranteed. In this context, with needs that are potentially significant, the safest strategy is for the MOF to calculate upfront what the reasonable level is for its engagement in terms of operating and investment subsidies. The MOF needs to determine if and at what level it will authorize HŽ Infrastructure and HŽ Passenger Transport to borrow—and whether it intends to contribute to their loan reimbursements—in order to propose a profile of financial support that is known to all the sector stakeholders. Depending on the evolution of the economy, this financial support can be adjusted as a percentage of the GDP or set as an absolute value. Based on the presentations above, a realistic basis is that an effort similar to the previous years may actually barely maintain the sector.

106. Even maintaining the current level of funding would still require some significant investment choices, such as whether anything should be funded beyond EU-funded projects and minimum rehabilitation costs, and what should be the level of acceptable contingent liabilities (authorization to borrow) with HŽ Infrastructure and HŽ Passenger Services. However, there is a small but existing margin of decrease—mostly in operating, but also slightly in investment costs—if the Government decides to diminish the size of the network and to discontinue those of the most heavily subsidized passenger lines that could be replaced by cheaper modes such as buses.

107. **The Government needs to take the lead in the implementation of the restructuring.** The Restructuring Plan represents the maximum that could be achieved internally by HŽ—but it was not possible from inside to take or propose decisions that would go beyond the companies' perspectives, especially with regard to service definition and network size. Moreover, a recurring issue linked to the TACs prevented the companies from presenting homogeneous proposals. The two main areas in which a financial choice needs to be made by the Government are:

- a) **Charging of Infrastructure:** Either low TACs & high operating subsidies for the Infrastructure Manager—and implicit incentives for freight to use railways, or high TACs & lower operating subsidy for the Infrastructure Manager—with higher passenger subsidy.
- b) **Passenger transport investment funding strategy:** Either direct subsidies to control investments made by HŽ Passenger Transport, or incorporation of depreciation into the PSC(s) to empower the operator(s). Based on a Government decision in December 6, 2012, the Government seems to have decided to finance upfront the rolling stocks, which implies that PSCs should be revised accordingly.

108. While these choices do not determine the financial amount of State support, they provide different policy incentives both to the operators and to the public on the use of railways. Given the past very relative success of a considerably low level of TACs, the Note's recommendation is to go with a significantly higher level of TACs to ensure direct revenue to the Infrastructure Manager.

109. The Government needs to make choices in the long-term to fix the size of the network and the level of service, and translate those choices into performance-based contracting arrangements with HŽ Passenger Transport and HŽ Infrastructure to maximize the chances for the sector to be sustainable.

## I. ANNEX 1: DATA DISCREPANCY IN FINANCIAL STATEMENTS RECEIVED FROM HŽ HOLDING

1. The financial information used in the Note for the analysis of the performance of HŽ Holding and its main companies (Tables A1 and A2) was provided by HŽ Holding during the period of December 2011 to January 2012. This included the operational and financial statistics of each railway holding company. As a result of discussions in March 2012, the World Bank Team and the representatives of the Government agreed to modify the Policy Note structure, and complement it with an assessment of possible scenarios for the improvement of the HŽ Companies' operational and financial performance. The aim was for those companies to achieve the average EU-27 level by 2016. The Bank Team's financial model required more detailed financial information than that initially provided by HŽ Holding (presented in Table A1). Therefore, the Bank Team requested and subsequently received from HŽ Holding the Audit Reports and Audited Financial Statements for 2008-2011. The Team's analysis of the data from the Audited Accounts revealed discrepancies with the data from the HŽ Accounts.

2. **Major differences in reporting the State subsidies and the cost of staff.** Considering that audited accounts are the most trustful source of data, the analysis presented in this annex emphasizes the following major inconsistencies:

- a) In some cases, State subsidies reported in the Audited Accounts were not booked in the year for which they were received, but recorded as a cost of amortization of fixed assets in future periods. No additional information was given on the actual usage of these funds.
- b) According to the Audited Accounts, the total State contribution to HŽ Holding in 2010 was HRK 1988.2 million—which is 12% less than the information provided in the HŽ Accounts—and the total operating expenses were more than 40% higher.
- c) Expenses were not booked in a consolidated manner; some costs (e.g., staff costs) were instead recorded under several different categories of expenses. Therefore, the cost of staff for HŽ Holding in 2010 is 40% higher in the Audited Accounts than in the HŽ Accounts.
- d) The information provided on the company's subsidiaries and transfers among affiliated companies were scarce, and as such, limited the degree of analysis possible in regard to company's operational and financial performance.

3. **Impact of the quality of data on the findings of the Note.** The recommendations outlined in the Note were based on the HŽ Accounts. In light of the differences indicated above, some calculations—such as the viability and cost recovery ratios for HŽ Holding—could be affected. For 2010, the viability of HŽ Holding was 4% lower in the Audited Accounts than in the HŽ Accounts—and the cost recovery ratio was 20% lower. It is possible to conclude that—despite the fact that they are based on the HŽ Accounts—the findings and recommendations will remain valid. However, the dependency of the HŽ Companies on State support may be considerably higher, and the companies’ operational performance may be deteriorating further in 2012 (due to higher ratio of salaries in total costs). This would make it necessary to take much tougher measures to improve the operational and financial performance of the HŽ Companies. Although these uncertainties in the quality of data provided by HŽ Holding for the period of 2005-2011 affected the accuracy of figures in Chapter F, the data concerning the actions necessary for cost cutting presented in Chapter I can be accurately determined using only data from the Audited Accounts for 2011 as a basis. This is also one of the explanations for the minor differences in many data between the model (based on the audited statements) and the historic analysis.

4. **Transparency and accountability in data reporting.** It is vital to point out the importance of accuracy, transparency and accountability in financial reporting. Presenting information in a manner different from usual reporting standards makes information less understandable to outsiders. Without an accurate reporting system it is also not possible to make a precise diagnosis and to make the appropriate decisions and have them understood. It is in the interest of all railway stakeholders to have an accurate and timely overview of HŽ Holding’s operations and financial situation. While some information should remain confidential, railway business should be transparent to its owners and Board. Therefore, State-owned railways should model best practice from other transport and State-owned enterprises, adopting proactive compliance with reporting standards—in particular, full, accurate and timely disclosure of information. EU statistical requirements as well as the Inspire Directive are also strong incentives to improve the flow of information supplied by the sector.

**Table 17: HŽ Holding Income Statement, 2009-2010**

|              |   | 2009                 | 2010                 |
|--------------|---|----------------------|----------------------|
| <b>I.</b>    | <b>OPERATING REVENUES</b>                               | <b>4,399,326,253</b> | <b>5,013,449,820</b> |
| <b>1</b>     | <b>Revenue from passenger transport and cargo</b>       | <b>1,221,058,153</b> | <b>1,194,169,030</b> |
| a            | Revenue from passenger transport                        | 387,129,331          | 373,878,577          |
| b            | Revenue from cargo transport                            | 828,560,322          | 817,148,535          |
| c            | Other transport revenue                                 | 5,368,500            | 3,141,918            |
| <b>2</b>     | <b>Revenues from State subsidies</b>                    | <b>2,058,431,840</b> | <b>1,988,225,762</b> |
| a            | PSC contracts   | 370,000,000          | 347,500,000          |
| b            | Railway infrastructure                                  | 1,168,900,000        | 1,106,729,842        |
| c            | Combined transport                                      | 44,000,000           | 30,000,000           |
| d            | Severance pays and railway fund                         | 67,000,000           | 95,999,442           |
| e            | Repayment of debt                                       | 3,161,292            | 854,279              |
| f            | Revenue amounting to amortization of subsidized assets  | 405,370,548          | 407,142,199          |
| <b>3</b>     | <b>Other operating revenues from primary activities</b> | <b>989,911,202</b>   | <b>856,453,299</b>   |
| <b>4</b>     | <b>Other operating revenues</b>                         | <b>129,925,058</b>   | <b>974,601,729</b>   |
| <b>II.</b>   | <b>OPERATING EXPENSES</b>                               | <b>4,438,673,458</b> | <b>4,978,157,524</b> |
| <b>1</b>     | <b>Material costs</b>                                   | <b>1,265,046,508</b> | <b>1,228,460,463</b> |
| a            | Material costs  | 462,138,317          | 438,272,083          |
| b            | Electric energy   | 32,633,303           | 33,498,407           |
| c            | Fuel  | 38,288,918           | 42,477,785           |
| d            | Other energy  | 275,351,640          | 301,739,467          |
| e            | COGS  | 57,116,126           | 24,009,241           |
| f            | Other external costs                                    | 399,518,204          | 388,463,480          |
| <b>2</b>     | <b>Staff costs</b>                                      | <b>2,119,191,926</b> | <b>2,038,494,400</b> |
| a            | Net salaries  | 1,272,797,176        | 1,234,010,537        |
| b            | Other staff costs                                       | 846,394,750          | 804,483,863          |
| <b>3</b>     | <b>Amortization</b>                                     | <b>493,359,506</b>   | <b>577,974,657</b>   |
| <b>4</b>     | <b>Other operating expenses</b>                         | <b>457,834,740</b>   | <b>497,837,106</b>   |
| a            | Other operating expenses - intangible                   | 171,430,878          | 166,384,633          |
| b            | Staff related costs                                     | 286,403,862          | 331,452,473          |
| <b>5</b>     | <b>Changes in inventory</b>                             | <b>-12,799,989</b>   | <b>34,666,358</b>    |
| <b>6</b>     | <b>Value adjustment</b>                                 | <b>61,493,639</b>    | <b>66,657,872</b>    |
| a            | of current assets (except financial assets)             | 55,210,731           | 26,270,756           |
| b            | of inventory (except financial assets)                  | 6,282,908            | 40,387,116           |
| <b>7</b>     | <b>Provisions</b>                                       | <b>5,818,723</b>     | <b>116,414,245</b>   |
| <b>8</b>     | <b>Other expenses</b>                                   | <b>48,728,405</b>    | <b>417,652,423</b>   |
| <b>III.</b>  | <b>OPERATING INCOME (LOSS)</b>                          | <b>-39,347,205</b>   | <b>35,292,296</b>    |
| <b>IV.</b>   | <b>FINANCIAL REVENUES</b>                               | <b>42,977,994</b>    | <b>34,565,714</b>    |
| <b>1</b>     | <b>Interest revenue</b>                                 | <b>27,860,907</b>    | <b>21,722,314</b>    |
| <b>2</b>     | <b>Dividends</b>  | <b>779,770</b>       | <b>33,057</b>        |
| <b>3</b>     | <b>Foreign exchange gains</b>                           | <b>14,337,317</b>    | <b>12,810,343</b>    |
| <b>V.</b>    | <b>FINANCIAL EXPENSES</b>                               | <b>80,403,732</b>    | <b>75,176,385</b>    |
| <b>1</b>     | <b>Interest expense</b>                                 | <b>55,881,008</b>    | <b>56,474,482</b>    |
| <b>2</b>     | <b>Foreign exchange loss</b>                            | <b>18,480,744</b>    | <b>12,525,284</b>    |
| <b>3</b>     | <b>Other financial expenses</b>                         | <b>6,041,980</b>     | <b>6,176,619</b>     |
| <b>VI.</b>   | <b>FINANCIAL INCOME (LOSS)</b>                          | <b>-37,425,738</b>   | <b>-40,610,671</b>   |
| <b>VII.</b>  | <b>TOTAL REVENUE</b>                                    | <b>4,442,304,247</b> | <b>5,048,015,534</b> |
| <b>VIII.</b> | <b>TOTAL EXPENSE</b>                                    | <b>4,519,077,190</b> | <b>5,053,333,909</b> |
| <b>IX.</b>   | <b>INCOME BEFORE TAX</b>                                | <b>-76,772,943</b>   | <b>-5,318,375</b>    |
| <b>X.</b>    | <b>TAX</b>  | <b>1,661,353</b>     | <b>44,055,178</b>    |
| <b>XI.</b>   | <b>NET INCOME</b>                                       | <b>-78,434,296</b>   | <b>-49,373,553</b>   |

Source: HŽ Holding; table prepared by the WB based on Audited Financial Statements for HŽ Holding in 2010 (received in April 2012)

**Table 18: HŽ Holding Balance Sheet, 2009-2010**

|      | <b>ASSETS</b>                                   | <b>2009</b>           | <b>2010</b>           |
|------|---|-----------------------|-----------------------|
| A)   | <b>LONG TERM ASSETS</b>                         | <b>14,211,887,491</b> | <b>14,232,647,406</b> |
| I.   | INTANGIBLE ASSETS                               | 56,462,737            | 75,369,791            |
| II.  | TANGIBLE ASSETS                                 | 14,010,337,027        | 14,002,411,823        |
| 1    | Land  | 2,155,345,602         | 2,055,520,465         |
| 2    | Buildings and property                          | 4,316,941,976         | 5,406,424,609         |
| 3    | Plants and equipments                           | 283,359,314           | 410,193,907           |
| 4    | Machinery and rolling stock                     | 3,348,081,691         | 3,136,911,042         |
| 5    | Other tangible assets                           | 47,734,056            | 48,607,770            |
| 6    | Tangible assets in preparation                  | 3,858,874,388         | 2,944,754,030         |
| III. | INVESTMENTS IN PROPERTY                         | 1,521,881             | 28,457,386            |
| IV.  | LONG-TERM FINANCIAL ASSETS                      | 25,685,084            | 28,901,644            |
| V.   | LONG-TERM RECEIVABLES                           | 117,880,762           | 97,506,762            |
| B)   | <b>CURRENT ASSETS</b>                           | <b>2,151,832,031</b>  | <b>1,716,758,981</b>  |
| I.   | INVENTORY                                       | 1,074,901,943         | 944,969,794           |
| II.  | RECEIVABLES                                     | 879,195,022           | 513,935,752           |
| 1    | Receivables from customers                      | 657,683,687           | 268,065,168           |
| 2    | Receivables from employees                      | 6,236,580             | 6,585,223             |
| 3    | Receivables from State and other institutions   | 68,507,339            | 102,319,835           |
| 4    | Other receivables                               | 146,767,416           | 136,965,526           |
| III. | CURRENT FINANCIAL ASSETS                        | 59,142,452            | 39,652,200            |
| IV.  | CASH AND CASH EQUIVALENTS                       | 138,592,614           | 218,201,235           |
| C)   | <b>ACCRUED REVENUE</b>                          | <b>33,494,176</b>     | <b>48,453,797</b>     |
| D)   | <b>TOTAL ASSETS</b>                             | <b>16,397,213,698</b> | <b>15,997,860,184</b> |
|      |   |                       |                       |
|      | <b>EQUITY AND LIABILITIES</b>                   | <b>2009</b>           | <b>2010</b>           |
| A)   | <b>EQUITY AND RESERVES</b>                      | <b>6,467,668,302</b>  | <b>7,030,474,312</b>  |
| I.   | SHARE CAPITAL                                   | 1,324,226,000         | 1,324,226,000         |
| II.  | CAPITAL RESERVES                                | 5,295,606,487         | 5,956,027,234         |
| III. | REVALORIZATION RESERVES                         | 3,807,917             | 3,807,618             |
| IV.  | RETAINED EARNINGS                               | -84,674,198           | -212,317,015          |
| V.   | NET PROFIT                                      | -79,020,624           | -46,815,839           |
| VI.  | MINORITY INTEREST                               | 7,722,720             | 5,546,314             |
| B)   | <b>PROVISIONS</b>                               | <b>12,788,908</b>     | <b>124,457,303</b>    |
| C)   | <b>LONG-TERM LIABILITIES</b>                    | <b>2,722,426,307</b>  | <b>1,910,563,845</b>  |
| 1    | Long-term loans                                 | 2,308,740,859         | 2,179,319,670         |
| 2    | Financial leasing                               | 15,085,521            | 209,873,728           |
| 3    | Current portion of long-term bank debt and HBOR | -322,435,182          | -530,832,762          |
| 4    | Current portion of financial leasing            | -3,639,367            | -31,550,850           |
| 5    | Liabilities towards State for apartments sold   | 81,175,284            | 72,767,736            |
| 6    | Advance payments                                | 643,480,092           | 0                     |
| 7    | Other long-term liabilities                     | 19,100                | 10,986,323            |
| D)   | <b>CURRENT LIABILITIES</b>                      | <b>1,704,453,119</b>  | <b>2,050,762,686</b>  |
| 1    | Loans and deposits                              | 291,956,140           | 309,109,139           |
| 2    | Banks and financial institutions                | 426,140,534           | 643,948,519           |
| 3    | Advance payments                                | 42,167,586            | 35,359,098            |
| 4    | Suppliers                                       | 623,921,856           | 682,514,192           |
| 5    | Employees                                       | 130,854,777           | 132,897,533           |
| 6    | Taxes, contributions and similar payables       | 91,438,591            | 156,410,223           |
| 9    | Other current liabilities                       | 97,973,635            | 90,523,982            |
| E)   | <b>ACCRUED EXPENSE</b>                          | <b>5,489,877,063</b>  | <b>4,881,602,037</b>  |
| F)   | <b>TOTAL EQUITY AND LIABILITIES</b>             | <b>16,397,213,699</b> | <b>15,997,860,183</b> |

Source: HŽ Holding; table prepared by the WB based on Audited Financial Statements for HŽ Holding in 2010 (obtained from HŽ Holding in April 2012)

**Table 19: HŽ Holding Basic Operational and Financial Statistics, 2005-2011**

**Basic Operational and Financial Statistics for Holding Railways**

*[All financial data in national currency]*

| Year   | 2005  | 2006                        | 2007           | 2008           | 2009           | 2010           | 2011           |                |         |
|--|---|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|
| Total number of locomotives                              | 235   | 242                         | 242            | 249            | 253            | 250            | 239            |                |         |
| Total number of operational locomotives (annual average) | 175   | 178                         | 179            | 175            | 177            | 169            | 183            |                |         |
| Total number of staff (on December 31)                   | 14,152  | 13,748                      | 13,411         | 13,281         | 12,843         | 12,491         | 12,468         |                |         |
| Revenue  | Passenger revenue                                       | Ticket sales                | 310.4          | 336.3          | 370.5          | 390.7          | 384.7          | 374.4          | 369.4   |
|  |   | Other revenue               | 179.2          | 130.2          | 90.2           | 107.8          | 134.2          | 118.0          | 125.1   |
|  |   | PSC                         | 493.3          | 413.9          | 402.0          | 400.0          | 370.0          | 347.5          | 360.0   |
|  |   | Total passenger             | 982.9          | 880.4          | 862.7          | 898.5          | 888.9          | 839.9          | 854.5   |
|  | freight revenue   | Freight transport           | 641.4          | 724.0          | 763.8          | 770.0          | 630.1          | 616.7          | 623.7   |
|  |   | PSC                         | 5.0            | 5.0            | 15.0           | 14.0           | 44.0           | 30.0           | 37.5    |
|  |   | Other revenue               | 249.1          | 207.7          | 174.8          | 176.7          | 319.6          | 293.8          | 281.0   |
|  |   | Total freight               | 895.5          | 936.7          | 953.6          | 960.7          | 993.7          | 940.5          | 942.2   |
|  | Other comm. revenue (other than freight & pass.)        | 184.1                       | 350.8          | 495.7          | 354.0          | 340.1          | 400.7          | 343.7          |         |
|  | <b>Total operating revenues</b>                         | <b>2,062.5</b>              | <b>2,167.9</b> | <b>2,312.0</b> | <b>2,213.2</b> | <b>2,222.7</b> | <b>2,181.1</b> | <b>2,140.4</b> |         |
|  | State contribution for staff, operation and maintenance | Passengers (other than PSC) | 154.2          | 168.3          | 11.7           | 6.4            | 8.2            | 6.2            | 1.8     |
|  |   | Freight transport           | 139.4          | 153.1          | 21.7           | 4.6            | 11.0           | 21.4           | 1.4     |
|  |   | Traction                    |                |                | 19.4           | 2.3            | 5.0            | 7.3            | 2.9     |
|  |   | Infrastructure              | 1,538.9        | 1,381.9        | 1,346.7        | 1,405.8        | 1,198.9        | 1,165.3        | 1,079.0 |
| Holding  |   |                             |                | 2.0            | 39.3           | 16.0           | 1.8            | 2.0            |         |
| <b>Total</b>   | <b>1,832.5</b>  | <b>1,703.3</b>              | <b>1,401.5</b> | <b>1,458.4</b> | <b>1,239.1</b> | <b>1,202.0</b> | <b>1,087.1</b> |                |         |
| Expenses   | Materials   | 143.1                       | 149.2          | 118.9          | 178.0          | 176.1          | 132.0          | 135.2          |         |
|  | Fuel, Electricity                                       | 292.6                       | 323.2          | 334.7          | 375.5          | 294.9          | 327.2          | 358.4          |         |
|  | Wages and salaries                                      | 1,571.6                     | 1,543.7        | 1,582.0        | 1,804.1        | 1,728.1        | 1,680.9        | 1,681.7        |         |
|  | Hired servicers and others                              | 712.5                       | 743.3          | 629.8          | 551.2          | 450.9          | 395.2          | 406.4          |         |
|  | Depreciation  | 400.9                       | 424.4          | 255.9          | 265.5          | 453.5          | 473.8          | 512.9          |         |
|  | <b>Total operating expenses</b>                         | <b>3,120.7</b>              | <b>3,183.8</b> | <b>2,921.3</b> | <b>3,174.3</b> | <b>3,103.5</b> | <b>3,009.1</b> | <b>3,094.6</b> |         |
|  | Non-operating expenses                                  | 724.1                       | 672.0          | 764.6          | 558.6          | 374.0          | 446.3          | 259.9          |         |
| <b>Total expenses</b>                                    | <b>3,844.8</b>  | <b>3,855.8</b>              | <b>3,685.9</b> | <b>3,732.9</b> | <b>3,477.5</b> | <b>3,455.4</b> | <b>3,354.5</b> |                |         |
| Net income (deficit) without state contribution          | -1,782.4  | -1,687.9                    | -1,373.9       | -1,519.7       | -1,254.8       | -1,274.3       | -1,214.1       |                |         |
| Net income (deficit) with state contribution             | 50.2  | 15.4                        | 27.6           | -61.3          | -15.7          | -72.3          | -127.0         |                |         |
| Working Ratio without state contribution                 | 167%  | 158%                        | 148%           | 157%           | 136%           | 137%           | 133%           |                |         |
| Working Ratio with state contribution                    | 88%   | 89%                         | 92%            | 94%            | 87%            | 88%            | 88%            |                |         |
| State contribution for investments                       | Passengers  | 87.0                        | 152.0          | 141.1          | 109.0          | 33.3           | 92.8           | 54.0           |         |
|  | Freight   | 40.0                        | 99.6           | 78.0           | 128.0          | 98.3           | 60.0           | 62.0           |         |
|  | Infrastructure  | 573.2                       | 518.8          | 608.9          | 767.7          | 529.5          | 434.4          | 251.2          |         |
|  | Traction  |                             |                | 164.4          | 130.0          | 96.9           | 64.9           | 79.0           |         |
| Average annual exchange rate                             | 1 USD = HRK   | 5.95                        | 5.84           | 5.36           | 4.87           | 5.28           | 5.50           | 5.40           |         |
|  | 1 EUR = HRK   | 7.40                        | 7.32           | 7.34           | 7.22           | 7.34           | 7.29           | 7.50           |         |

Source: table prepared by HŽ Holding and delivered to the WB in December 2011, updated in August 2012 with actual 2011 values

## II. ANNEX 2: FACTORS IMPEDING THE FINANCIAL MODELING OF THE APPROVED RESTRUCTURING PLAN FOR HŽ HOLDING

1. Following the approval of the Restructuring Plan for HŽ Holding by the Government, the Bank Team received its summary version that details the most important actions and measures to be taken between 2012 and 2016. During the discussions between the Team and the representatives of MMATI and HŽ Holding, it was agreed that the assumptions proposed in the Restructuring Plan would be run through the same financial model that was used for simulating the WB Recommended Scenario. The Policy Note would then give a comparative assessment of the models' outputs.

2. During this process, the Team came across several inconsistencies that made it impossible to simulate the Restructuring Plan using the existing financial model. The following paragraphs highlight the major elements that led to this conclusion:

- a) The financial and operational results in the Restructuring Plans of HŽ Cargo and HŽ Passenger Transport are based on the assumption that HŽ Infrastructure will cover all investment needs related to railway infrastructure as outlined in their restructuring programs. Although HŽ Infrastructure has already embarked on numerous infrastructure projects, the company would not realistically be able to carry out all of the investments that are factored into the financial and operational forecasts of HŽ Cargo and HŽ Passenger Transport over the next five years.
- b) The impact of some staff cuts was difficult to reconcile—all the more so, because the companies did not have a homogeneous way of factoring retrenchment costs in their books. For example, HŽ Cargo factors in retrenchment costs of HRK 33.8 million for a staff decrease of 899 in 2012—and then, the company factors in retrenchment costs of HRK 47.4 million for a staff decrease of 494 in 2013. Additionally, these financial effects are not well reflected in the complementary income statements of HŽ Cargo, which factor in retrenchment costs of HRK 272 million in 2011, HRK 376 million in 2012 (following the restructuring process), and HRK 255 million in 2013.
- c) HŽ Passenger Transport is planning to launch a HRK 4 billion investment program, to be realized over the period of 2013-2016. The State budget has been listed as a source of HRK 3.6 billion of investment funds, namely for modernization and procurement of new rolling stock. The financing source for the residual, which will amount to HRK 400 million, remains unclear. The HŽ Passenger Transport Restructuring Plan later lists the State budget as a source of only HRK 2.8 million of investment funds.
- d) In the HŽ Passenger Transport Restructuring Plan, tables and graphs representing total revenues from passenger transport for the period of 2012-2016 do not match those presented in the income statement. Discrepancies between the two sources range between HRK 140 million and HRK 170 million per year.

- e) HŽ Infrastructure's revenues from TACs do not correspond to the TAC expenses paid by HŽ Cargo and HŽ Passenger Transport. The amount of transported freight and the number of passengers forecast by HŽ Infrastructure do not correspond to those in the plans of HŽ Cargo and HŽ Passenger Transport. Moreover, it is unclear how much of HŽ Infrastructure's TAC revenue was derived from foreign operators.
- f) For all of the HŽ Companies, the Restructuring Plan does not indicate how increases or decreases in revenue and cost drivers—such as the levels of traffic, staff or investments—would affect specific elements in the financial statements. Therefore, it is not possible to assess the precise impact of many restructuring measures.

### **III. ANNEX 3: DETAILED DESCRIPTION OF THE ASSUMPTIONS IN THE MODEL FOR IMPROVING THE FINANCIAL PERFORMANCE OF HŽ HOLDING**

#### **i. World Bank Recommended Scenario for Improving Financial Performance**

1. The purpose of this Annex is to illustrate the impact of the World Bank Recommended Scenario assumptions—simulated using an excel-based model—on key financial performance indicators of the HŽ system. The financial model was developed for the period of 2011-2040, based on 2011 Audited Financial Statements with additional inputs from HŽ Holding and the MMATI. The model takes into account institutional measures proposed in the Restructuring Plan. The accounts of HŽ Traction have been divided between HŽ Cargo and HŽ Passenger Transport—as planned by the HŽ Holding Restructuring Program; those of HŽ Holding (which were very small in size compared to the rest) have been added to HŽ Infrastructure. The State contribution through subsidies was taken into consideration based on the planned State budget for 2012-2014. As of 2014, all subsidies have been kept flat (HŽ Cargo: HRK 0 million; HŽ Passenger Transport: HRK 386 million; HŽ Infrastructure: HRK 860 million) and corrected only in line with inflation. In addition to consolidated results for the railway system as a whole, model outputs have been produced separately for HŽ Cargo, HŽ Passenger Transport and HŽ Infrastructure. To focus on the main outcomes of the Recommended Scenario, the results in most graphs are shown up to 2025. The model is meant to be illustrative rather than to provide an exact outcome of a policy option.

2. Table A4 presents the general assumptions used in the financial model. Cost cutting measures are introduced between 2012 and 2016, after which expenses are held constant in real terms. Some items increase with inflation over the entire forecasted period (tariffs, operating subsidies, other operating revenue, TACs and all operating expense items). The aim of the Scenario that has been developed using these variables is to achieve a balanced financial situation for each of the HŽ Companies by 2016. The model also verifies the capacity of the companies to preserve the achieved efficiency up to 2040.

3. The resulting initial values of the model are sometimes quite different from the data presented in Chapters E and F (historical trends in HŽ Holding and in the various companies). This is due to: (i) the inclusion of the dismantled units in HŽ holding into the infrastructure, passenger and cargo companies; (ii) the use of the Audited Accounts as a basis instead of the HŽ Accounts; (iii) the use of the definition of purchases and services to subsidiaries from the Audited Accounts (for example, HŽ Cargo's sales to the company's freight forwarding subsidiary is not counted as freight traffic, but as other services—which impacts the share of operating revenues from freight by a significant percentage); (iv) the need to compensate asset depreciation for investment paid for by the State by a matching subsidy.

**Table 20: Overview of Key Assumptions Used in the Financial Model**

| <b>Key assumptions<br/>(real values, without inflation)</b>                  | <b>2011</b>            | <b>2012</b>            | <b>2013</b>            | <b>2014</b>            | <b>2015</b>            | <b>2016</b>            | <b>2017-<br/>2040</b>  |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Inflation rate   | 2.3%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   |
| Length of network in use (track-km)  | 2,632                  | 2,562                  | 2,492                  | 2,422                  | 2,352                  | 2,282                  | 2,282                  |
| <b>HŽ Cargo</b>  |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 3,346                  | 2,900                  | 2,430                  | 1,960                  | 1,495                  | 1,030                  | 1,030                  |
| Annual traffic volume<br>(million net ton-km)                                | 2,521                  | 2,622                  | 2,727                  | 2,836                  | 2,949                  | 3,067                  | 3,067                  |
| Average tariff* (in HRK/ton-km)  | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   |
| Average TAC* (in HRK/train-km)   | 16.93                  | 17.55                  | 23.33                  | 23.33                  | 23.33                  | 23.33                  | 23.33                  |
| Proceeds from rolling stock sales<br>(locomotive and wagons, in HRK million) | 0.13                   | 1.26                   | 1.24                   | 1.22                   | 1.1                    | 1.14                   | 0                      |
| <b>HŽ Passenger Transport</b>  |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 2,167                  | 1,990                  | 1,813                  | 1,636                  | 1,459                  | 1,284                  | 1,284                  |
| Annual traffic volume<br>(million passenger-km)                              | 1,486                  | 1,560                  | 1,592                  | 1,607                  | 1,607                  | 1,607                  | 1,607                  |
| Average tariff* (domestic/ international/<br>sub-urban; in HRK/passenger-km) | 0.25/<br>0.65/<br>0.15 | 0.25/<br>0.65/<br>0.15 | 0.26/<br>0.68/<br>0.16 | 0.28/<br>0.72/<br>0.17 | 0.29/<br>0.76/<br>0.18 | 0.31/<br>0.81/<br>0.19 | 0.31/<br>0.81/<br>0.19 |
| Average TAC* (in HRK/train-km)   | 3.71                   | 10.09                  | 11.32                  | 11.32                  | 11.32                  | 11.32                  | 11.32                  |
| Proceeds from rolling stock sales<br>(locomotives, in HRK million)           | 0                      | 1.35                   | 1.35                   | 1.35                   | 1.13                   | 1.24                   | 0                      |
| <b>HŽ Infrastructure</b>   |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 6,953                  | 6,408                  | 5,863                  | 5,318                  | 4,773                  | 4,229                  | 4,229                  |
| External traffic volume**<br>(million net ton-km)                            | 113                    | 118                    | 122                    | 127                    | 132                    | 138                    | 138                    |

\* Unit cost item increases with inflation.

\*\* External traffic volume reflects TAC adjustment, as in reality railway undertakings were paying lower TAC than the one applied by HŽ Infrastructure.

Source: WB calculations

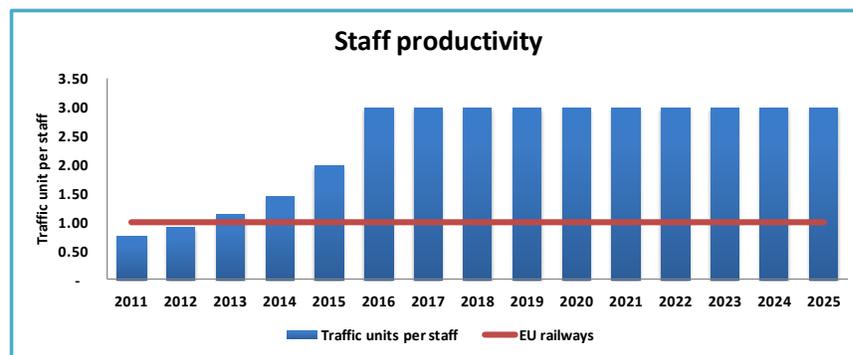
### **HŽ Cargo**

4. **Freight Traffic and Revenue.** Following the EU accession, HŽ Cargo should limit its potential decrease in the market share by offering competitive prices. The Recommended Scenario assumes a 4% annual increase in HŽ Cargo's traffic up to 2016, and holds it flat after 2016. This is optimistic, because competition should enter the market after EU accession. Therefore, it is realistic only if a very strong partnership or privatization is achieved before accession in order to strengthen the company's position. In the financial forecast, the tariffs are based on 2011 rates, increased by inflation. Operating subsidies—which represented 20% of operating revenue in 2011—were abolished in 2012 to comply with EU regulations. With the projected traffic trend, it will take six years for HŽ Cargo to recover from the loss of subsidy revenue. Based on these traffic and price assumptions, freight revenue is expected to grow from HRK 1,213 million in 2011 to HRK 1,733 million in 2025.

5. **Expenses.** In 2011, the operating expenses of HŽ Cargo amounted to HRK 1,092 million. External services were the largest component of operating expenses, accounting for approximately 44%. Although the unit cost of external services has been reduced by 1-2% annually during the period of 2012-2016, the financial forecast calls for a continuous increase in external services. Given its share in the company's expenses, there is probably still room for additional cost cutting there.

6. Labor costs were the second largest operating expense—they accounted for 41% of operating expenses in 2011. At the same time, the staff productivity—below 800,000 ton-km per staff—is considered low for a transit-oriented freight operator. The World Bank Scenario proposes a 69% decrease in the company's staff between 2011 and 2016. This assumption also features a 1-2% annual reduction in staff unit costs throughout 2016—and then increases only with inflation. The financial effect of staff cutting would be HRK 296 million of savings by end-2016; meanwhile, staff productivity should increase and exceed that of the EU railways by 2013 (1.12 million TU per staff).

**Figure 31: Evolution of HŽ Cargo's Staff Productivity (in million TU)**



Source: WB calculations

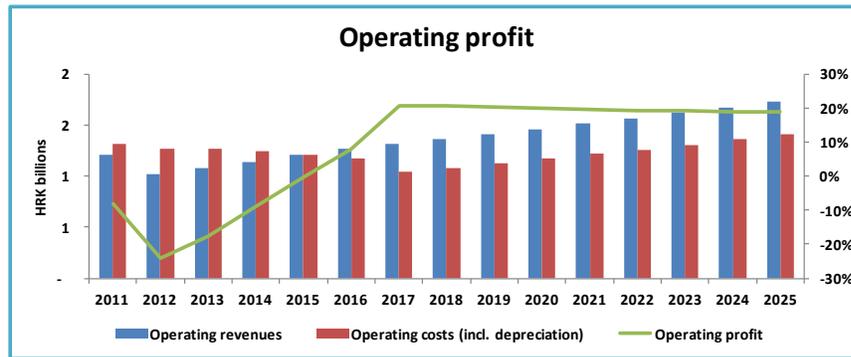
7. Materials, energy and other expenses together accounted for 10% of operating expenses in 2011. The financial forecast assumes cost controls (a 1-2% annual decrease in unit costs for the first five years) and reduction of expenses for rolling stock maintenance.

8. The TAC to be paid to HŽ Infrastructure accounted for 5% of operating expenses in 2011. Up to 2012, HŽ Cargo took advantage of being part of the same holding as the infrastructure manager—paying a low TAC price that was historically almost constant. For 2013, HŽ Infrastructure proposed a new and 37% higher TAC level than that paid in 2011. By end-2016, due to the TAC increase set by HŽ Infrastructure and the envisaged higher level of traffic, TAC expenses will account for 12% of operating expenses.

9. Depreciation expenses are expected to diminish from HRK 261 million in 2016 to HRK 101 million in 2017, because several large asset items (machinery and rolling stock) will be fully amortized. Therefore, HŽ Cargo needs to continuously invest in replacing its depleted assets. This assumption is included in the model, and during the whole forecasted period capital expenditures are set at the level of the 2011 depreciation—which is the reason

why depreciation costs start gradually rising again starting in 2017. Given the age structure of the rolling stock fleet, large quantities of excess rolling stock are expected to be scrapped and sold during the period of 2012-2016. Proceeds from the sale of these wagons and some of HŽ Traction’s locomotives are negligible—amounting to around HRK 1.2 million annually—and will not have a significant impact on HŽ Cargo’s financial performance.

**Figure 32: Evolution of Operating Profit for HŽ Cargo**



Source: WB calculations

10. In 2011, HŽ Cargo was unprofitable—its expenses exceeded revenues by HRK 78 million. As a result of a subsidy cutback, the company’s net loss in 2012 increased to HRK 217 million. Overall cost cutting measures—namely, a significant staff downsizing—are forecast to bring down expenses from HRK 1,092 million in 2011 to HRK 913 million by 2016. The company will eventually return to a profitable path—its EBITDA margin will gradually increase to 33% in 2016, after which it will hold constant. This is a very good value for the railway industry, illustrating that HŽ Cargo is able to mitigate the impact of cash operating expenses on its profitability. The company will generate a profit for the first time in 2015 (HRK 25 million), growing it to HRK 359 million in 2025.

**Table 21: Evolution of Earnings for HŽ Cargo**

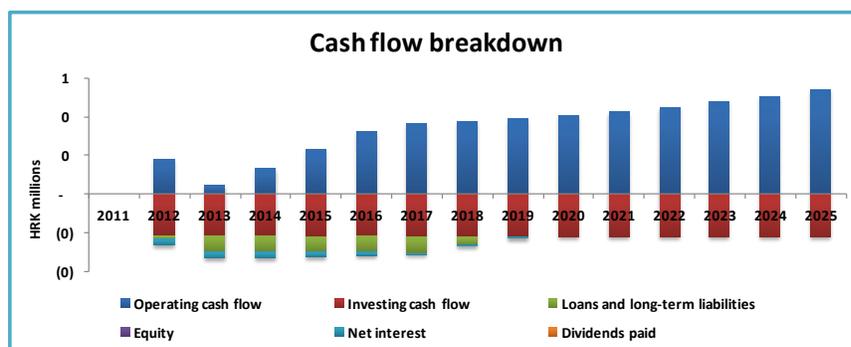
| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,213 | 1,272 | 0.95%                   | 1,733 | 3.50%                   |
| Operating expenses | 1,092 | 913   | -3.52%                  | 1226  | 3.335                   |
| EBITDA             | 167   | 415   | 19.97%                  | 563   | 3.45%                   |
| EBITDA margin      | 14%   | 33%   | NA                      | 33%   | NA                      |
| EBIT               | (52)  | 154   | NA                      | 382   | 10.62%                  |
| Net income         | (78)  | 112   | NA                      | 359   | 13.82%                  |

Source: WB calculations

11. **Debt.** During the restructuring process and the split of HŽ Traction, more than 60% of the latter’s liabilities were transferred to HŽ Cargo. In 2011, HŽ Cargo had HRK 692 million of outstanding accounts payable, some HRK 485 million of which were owed to HŽ Companies and most of the rest to other suppliers. Loan repayments, which include the majority of HŽ Traction’s debts, amount to over HRK 480 million over the next nine years. The model does predict that HŽ Cargo will be balanced by 2015. Nevertheless—given its current loss-making situation—in practice, HŽ Cargo will be unable to repay these debts unless additional cost cutting measures or a cash injection are introduced in the meantime to bridge the financing gap.

12. **Cash flow.** HŽ Cargo’s cash flow from operations is forecast to be positive throughout the period of 2011-2040. The company’s operating cash flow contracted in 2012—as a result of the abolished operating subsidy—but it is forecast to rebound in 2013. Starting in 2016, the company will generate a free cash flow, and will be able to finance its capital expenditures fully from its operations—without relying on external financing. The company’s net cash flow is also expected to strengthen from 2016 onwards, which will provide HŽ Cargo with the ability to pay back its remaining loan obligations.

**Figure 33: HŽ Cargo Cash Flow Breakdown**



Source: WB calculations

13. **Summary of forecasts.** A financial forecast was prepared for HŽ Cargo, including cost cutting measures recommended by the World Bank Team. With the implementation of these measures, HŽ Cargo is forecast to be fully financially viable and self-sustainable starting in 2016—having sufficient cash to cover its expenses and pay for a reasonable capital expenditure program. The reform program supported by the Bank Team also envisions that HŽ Cargo would be privatized, although the timing of the privatization and its form has not yet been determined by the Government. Given this uncertainty, the privatization is not modeled as such—but, as previously indicated, without it, the traffic trends underlying these assumptions are very unlikely to be achieved. The results for HŽ Cargo indicate that it could become financially viable as a separate entity. However—given the abolished subsidies and the consequent losses that the company would be producing during the first five years—there is a large risk of bankruptcy, and the Government should first try to privatize the company (or consider some small financial restructuring if privatization is not possible in the short-term).

## *HŽ Passenger Transport*

14. **Passenger Traffic and Revenue.** HŽ Passenger Transport carried about 50 million passengers in 2011, which produced HRK 357 million in ticket revenues. In the financial model, tariffs are forecast to gradually increase between 2013 and 2016<sup>36</sup>, after which they will hold flat—adjusted only with inflation—throughout the forecasted period. The model also assumes a slight uptick in traffic up to 2014<sup>37</sup>, with no additional changes until 2040 as a consequence of higher fares. This would translate into HRK 574 million in revenues from passenger fares in 2016.

15. In 2011, the State contribution to HŽ Passenger Transport for PSC contracts was HRK 360 million; it was reduced to HRK 350.6 million in 2012. The portion of the State budget envisaged for PSC contracts in 2013 and 2014 amounts to HRK 358.6 million. For the purpose of modeling, the capital cost contribution from the State was abolished due to the fact that the Government already provides for investments by covering the cost of the company's depreciation (see paragraph 21 below). Therefore, the operating subsidy was increased by the amount of savings generated from eliminating the double payment of investments. The resulting level of subsidies for 2013 would be HRK 385.9 million in real terms, and it would be kept at that level up to 2040—adjusted only with inflation. Considering these assumptions, HŽ Passenger Transport's operating revenue of HRK 1,495 million in 2011, is projected to rise by 14% by 2016. Although the model forecasted growth in operating revenues to HRK 2,321 million by 2025, in principle revenues will be frozen in real terms and any increase would be the result of inflation corrections.

16. **Expenses.** The total operating expenses of HŽ Passenger Transport in 2011 were HRK 1,239 million—external services accounted for roughly half of that amount (HRK 622 million). Although the unit cost of external services will be decreased by 1-2% up to 2016 (with increases to account for inflation during the forecasted period), its share in operating expenses will remain almost unchanged.

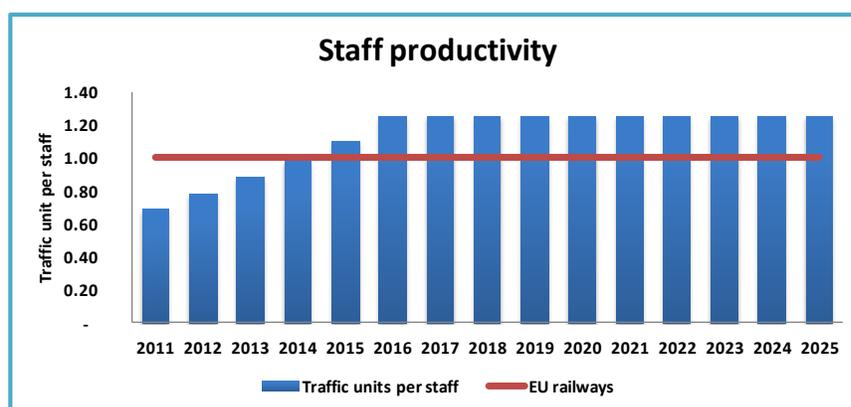
17. In 2011, the cost of labor represented 26% of operating expenses. Through the labor restructuring program suggested in the Recommended Scenario, total staff would decrease by 41% between 2011 and 2016. This is projected to generate average annual savings of around HRK 22.6 million. HŽ Passenger Transport's staff productivity—measured in traffic units per staff—would meet the average EU-27 staff productivity by 2015 (1.1 million TU per staff).

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<sup>36</sup> Every year, tariffs are proportionally increased for all fare categories: 5% in 2013 and 2014; 6% in 2015; and 7% in 2016.

<sup>37</sup> The projected traffic increase is 5% for 2012, 2% for 2013, and 1% for 2014.

**Figure 34: HŽ Passenger Transport Staff Productivity Evolution**



*Source: WB calculations*

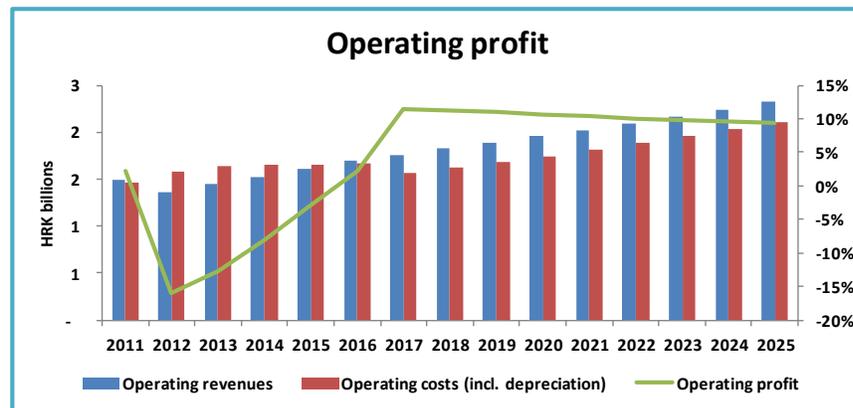
18. Materials and energy expenses took up approximately 17% of HŽ Passenger Transport’s operating expenses in 2011. These expenses are expected to increase throughout the forecasted period, as a result of their variability with the level of traffic and inflationary adjustments.

19. In 2011, HŽ Passenger Transport’s TAC expenses of HRK 69 million represented 6% of the company’s operating expenses. The cost is forecast to surge to HRK 252 million in 2016, when it would then represent 18% of the company’s operating expenses. Such progressive TAC increases (by more than 180% between 2011 and 2012, and by an additional 8% in 2013) set by HŽ Infrastructure will be a considerable burden to HŽ Passenger Transport.

20. HŽ Passenger Transport’s depreciation is forecast based on the values of its asset items. The depreciation has an upward trend until 2016, after which it sharply diminishes, as the aged rolling stock fleet is fully amortized. To replace the obsolete capital equipment, the company would pay around HRK 216 million annually for a capital expenditure program during the entire forecasted period. As a result, starting in 2018, depreciation costs begin to gradually increase. Part of the locomotive fleet that was previously owned by HŽ Traction has been scrapped and sold. This should generate a total of HRK 6.44 million from sales proceeds over the period of 2011-2016.

21. The amount of capital expenditures needed for the replacement of depleted rolling stock assets represents a significant cost for HŽ Passenger Transport. However, this expenditure is covered by the State, which provides funds for the company’s depreciation. Instead of financing investments, HŽ Passenger Transport has been using this money to compensate its operating losses. On top of that State support, HŽ Passenger Transport has usually received additional money through capital subsidies—which implies that the State has been paying twice for the investment support. To eliminate this distortion, the capital cost contribution has been abolished in the model. This has made room for a slight increase in the annual State compensation for operating costs, which is the reason why the operating subsidy in the model was increased.

**Figure 35: Evolution of Operating Profit for HŽ Passenger Transport**



Source: WB calculations

22. With a minimal net income of HRK 1 million, HŽ Passenger Transport would become profitable by 2016. Yet in 2012, the company was operating with HRK 218 million of net losses. This indicates that significant progress will be made on the revenue side through a combination of increased passenger fares and a higher level of traffic, while operating expenses will be kept flat up to 2016. Considerable improvements made through cost cutting measures—namely, labor downsizing—are bound to be wiped off by an increase in the TACs from their initially very low level, and by highly variable operating costs. Between 2012 and 2016, HŽ Passenger Transport’s EBITDA margin will climb from 0% to 18%, a level at which it will remain until 2040. The value indicates that cash operating expenses still use up a lot of the company’s revenue, although profitability is greatly improving. The net income will grow to HRK 230 million by 2025.

**Table 22: Evolution of Earnings for HŽ Passenger Transport**

| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,495 | 1,703 | 2.64%                   | 2,321 | 3.50%                   |
| Operating expenses | 1,239 | 1,405 | 2.55%                   | 1,914 | 3.49%                   |
| EBITDA             | 266   | 314   | 3.37%                   | 423   | 3.37%                   |
| EBITDA margin      | 18%   | 18%   | NA                      | 18%   | NA                      |
| EBIT               | 43    | 54    | 4.66%                   | 234   | 17.69%                  |
| Net income         | 24    | 1     | -47.04%                 | 230   | 82.98%                  |

Source: WB calculations

23. **Debt.** HŽ Passenger Transport received a smaller portion of HŽ Traction’s debt and liabilities than HŽ Cargo. In 2011, HŽ Passenger Transport’s accounts payable amounted to HRK 375 million, of which HRK 276 million was owed to affiliated companies. Between 2011 and 2019, the company would have to repay loans totaling HRK 296 million—including the portion of loans taken over from HŽ Traction. HŽ Passenger Transport will not be able to pay off its debt without support until 2018—this will pose a challenge in 2016 and 2017, when two bullet loans are due.

24. **Cash flow.** During the entire forecasted period, HŽ Passenger Transport will have a positive cash flow, which will contract between 2012 and 2013 due to changes in working capital. From 2016 on, the company will operate with a free cash flow, enabling it to contribute to capital investments. The net cash is positive, and improves significantly starting in 2018.

25. **Summary of Forecast.** Following the implementation of the Recommended Scenario, HŽ Passenger Transport will become fully self-sustainable by 2018. Profitability will be achieved by 2016, when the net income is forecast at HRK 1 million. Realizing a net profit by 2016, however, assumes a 41% staff cut, a gradual increase in passenger fares, and a tripling of the TAC share in operating costs by end-2016. The market evolution would bring HRK 443 million through fare revenues in the last year of the restructuring program, while at the same time the State contribution would amount to HRK 687 million. The capital cost contribution will be abolished, because of the double payment of investments by the State—which resulted in a slightly higher level of operating subsidies. As of 2016, the company will have sufficient cash to solely finance its capital expenditures and the replacement of its depleted assets. However, settling loan obligations will be an issue until 2017, due to a lack of funds for repayment of two bullet loans that are due in 2016 and 2017. To overcome this problem, the Government may consider a temporary increase in the operating subsidy or the possibility of restructuring the bullet loans.

### *HŽ Infrastructure*

26. **TAC Tariffs and Revenues.** The two main sources of HŽ Infrastructure’s revenue are the operating subsidy received from the State and TACs. The operating subsidy of HRK 1,115 million took up around 81% of operating revenues in 2011. It plunged to HRK 855 million in 2012; according to the planned State budget for 2012-2014, it should grow by HRK 2.5 million annually over the next two years<sup>38</sup>. The level of subsidies planned for 2014 will be maintained until the end of the forecasted period, with increases to account for inflation. Before dissolution of the railway holding, revenues from TACs levied on operators accounted for slightly less than 10% of the company’s operating revenues. In 2012, HŽ Infrastructure started charging a higher level of TACs, and its share in operating revenues more than doubled compared to 2011. The Network Statement for 2013 suggests a 28% increase in TACs for cargo operators, and an 8% increase in TACs for passenger operators. These values, corrected by inflation, have been maintained in the model until 2040.

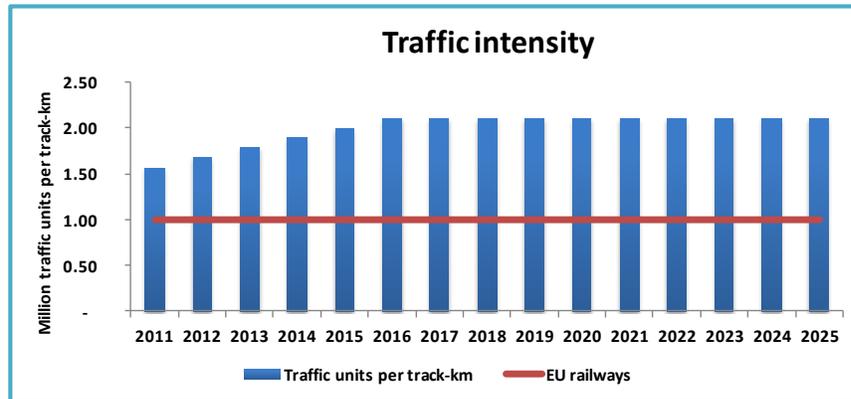
27. The model did not assess the impact of foreign operators on HŽ Infrastructure’s performance; it assumed that the railway transport market was closed, and that HŽ Cargo and HŽ Passenger Transport were its only operators. Predicting no increase in traffic after the EU accession (except that generated by the present companies) may be a conservative scenario; however, it would also be the case if international operators simply took the market share of domestic companies without increasing it. Nevertheless, traffic intensity is forecast to increase by 34% to 2.11 million traffic units per track-km between 2011 and 2016. With the

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<sup>38</sup> In the financial model, the operating subsidy item included both the capital subsidy and the operating subsidy in 2011, but only the operating subsidy in 2012 onwards. This partially explains a big decline in subsidies between 2011 and 2012. Another reason for the decline is a decrease in the level of the operating subsidy to HŽ Infrastructure—from HRK 1,079 million in 2011, to HRK 855 million in 2012.

estimated changes in TACs and subsidies, HŽ Infrastructure’s operating revenue should grow by 7% over the same period, and maintain a positive trend until 2040. The operating revenues in 2025 are forecast at HRK 2,010 million.

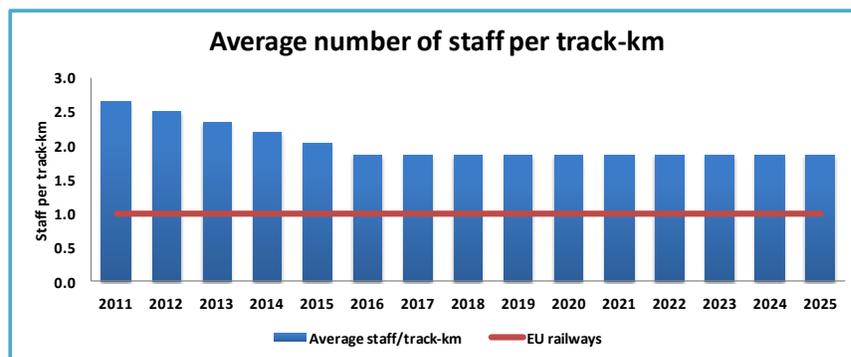
**Figure 36: HŽ Infrastructure Traffic Intensity Evolution**



Source: WB calculations

28. **Expenses.** HŽ Infrastructure had HRK 1,360 million of operating expenses in 2011. The largest component of its operating expenses is staff, accounting for 68%. The financial model assumes a 39% staff decrease by 2016, which would bring down staff costs from HRK 927 million in 2011 to HRK 615 million in 2016. Such a measure would also affect staff productivity—increasing it from 2.6 staff per track-km in 2011, to 1.9 staff per track-km in 2016. Improvement in staff productivity would be partially a result of network rightsizing. During the restructuring period, the railway network is anticipated to reduce by a total of 350km (70km annually), which would enable the company to concentrate more of its operations on the main lines.

**Figure 37: HŽ Infrastructure Staff Productivity Evolution**

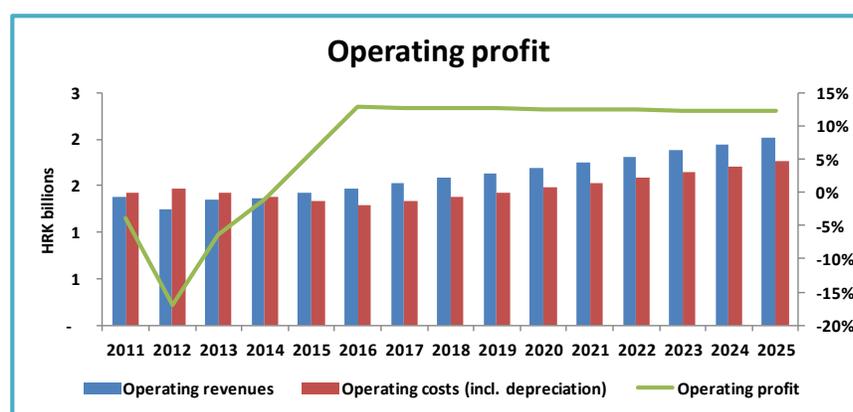


Source: WB calculations

29. The model captures only minimally the impact of the closure of 350 km of railway lines on operating expenses—such as materials and energy—in order to be conservative. These variable costs increase because of an overall increase in traffic. Between 2012 and 2016, a bigger increase in operating costs due to traffic expansion will be offset by savings from the closure of certain rail lines (1-2% annually).

30. The balance sheet of HŽ Infrastruktura contains two types of assets—those owned by the company, and public domain assets (e.g., rail lines). Public domain assets are exclusively owned by the State, but used and maintained by HŽ Infrastruktura. They represent 67% of the company’s fixed assets, and do not depreciate. Therefore, the depreciation expenses are forecast based on the value of the remaining assets outside of the rail lines themselves. The depreciation gradually increases up to 2040. Starting in 2012, the financial model assumes that the company will hold a level of capital expenditures at the depreciation level that is equal to the minimum amount required for replacement of the company’s obsolete assets.

**Figure 38: Evolution of Operating Profit for HŽ Infrastruktura**



Source: WB calculations

31. HŽ Infrastruktura’s net loss of HRK 65 million in 2011 will be further widened in 2012, due to a loss in subsidy revenue and a more than 90% increase in depreciation. The company’s EBITDA margin, however, gradually increases to 23% by the end of the reform program. HŽ Infrastruktura will turn profitable by 2015, with HRK 112 million of net income that will steadily increase during the entire forecasted period. This is a significant achievement for an infrastructure manager that in principle is not a profit-oriented company. As a State operator, its role is essentially different from other companies in the railway holding, and maintaining a profitability level of 1-2% would be sufficient to avoid losses or cash constraints. For profitability levels that are higher than 1-2%, the Government might decide to reduce the level of State contribution or the level of TACs. This would have a direct and positive impact on the profitability of the railway operators.

**Table 23: Evolution of Earnings for HŽ Infrastruktura**

| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,377 | 1,475 | 1.38%                   | 2,010 | 3.50%                   |
| Operating expenses | 1,360 | 1,137 | -3.52%                  | 1,588 | 3.78%                   |
| EBITDA             | 23    | 346   | 71.98%                  | 430   | 2.44%                   |
| EBITDA margin      | 2%    | 23%   | NA                      | 21%   | NA                      |
| EBIT               | (48)  | 197   | NA                      | 254   | 2.86%                   |
| Net income         | (65)  | 236   | NA                      | 809   | 14.67%                  |

Source: WB calculations

32. **Debt.** As of 2011, HŽ Infrastructure’s loan obligations amounted to HRK 2,120 million, to be repaid up to 2018. HRK 1,250 million of the total debt amount is booked in the company’s statements, but is actually being repaid directly by the State and doesn’t affect the company’s operations. The Bank Team strongly recommends that HŽ Infrastructure remove these debts from the company’s accounts. HŽ Infrastructure will be able to independently repay the remaining portion of its debt obligations starting in 2016.

33. **Cash flow.** The company’s cash flow from operating activities was negative in 2012, due to HRK 238 million worth of net losses. Already in 2013, it has improved to HRK 12 million—and it will grow in each subsequent year up to 2040. As of 2014, HŽ Infrastructure’s free cash flow will be sufficient to finance its capital expenditures. The net cash flow will be strengthening from 2013 on, and the company may be able to cover its outstanding loan obligations from its own sources starting in 2016.

34. **Summary of Forecasts.** Implementing all of the elements in the Recommended Scenario would make HŽ Infrastructure entirely viable by 2016. The company is forecast: (i) to turn profitable by 2015—with a net income of HRK 112 million; and (ii) to be able to solely finance its debt obligations and a capital expenditure program from 2016. Revenues collected through TACs in 2016 will amount to HRK 362 million, in contrast to HRK 953 million of subsidy revenue<sup>39</sup>. Because the model results indicate that HŽ Infrastructure will become a highly profitable company, the Bank Team advises the company to reassess the subsidy levels and the TAC levels after 2016. Moreover, additional improvements in productivity could be made through more staff and network rightsizing. The main question marks in regard to this model are: (i) whether the substantial increase in TACs will result in actual payments by railway undertakings; and (ii) how these higher TACs will impact traffic levels.

## ii. Alternative Scenario for Improving Financial Performance Based on Pessimistic Assumptions

35. The World Bank Team has prepared an alternative version of the financial model (the Pessimistic Scenario) that incorporates assumptions driven by low demand. Presenting two versions of financial projections helps to highlight the long-term gap that would open up between these two approaches, but also stresses the need for much bolder actions in a scenario marked by low demand. The Pessimistic Scenario is based on a combination of: (i) implementing Government reforms planned through the HŽ Holding Restructuring Plan in terms of staff resizing and decreasing traffic volumes; and (ii) keeping network size, TACs and tariffs at 2011 levels with increases only to account for inflation. All other elements, including operating subsidies, non-operating expenses, depreciation and debt structure, and repayment, are kept at the same levels in both scenarios. The main assumptions used in the pessimistic model are presented in Table A8. The analysis of the Pessimistic Scenario concludes with a set of recommendations which, if pursued, could represent companies’ way forward for achieving financial sustainability in the medium-term and approaching (or

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<sup>39</sup> Values increased by inflation; subsidy revenue corresponds to HRK 890 million in real terms; TACs levied on operators amount to 11.32 HRK/train-km in real terms for passenger operators, and 23.33 HRK/train-km for transport operators.

perhaps even surpassing) the levels of financial performance anticipated under the Optimistic Scenario.

**Table 24: Overview of Key Assumptions Used in the Financial Model – Pessimistic Scenario**

| Key assumptions<br>(real values, without inflation)                          | 2011                   | 2012                   | 2013                   | 2014                   | 2015                   | 2016                   | 2017-<br>2040          |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Inflation rate   | 2.3%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   | 3.5%                   |
| Length of network in use (track-km)  | 2,632                  | 2,632                  | 2,632                  | 2,632                  | 2,632                  | 2,632                  | 2,632                  |
| <b>HŽ Cargo</b>  |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 3,346                  | 2,470                  | 1,998                  | 1,605                  | 1,210                  | 1,604                  | 1,604                  |
| Annual traffic volume<br>(million net ton-km)                                | 2,521                  | 2,521                  | 2,395                  | 2,155                  | 1,940                  | 1,649                  | 1,649                  |
| Average tariff* (in HRK/ton-km)  | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   | 0.19                   |
| Average TAC* (in HRK/train-km)   | 16.93                  | 16.93                  | 16.93                  | 16.93                  | 16.93                  | 16.93                  | 16.93                  |
| Proceeds from rolling stock sales<br>(locomotive and wagons, in HRK million) | 0.13                   | 1.26                   | 1.24                   | 1.22                   | 1.1                    | 1.14                   | 0                      |
| <b>HŽ Passenger Transport</b>  |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 2,167                  | 1,987                  | 1,841                  | 1,775                  | 1,732                  | 1,689                  | 1,689                  |
| Annual traffic volume<br>(million passenger-km)                              | 1,486                  | 1,337                  | 1,311                  | 1,284                  | 1,272                  | 1,259                  | 1,259                  |
| Average tariff* (domestic/ international/<br>sub-urban; in HRK/passenger-km) | 0.25/<br>0.65/<br>0.15 |
| Average TAC* (in HRK/train-km)   | 3.71                   | 3.71                   | 3.71                   | 3.71                   | 3.71                   | 3.71                   | 3.71                   |
| Proceeds from rolling stock sales<br>(locomotives, in HRK million)           | 0                      | 1.35                   | 1.35                   | 1.35                   | 1.13                   | 1.24                   | 0                      |
| <b>HŽ Infrastructure</b>   |                        |                        |                        |                        |                        |                        |                        |
| Staff count  | 6,953                  | 6,094                  | 5,795                  | 5,638                  | 5,541                  | 5,374                  | 5,374                  |
| External traffic volume**<br>(million net ton-km)                            | 113                    | 118                    | 122                    | 127                    | 132                    | 138                    | 138                    |

\* Unit cost item increases with inflation.

\*\* External traffic volume reflects TAC adjustment, as in reality railway undertakings were paying lower TAC than the one applied by HŽ Infrastructure.

Source: WB calculations

### **HŽ Cargo**

36. **Freight Traffic and Revenue.** The Pessimistic Scenario was developed on the assumption of decreasing traffic volumes. For 2016, the model projects traffic volumes of 1.6 million of net ton-km, or 65% of the volumes realized in 2011<sup>40</sup>. Tariffs throughout the modeling period were set at the 2011 value of 0.19 HRK/ton-km, with adjustments for inflation. Operating subsidies—as in the case of the Optimistic Scenario—are abolished

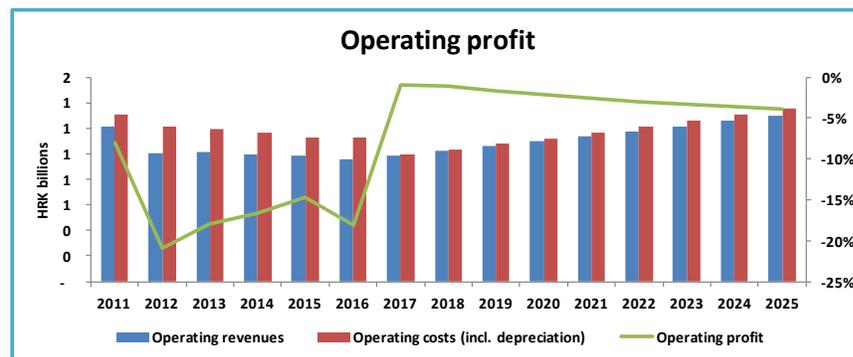
<sup>40</sup>Freight traffic volumes in 2012 were left unchanged as compared to 2011, and they were decreased by 5% in 2013, by 10% in 2014 and 2015, and by 15% in 2016. In period of 2017-40 the model assumes flat traffic volumes.

starting in 2012. The resulting operating revenue for 2012 is HRK 1,003 million, and it is forecast to diminish to HRK 956 million by 2016.

37. **Expenses.** HŽ Cargo’s operating expenses for 2012 amounted to HRK 1,008 million. External services took up roughly half of the operating expenses in 2012 (49%), and labor costs took up 34%. A staff reduction of 68% proposed in the Restructuring Plan should result in HRK 277 million worth of savings<sup>41</sup>. The Pessimistic Scenario does not assume an increase in TACs, which would be established at the 2011 price of HRK 16.93/train-km for all years in the forecasted period. Therefore, TACs are kept at the constant level of around 5-6% of operating revenues. In 2016, the forecasted operating expenses amount to HRK 868 million.

38. In 2012, HŽ Cargo is projected to operate with a net loss of HRK 181 million. The company’s net losses will gradually decrease to HRK 131 million by 2016. Although the proposed cost cutting measures will help to mitigate the effects of shrinking revenues, their real impact will only be visible from 2017 on, when the company’s EBITDA margin will also have improved to 15% from 5% in 2012. Under these conditions, the company will be able to generate a profit of HRK 32 million for the first time in 2017. Due to the high costs of depreciation, the net income will soon thereafter start a contracting trend, and it is forecast to settle at HRK 4 million by 2025.

**Figure 39: Evolution of Operating Profit for HŽ Cargo – Pessimistic Scenario**



Source: WB calculations

39. **Cash Flow.** The cash flow from operations will be positive and increasing during the restructuring period of 2012-2016. The net cash flow is expected to improve only from 2026 on. However, the company will not be able to self-finance its capital expenditures and loan obligations until 2029. Throughout the forecasted period, HŽ Cargo will not be fully financially viable.

<sup>41</sup> The levels of staff reduction and the savings from that staff reduction presented in the Pessimistic Scenario are somewhat different (and higher) than those outlined in the Restructuring Plan, described in Chapter H. Although the model applies the same level of staff during the period of 2012-2016, it is unclear how (as the Restructuring Plan claims) a reduction of 897 staff can have a savings effect of HRK 33.8 million in 2012, and a reduction of 472 staff can have a savings effect of HRK 47.4 million in 2013. The same rational applies to HŽ Passenger Transport.

**Table 25: Evolution of Earnings for HŽ Cargo – Pessimistic Scenario**

| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,213 | 956   | -4.65%                  | 1,303 | 3.50%                   |
| Operating expenses | 1,092 | 868   | -4.49%                  | 1,172 | 3.39%                   |
| EBITDA             | 167   | 144   | -2.92%                  | 187   | 2.95%                   |
| EBITDA margin      | 14%   | 15%   | NA                      | 14%   | NA                      |
| EBIT               | (52)  | (117) | NA                      | 5     | NA                      |
| Net income         | (78)  | (131) | NA                      | 4     | NA                      |

Source: WB calculations

40. **Comparison of Model Forecasts.** The Pessimistic Scenario combines staff reduction measures proposed by the Restructuring Plan and negative traffic and pricing policy assumptions. It does not assume a decrease of network size, which would in principal reduce various operating expenses. However, the network cut effects would be small, because freight companies usually operate in international corridors—i.e., the most profitable network lines. The Pessimistic Scenario projects that, in 2016, HŽ Cargo will achieve HRK 956 million in operating revenues against HRK 868 million in operating expenses; under the Optimistic Scenario, these values were 25% higher for operating revenues, and 5% higher for operating expenses. Moreover, the company would generate HRK 243 million more in profit under the Optimistic Scenario than under the Pessimistic Scenario (in which the company realized a net loss of HRK 131 million). This is combined with the fact that HŽ Cargo does not achieve financial sustainability under the Pessimistic Scenario, whereas under the Optimistic Scenario the company achieves financial sustainability by 2016.

41. **Recommendations.** Given the results of the Pessimistic Scenario, the company can decide between two different ways of improving its financial performance in the medium-term: it can either increase operating subsidies, or reduce operating cost items. Because compliance with EU regulations prohibits subsidies to the freight operator from 2012 on, HŽ Cargo may consider tackling its high operating expenses. This mostly reinforces the need for immediate privatization, because under the Pessimistic Scenario, the risk of de facto bankruptcy is almost certain.

42. The Bank Team produced an Alternative Pessimistic Scenario (see Paragraphs 48 & 49 of the current section) that demonstrates that HŽ Cargo can be profitable by 2015, if both staff costs and external expenses are reduced by 5% annually from 2012-2016. In particular, this would mean that: (i) staff costs would need to be cut by 71% (in contrast to the originally planned 62% cut under the Basic Pessimistic Scenario); and (ii) external services (which had previously been growing) would need to be 8% smaller by 2016 as compared to 2011<sup>42</sup>. In that case, the company would operate HRK 28 million worth of profit by the end of the

<sup>42</sup> It is important to differentiate between a decrease in number of staff and a decrease in staff cost (calculated as staff count multiplied by annual cost per staff member). Under the pessimistic scenario, the number of staff of HZ Cargo decreases by 68% between 2011 and 2016, but in the same period its staff costs are 62% lower. The difference accounts for inflation that amplifies annual cost per staff member. The alternative version of the pessimistic scenario has an impact only on the annual cost per staff member, but not on the staff number per se, which changes according to proposals in the HZ Restructuring Plan. The same rationale applies to other HZ companies.

restructuring period. Moreover, as of 2016, HŽ Cargo would also be able to independently finance its capital expenditures and settle its debt obligations.

### *HŽ Passenger Transport*

**Passenger Traffic and Revenue.** In 2011, HŽ Passenger’s traffic was at 1,337 million passenger-km. Starting in 2012, the traffic volumes under the Pessimistic Scenario are projected to gradually decrease over the subsequent five years<sup>43</sup>. This would result in a 15% decrease in passenger-km in 2016 as compared to 2011, but an HRK 2 million increase in ticket revenues. Because tariffs are set at 2011 levels during the entire modeling period—and increase only with inflation—the incremental increase in ticket revenue would merely be a product of inflation that would boost revenue from passenger fares—forecast to reach HRK 359 million by 2016.

43. **The level of State contributions** for PSC contracts would remain the same under both the Optimistic and Pessimistic Scenarios, but the share of public funds in operating revenues would need to be higher under the Pessimistic Scenario. HŽ Passenger Transport’s operating revenue would grow from HRK 1,309 million in 2012 to HRK 1,489 million by the end of restructuring period, and further to HRK 2,029 million by 2025. The revenue increase, however, would be solely a product of inflation, given that all items are actually frozen in real terms.

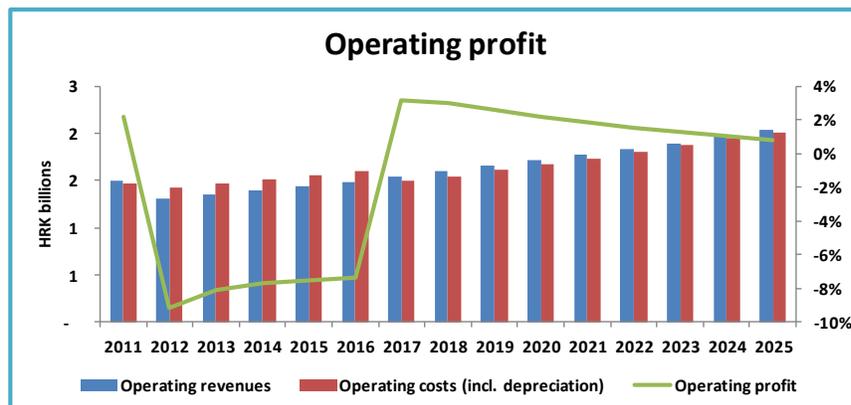
44. **Expenses.** In 2012, the total operating expenses of HŽ Passenger Transport amounted to HRK 1,226 million. External services (HRK 644 million) and staff costs (HRK 303 million) were the company’s biggest cost items, followed by energy costs (HRK 154 million) and TACs (64 million). During the period of 2012-2016, all expense items except staff are forecast to have an increasing trend. A staff retrenchment of 22% yields savings of HRK 22 million, but those savings will be lost if staff resizing actions are not enforced post-2016. TACs—set at 3.71 HRK/train-km for the entire modeling period, and increased with inflation—do not represent a significant item in the company’s expense structure. The forecasted operating expenses in 2016 amount to HRK 1,339 million, and increase to HRK 1,825 million by 2025.

45. In 2012, HŽ Passenger Transport is unprofitable, and operates with HRK 119 million worth of net losses. By 2016, this loss is projected to increase to HRK 135 million, and then turn to HRK 21 million of net profit in 2017. The change in net income between 2016 and 2017 stems from a decrease in non-operating expenses—namely depreciation (just like in the Optimistic Scenario), but also from mitigated TAC expenses—which are kept at an extremely low level during the forecasted period. However, the positive momentum will be maintained for only three years—because in 2020, the company again starts producing losses that gradually grow up to 2040.

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<sup>43</sup> Passenger traffic volumes are forecast to proportionally decrease for all categories by 10% in 2012, 2% in 2013 and 2014, and 1% in 2015 and 2016. The model holds 2016 levels of traffic until 2040.

**Figure 40: Evolution of Operating Profit for HŽ Passenger Transport – Pessimistic Scenario**



Source: WB calculations

46. **Cash Flow.** The Pessimistic Scenario projects that HŽ Passenger Transport will not have a sufficient amount of operating cash flow to finance its capital expenditure program during the entire forecasted period, and will have to rely on external sources. However, any additional debt will be difficult to settle, because the company under current circumstances is not even able to repay its existing loans.

**Table 26: Evolution of Earnings for HŽ Passenger Transport – Pessimistic Scenario**

| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,495 | 1,489 | -0.08%                  | 2,029 | 3.50%                   |
| Operating expenses | 1,239 | 1,339 | 1.56%                   | 1,825 | 3.50%                   |
| EBITDA             | 266   | 166   | -9.00%                  | 220   | 3.18%                   |
| EBITDA margin      | 18%   | 11%   | NA                      | 11%   | NA                      |
| EBIT               | 43    | (95)  | NA                      | 31    | NA                      |
| Net income         | 24    | (135) | NA                      | (63)  | NA                      |

Source: WB calculations

47. **Comparison of Model Forecasts.** In 2016, forecasted operating revenues and operating expenses under the Pessimistic Scenario are 13 and 5 percent lower than in the case of the Optimistic Scenario, respectively. In the same year, the company operates with a net loss of HRK 135 million under the Pessimistic Scenario, while it break-evens with the Optimistic Scenario. Financial sustainability, characterized by self-reliance in settling loan obligations and contributing to capital investments, under the Pessimistic Scenario is not achieved, while the company under the Optimistic one is viable already in 2016. The Optimistic Scenario also proves to be a better option in terms of profitability in the long-term (net income of HRK 230 million under the Optimistic Scenario against HRK 63 million of net loss under the Pessimistic Scenario in 2025).

48. **Recommendations.** Alternative versions of the model were developed to analyze the impact of additional measures that could be taken for improving the financial viability of HŽ Passenger Transport, given the current conditions. The first measure assumes an increase in the operating subsidy to HŽ Passenger Transport as a means of accomplishing better financial performance. If the subsidy in real terms was increased by HRK 105 million annually during the period of 2013-2016, the company would: (i) turn profitable by 2016 (HRK 4 million net income); (ii) be able to invest in capital replacement from 2014 on; and (iii) attain full viability by 2018.

49. Similar results could be achieved by influencing only operating expense items: for example, by decreasing staff costs by 45% by 2016 instead of by the 7% planned under the Basic Pessimistic Scenario; or by cutting external services by 3% by 2016 instead of growing those services by the 19% planned under the Basic Pessimistic Scenario.

50. Finally, combining a cost cutting of 16% in staff and contracting external services to their 2012 level by the end of restructuring—with a real term annual increase of HRK 40 million in subsidies between 2013 and 2016—the company is forecast to turn profitable by 2015, realizing a net income of HRK 8 million. As of 2018, it would also become financially viable.

### *HŽ Infrastructure*

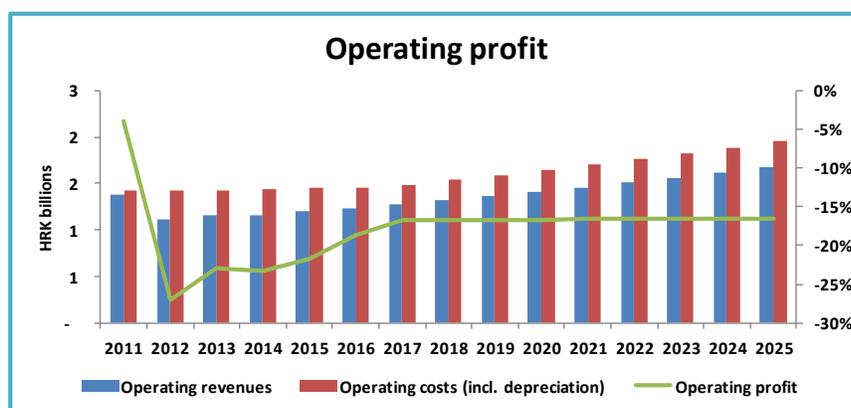
51. **TAC Tariffs and Revenues.** In addition to revenue from the operating subsidy, which is set at the same level as in the Optimistic Scenario, HŽ Infrastructure's most important revenue source is TACs. Under the Pessimistic Scenario, TACs for railway operators is fixed at the 2011 level, and increases only with inflation. During the implementation of the restructuring measures from 2012-2016, which entails a drop in traffic volumes for national operators, TAC revenue will decline from HRK 126 million to HRK 117 million. Starting in 2017, TAC revenue will have an increasing trend due to inflation, and its share in operating revenue will remain at around 10%, in contrast to 20% in the Optimistic Scenario. The company's operating revenue is forecast to grow as of 2012 to HRK 1,229 million in 2016, and HRK 1,675 million in 2025. The revenue boost is an outcome of inflationary impacts.

52. **Expenses.** Under the Pessimistic Scenario, HŽ Infrastructure's operating expenses will be decreasing from HRK 1,360 million in 2011 to HRK 1,312 million in 2016. During this period, some savings will be made on materials and electricity due to lower traffic volumes, while a 23% staff decrease will generate HRK 76 million worth of savings. Nevertheless, the staff costs in 2016 represent 68% of operating costs, in contrast to 54% under the Optimistic Scenario. All operating expenses will grow exponentially from 2017 on, confirming that the cost cutting measures were negligible.

53. HŽ Infrastructure's net loss of HRK 328 million in 2012 will be narrowed to HRK 161 million by 2016, as a result of contracting operating expenses, but also from an earned interest on a positive cash balance as of 2015. The company will turn profitable by 2021,

when it will operate with HRK 29 million of net income—and this positive trend will be maintained throughout the forecasted period.

**Figure 41: Evolution of Operating Profit for HŽ Infrastruktura – Pessimistic Scenario**



Source: WB calculations

54. **Cash Flow.** Under the Pessimistic Scenario, HŽ Infrastruktura’s cash flow from operating activities will be negative until 2016, when it will gradually start strengthening. The company will be able to finance its capital expenditure program as of 2019, but it will not be able to contribute to the current loan repayment program.

**Table 27: Evolution of Earnings for HŽ Infrastruktura – Pessimistic Scenario**

| In HRK million     | 2011  | 2016  | CAGR<br>(2016 vs. 2011) | 2025  | CAGR<br>(2025 vs. 2016) |
|--------------------|-------|-------|-------------------------|-------|-------------------------|
| Operating revenues | 1,377 | 1,229 | -2.25%                  | 1,675 | 3.50%                   |
| Operating expenses | 1,360 | 1,312 | -0.72%                  | 1,776 | 3.42%                   |
| EBITDA             | 23    | (74)  | NA                      | (93)  | NA                      |
| EBITDA margin      | 2%    | -6%   | NA                      | -6%   | NA                      |
| EBIT               | (48)  | (222) | NA                      | (268) | NA                      |
| Net income         | (65)  | (161) | NA                      | 165   | NA                      |

Source: WB calculations

55. **Comparison of Model Forecasts.** Results obtained by modeling a Pessimistic Scenario, the positive financial effects of the various assumptions will be visible 3-4 years later than under the Optimistic Scenario. Therefore, HŽ Infrastruktura will turn profitable and achieve self-sustainability by 2021. Under the Pessimistic Scenario, the operating revenues collected in 2016 will be HRK 246 million smaller than under the Optimistic Scenario; the operating expenses will be HRK 175 million higher. Therefore, variance in net income between the two scenarios in 2016 amounts to HRK 397 million. This variance will widen further to HRK 644 million by 2025.

56. **Recommendations.** Considering the outcomes of the Pessimistic Scenario, the Bank Team has prepared a set of recommendations that, if implemented, could enable HŽ Infrastruktura to achieve positive financial effects before the end of the restructuring period. These recommendations are organized around three types of actions: (i) an increase in the operating subsidy; (ii) an improvement in cost-efficiency; and (iii) a combination of both.

57. If the Government opts for an increase in the operating subsidy by HRK 100 million per year in real terms during the period of 2013-2016, this policy would result in HRK 4 million in net profits by 2016. Nevertheless, the company will not be able to settle loan obligations or finance capital investments until 2018. Achieving financial sustainability as early as 2016 would require an increase in the operating subsidy of HRK 200 million per year in real terms for the period of 2013-2016. In that case, HŽ Infrastruktura is forecast to turn profitable by 2015, with HRK 39 million in net income.

58. The Alternative Pessimistic Scenario shows that additional staff resizing could significantly improve HŽ Infrastruktura's performance. For example, if staff costs were decreased by 38% during the period of 2011-2016 (the Basic Pessimistic Scenario assumes only an 8% decrease), in 2016 the company would generate a net profit of HRK 102 million and at the same time operate with a free cash flow that would make it possible to finance its capital investment program and loan repayments. Alternatively, decreasing another operating expense item, such as external services that under the Basic Pessimistic Scenario circumstances would grow by 19 percent, by almost a half (47%) would result in HRK 2 million of net profit in 2016, but financial viability will be achieved 2 years later.

59. The third alternative would involve combining a 23% reduction in staff costs and keeping costs of external services constant during the restructuring period, with an HRK 50 million annual raise in operating subsidies in real terms from 2013-2016. HŽ Infrastruktura is forecast to turn profitable and become financially viable by 2016. The net income in 2016 is projected at HRK 109 million (the company breaks even in 2015). The cash flow from operating activities will be positive as of 2014, at which time the company will be able to finance its capital investments—and, as of 2016, the company will also be able to repay its loan obligations.

Figure 42: Rail Network of Croatia



Source: WB