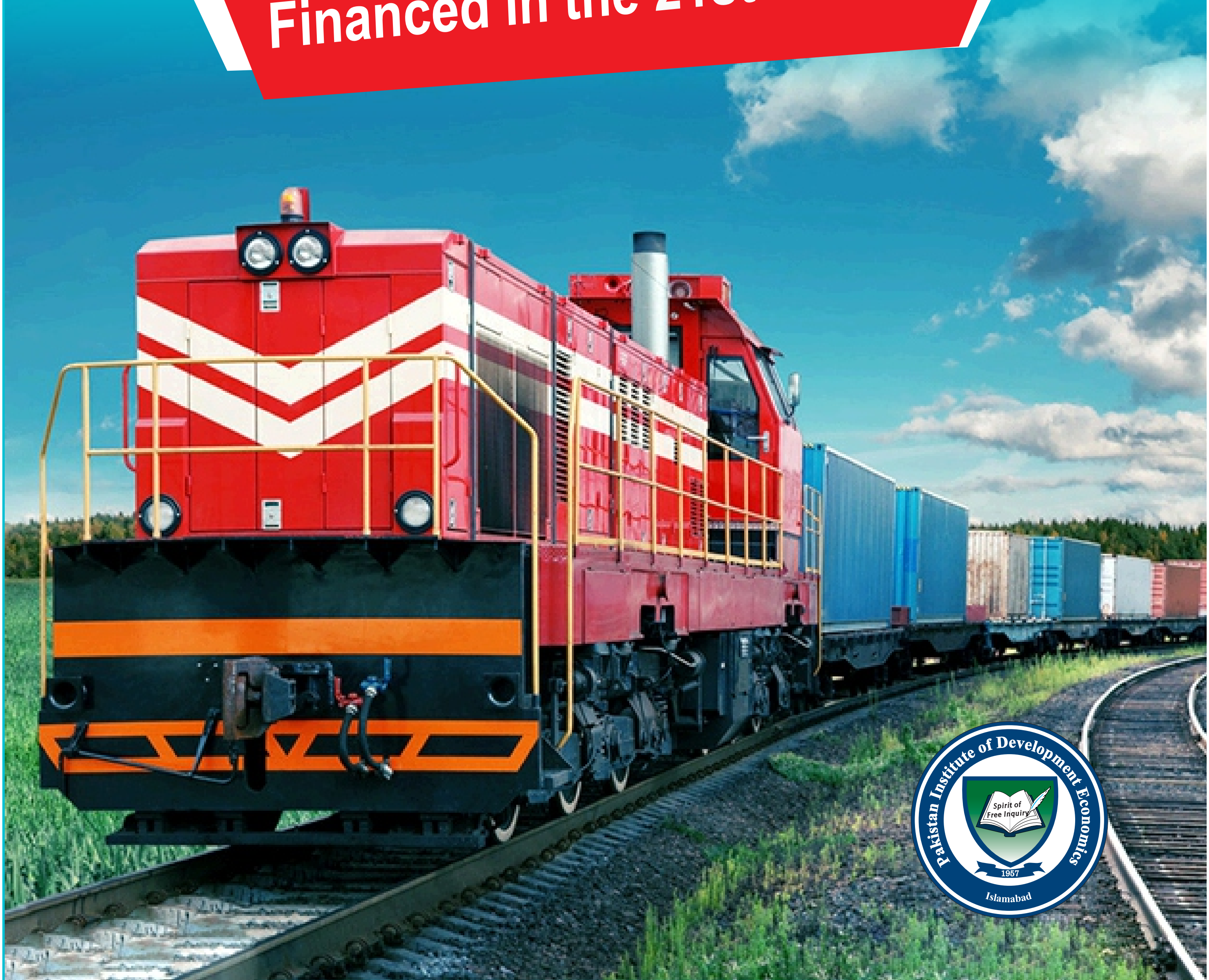
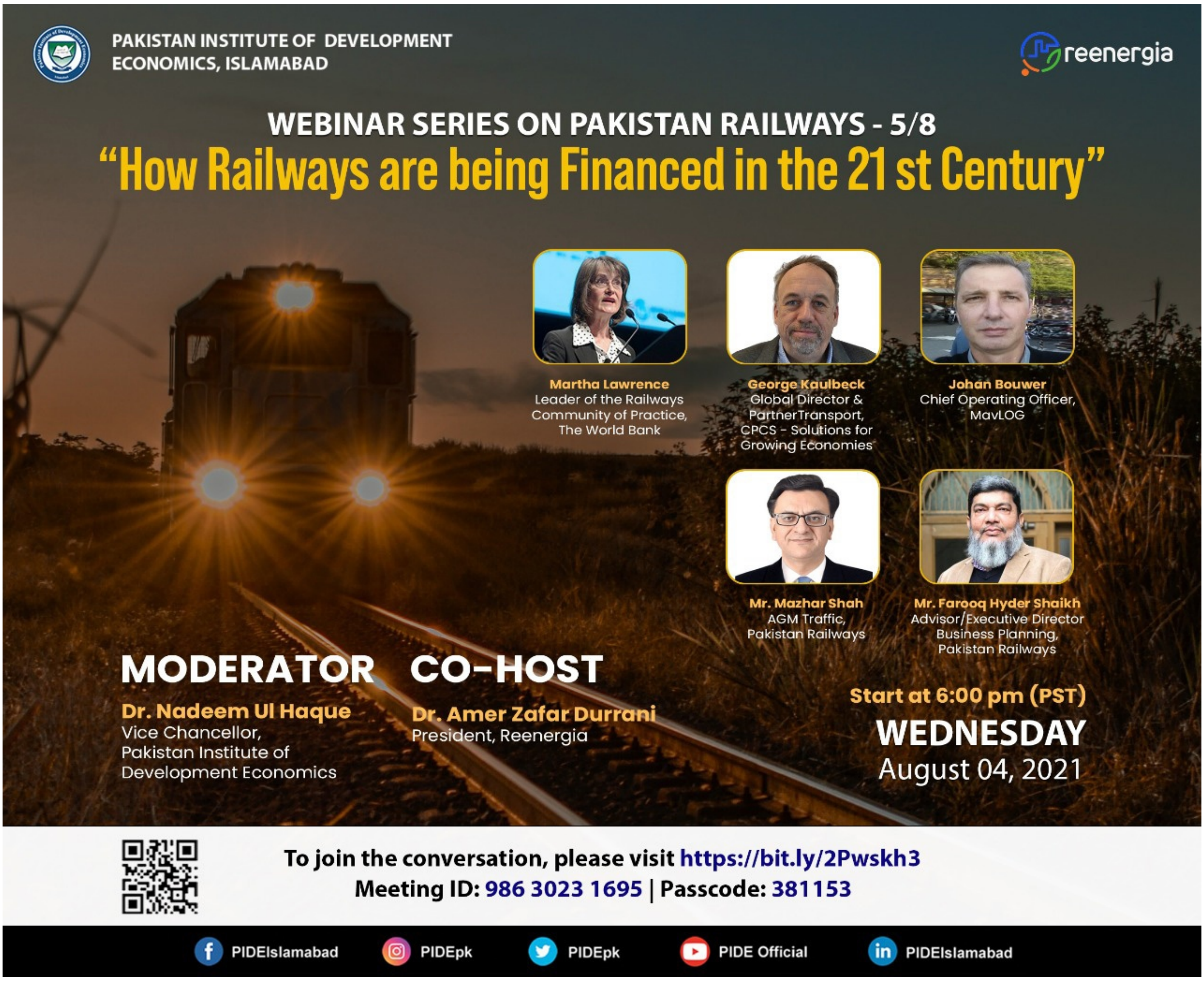
Webinar

Brief 77:2021

How Railways Are Being Financed in the 21st Century



Pakistan Institute of Development Economics



Key Messages

Ms. Martha Lawrence

- Railway's problems can be fixed with some fancy financial instrument Financing is always a product of funding. Funding generally comes from four sources 1) passenger tickets, 2) payments for freight services, 3) government subsidies, and 4) providing other services like track access or advertising in passenger stations.
- Funding can be raised from the private sector based on the financial strength of a government. The largest pool of financing increased worldwide is sovereign financing. It is the cheapest financing, but it's often not available because governments have other priorities. Sovereign financing also includes loans from organizations like the world bank.
- The second source of financing is Pool financing which is corporate financing raised via state enterprise or corporation for the railway. One example of project financing is in Mexico, where between 1996 and 1999, concessional state railways were introduced. The purpose was primarily to improve the performance of the railway, but the concession brought the government over three billion dollars in concession fees. The concessionaires have invested a considerable amount of money in upgrading the assets.
- Another source of financing is project financing which is based on the project in emerging markets. One type of such project is financing through public-private partnerships (PPP). The project financing can be done at a smaller scale than just a whole railway station development project. Development of logistics facilities and industrial lead lines are few examples of project financing in many countries. PPPs leverage is the smallest pool of financing, and PPPs financing is typically the most expensive, so it needs to be used wisely. It is best to use PPPs when project delivery is efficient by involving the private sector, not primarily as a source of financing. A PPP is not

- Sovereign and corporate bonds and corporate stocks are often traded on exchanges, making them more attractive to investors because they're more liquid.
- India and North America are exemplary in this type of financing. The government of India has provided money to the ministry of railways, which invested the funds in Dedicated Freight Corridor Corporation India Limited (DFCCIL), and these funds are accounted as the government's equity in the corporation. Second, the government of India has directly borrowed money from the world bank and Jamaica for the western corridor. For these projects and unlimited to DFCCIL and then third the company itself has borrowed money from the world bank with a guarantee of the government of India.
- North American railways have their equity stock traded on public stock exchanges and debt borrowed from the private sector; others such as Deutsche Bahn, the German railway or air jade the Russian railway or the China railway group have equity that is government equity. So, they mix sovereign with a substantial amount of debt borrowed from the private capital markets.
- PPPs financing is typically more expensive than sovereign or corporate financing because the investor's only recourse for payment is the project, and they can be complex to design and tender. They require the ongoing capacity to supervise effectively, so one must weigh the pros and cons.
- Typical financing instruments are loans, bonds, stocks, leases. Nearly all financing instruments are some permutation or combination of these basic types. Although none of this is free money, whatever the instrument to be used, the money must be paid back with interest or dividends. For the railway to be financially viable, the investment needs to be profitable enough to pay back the financing over time.
- Another common instrument of finance is green financing. Railways invest in green financing through green bonds, and they are similar to normal bonds. The only difference is that it attracts a pool of investors who want to invest in green activities.
- An important part of financing railways is reducing the investors' perception of risk. Government can help by creating an attractive business environment having transparent and fair sector governance. If we ensure that the railway has adequate funding and manage the risks around investing, financing is easy.

George Kaulback

- Funding refers to the sources of revenue or income that can be turned into cash and used to pay for a project or service includes cash flows from the delivery of rail services.
- Financing refers to the financial tools that can be used to access money to pay for a project or service against future cash flows. So, generally, if the project is well funded.
- Suppose the downstream revenues aren't sufficient to pay for the initial financing of both debt and interest. It creates a funding gap that can be rectified in one of two ways in terms of capital subsidy or public funding.
- Alternatives of funding and finance mechanisms are largely about urban railways. Opportunities to increase revenues from rail operations, projects, or related assets include market pricing to maximum farebox revenue.
- If there is still a funding gap after all sources of revenue to the railway are maxed out. The potential mechanisms can be Value capture Mexican mechanisms, station parking charges, tolling, congestion charges, personal vehicle-related charges, sales tax, dedicated payroll taxes, business at urban centers, and carbon credits.
- There are three potential mechanisms for capturing land value. The first is incremental property tax revenues where real estate within the catchment zone would have higher taxation added property tax called incremental tax financing. It is a slightly higher rate to the property tax in those areas, which is used to provide a gap funding to the rail line development. A similar type of tax is just a one-time surtax or maybe over several years charged to property owners and used similarly flows to the railways. The last one is a development fee in which any land developments will be charged a fee in the area within the catchment of each station. Other types of potential revenues are congestion charges, incremental sales tax dedicated to rail projects. On a larger scale, global possibilities include bilateral agents who could help reduce the funding gap through infrastructure grants.

Mr. Johan Bouwer

- The regulatory model refers to the flow or channeling of the money. In the regulatory environment, the various portions in the railway make the money that comes back into the entity. The regulatory model was used in South Africa. in South Africa, per state entity, they corporatized a state entity in the early 90s, maintaining a balance sheet, and the balance sheet is used for funding neighboring countries. The state always owns the bottom infrastructure.
- The customer underpins everything. It is the customer who ultimately brings value to the railway. They pay the tariffs, pay the way, whether it's a long-term mining project, whether it's general freight movements, whether it's put to port movements.
- An investor could be the person in the railway and owns a locomotive and a wagon and operations. Most countries start with a dominant operator that evolves over the years into a more competitive, where the concessions of certain portions of the line are certain.
- Geographical concessions are usually how things evolve, and that could be done with or without rolling stock.
- The financiers demand his future pay contract, specifically on the freight side, a 10 or 15-year contract worth pricing and profitability mechanisms. Cost-sharing mechanisms are favorable because they guarantee assets withdrawal at any time.

Mr. Farooq Hydar Sheikh

- Revenue is the key driver for that financing. There is a lot of negative perception among financers about the Pakistan railway.
- There are the total revenue sources from the core areas of revenue. In 2018-19, our total revenue was 54 billion, and revenue sources were passenger 29 billion, freight 18.8 billion, and sundry, which means another revenue branding and all other elements as land utilization was 4.3 billion and another coaching was 2 billion. PR took subsidies from the government to sustain our operations, and the government is also one of the main sources of funding. In the current year, 2021 PR revenue touched 50 billion, which is a record in the history of Pakistan railways.
- To address the challenges, we adopted the Indian railway model because they have similar conditions and a similar type of situation. We have evolved our model based on our ground realities and situations.
- Other major challenges faced by PR include the utilization of existing infrastructure and available rolling stock and the lack of digital platforms and technology for visibility of over operations. The models are operational to address these issues. PR is moving into the track access side policy where we only manage the track. The rest is all shifted towards the private sector.
- Another issue is Customer-centricity. Customer focus is missing, which is one of the key pillars. we are developing a customer-centric dynamic that is receptive to the market needs and meets or exceeds customer expectations. Where technology will play a key driver role, We are applying bottom-up strategy targeting. It has four main focus areas: marketing, customers, business management, and network investment. Network investment means to effectively utilize huge land. Infrastructure is available but not efficiently utilized as a source of funding and financing. There are certainly other factors like a lack of clear-cut transportation policy by the government of Pakistan. In India, a transportation policy includes you can't move goods from one province to another through road transport. They have heavily invested in their infrastructure. They have developed a dedicated freight corridor that means their land capacity on the passenger side is completely vacant, and there's no freight.
- We need structural changes by adopting a hybrid model to bring professionals from the private sector and make sure that this transformation journey is taking place differently from a conventional government style.
- Operational efficiency is one of the major challenges. There are a lot of conventional issues like bureaucracy and cultural change. To improve operational efficiencies, some of these strategic strategy parts are linked to the financing outsourcing of our core business units and evolving business model public-private partnership model, which will generate a lot of revenue and financing.

- Pension is one of our major liabilities. Thirty-five billion rupees is a permanent liability for the railway sector in this regard. It is increasing every year, so we are working with financial experts to help us generate and take this liability out of our balance sheet.
- Pakistan railways are encouraging the private sector to come and invest in that area, supporting them with the operational, mechanical, and maintenance of those, and providing them the track to use. In addition to new passenger coaches, we have already commissioned like 230 passenger coaches. Similarly, we are also adding 820 new freight wagons.
- Customer centricity will be the key driver for growth automation. We are bringing one of the software called which is railway automated travel advisory booking and advisory service. It is one window solution; it will also be a key driver for our growth procurement of RFID based on a rolling stock tracking system to ensure real-time.
- All these avenues contribute to generating some finance from one way or the other either through operational efficiency of saving money or by bringing public-private partnership.
- There are four or five main sources of funding that Pakistan railways will be working on. This is a Public-Private partnership initiative. We are offloading some of the activities, which are our non-core activities focusing on the core activities, working on the branding, government agencies to help on the front branding. Pakistan railway developed a robust plan for land utilization.
- Pakistan railways have 300 commercial stations and 170 000 passengers pass through our network daily, and 70 million consumers pass through our network in a year. It is a huge opportunity for the corporate sector to come and brand.
- PR is working on a 10-year business plan right now, which has never been in the history of Pakistan railways. It has been more on an operational basis of one-year and five-year. plans have been submitted, but they were just to meet the formalities.

Institutional Arrangements for Reforming and Developing the Railway Sector

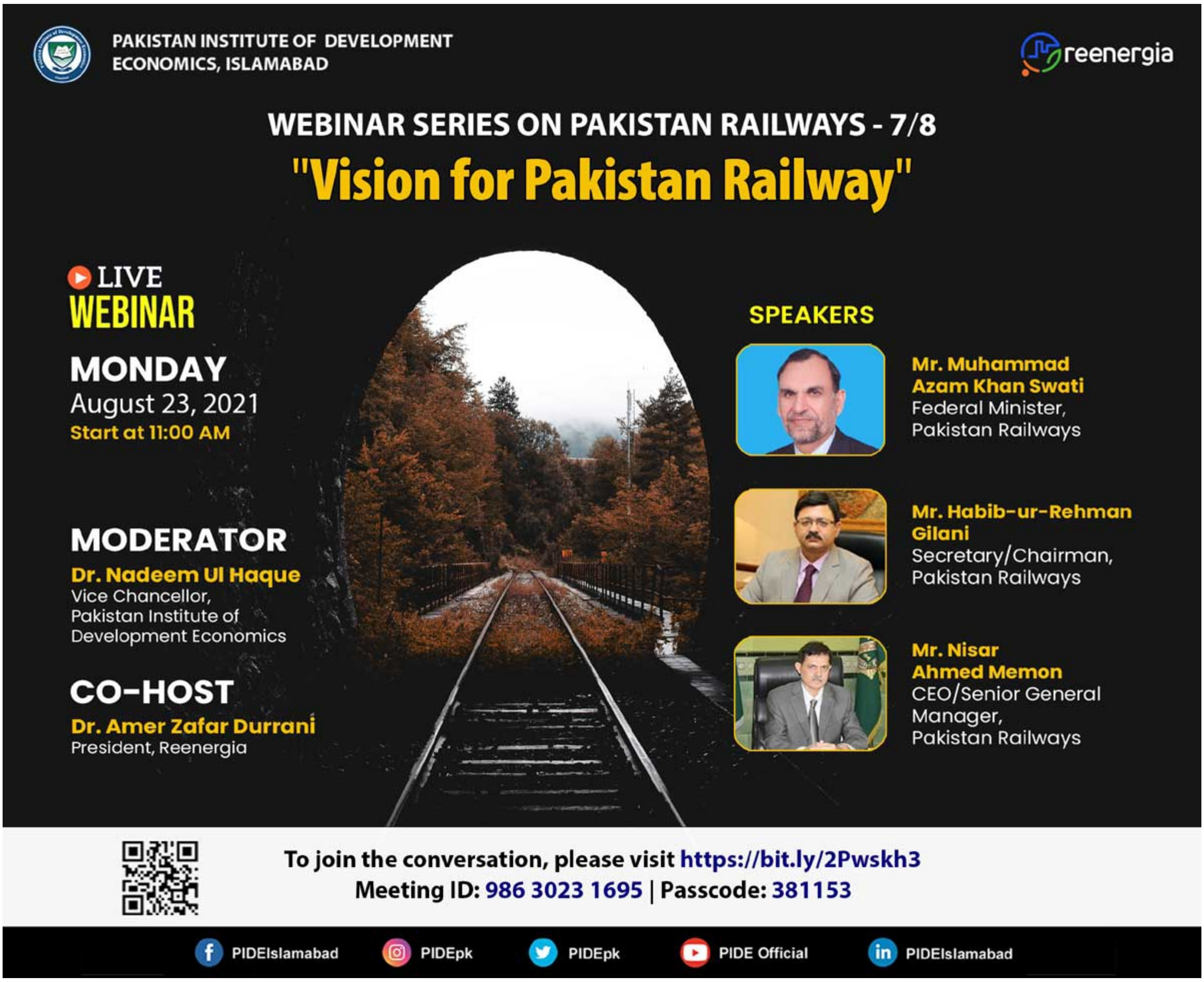
Dr. Ishrat Hussain

- The government made a cabinet divided into four distinct parts; one is the human resources capacity building. It must induct specialists in the human resources in business development.
- There must be land development because there are thousands of acres of land in the private sector that can generate 5 to 10 billion rupees annually without much effort just by rewriting the concession agreements and getting rid of the enclosures.
- The second part of the capacity building is to train the officers who are already working. Nowadays, 15 days of training both in the academy and an outside academy, for example, in NUST, LUMS, and other places, have been made mandatory. There is a need to upgrade the training academy itself and bring in some instructors.
- The first pillar of the entire restructuring plan is capacity building, and it is the pivot.
- The second pillar is automation digitization. There are many electronic ticketing exits, but no ERP system integrates all the processes from end to end. In the future, the ERP will be operated, making the railways completely paperless, and all the data will be generated electronically. Another one is CRM, the customer relation, and a Chinese company RAPTA is being commissioned which is tasked with developing the tracking arrangements, call centers, and SMS alerts about the timing and all other things normally done in a railway system. The ERP and the CRM are the infrastructure development, inventory arrangements, and procurement.
- The third pillar is to create a very robust engagement with the private sector. We have five independent corporate entities; one is independent of the railway ministry itself, which is ML-1. This is going to be a six to seven-billion-dollar project. We need a completely different organizational financial and operational governance model for ML-1.

- The second part emphasized was the separation of the regulatory function from the exiting operational authority. There is a need for independent regulatory authority reporting to the cabinet division, not the railway division. There is third-party track access, and they will negotiate the charges, which the government of Pakistan will own. The fourth company will for the freight operations that will be independent, and FTC has been hired an individual from the private sector on an open comparative basis. It will give complete freedom to operate. The fifth will be the rail passenger outsourcing the passenger train to the private sector.
- Just as IPP policy, there was a total ban on public sector investment in power generation. Government should consider not expanding or investing public money in rolling stock only invest in infrastructure.
- Pakistan faces the main hurdle regarding coordination failures in the government, and all the ministries want to work independently. The committee's progress has been quite satisfactory, e.g., financial earnings this year is about two to three billion.
- Another main hurdle regarding retirees' operation of the railways. There are 115000 retirees of the railways, and they get 35 billion rupees annually. There is no way of verification of these individuals. So we should need to introduce a biometric verification system for the pensioners because it creates a deficit.
- To make the railway sector competitive outside the federal railway sector, the provinces could take it over by their own companies rather than Pakistan railways. Lahore metropolitan metro with Multan Peshawar has already taken them out of the central railways. Once it gets going, the Karachi circular railway would also be having its own company rather than Pakistan railways.
- There is a need for an HR advisor who would design the incentive structures so that the performance management system is not based on seniority but on achieving the targets, which is a long-term phenomenon. Our assets both on the land side and the track to giving out to the private sector after making sure about their capability are beneficial to impalement to these changes.
- We need to transform Lahore, Karachi, Rawalpindi, and Peshawar railway stations to make them like airports with decent shopping plazas, cafes, and restaurants, i.e., to make money from commercial enterprises apart from the train fares like the model of Delhi metro railway.

Mr. Asim Siddiqui:

- with private sector engagement, Pakistan freight trains speed increased and time reduced from 80 hours to 60 hours, so there is improved due to restructuring
- Sixty percent of the freight revenue comes from three and a half million tons of cargo for the Sahiwal is 44 billion.
- We have the Pakistan railway strategic plan multilateral institutions which worked on railway strategic plan for Private sector engagement.
- There is a need to change policy and agents, and it comes through training or a project directorate. There is a need for a road map with timelines and milestones thought out plan, not just a policy. Long-term sustainability also needs to be ensured.
- Government should also focus on asset management. Terminals investment, infrastructure management, and track access projects should also be given to the private sector for efficiency.
- The private sector is basically on the top line for raising passenger and freight revenue. Ministries need to focus on staffing competent people with subject specialists and with assigning clear roles and responsibilities.
- There is a need for the branding of the train, the railway stations, and the track. It all depends on the visibility of the private sector. There are private-sector people now in Pakistan railways work as marketing head and head of HR as well.



Vision for Pakistan Railway

In previous webinars on this topic, we considered looking at the history of the institutions, the financing, and the rise of the China railways, the growth, and the amazing rise of China railways. We begin to realize that institutionally we need to redo the entire railway sector set up. Therefore, we must revisit the Pakistan railway act with an ax, cut down this tree that was planted back in the 1800s, and come up with a new railway act with the Pakistan railway regulatory authority at the center of the creation of the federal level. We need to split and start thinking of railway as multiple institutions, multiple railways running at the level of the federation at the level of the province and for urban and cities. We need to start concentrating on the role of the federation primarily as a regulator only.

- **Mr. Habib-Ur-Rehman Gilani**
- The role of bureaucracy is extremely important for railways. Bureaucracy is manipulating from the outside, which means the ministry has secretaries. These people manage the ministry's affairs and form a link between the government and the railway department.
- The first problem was that the objective was to restore Pakistan railways and to make them viable. The railway is a unique organization that is a public sector organization, and it works for the private sector. When Planning Commission and the CDWP did not approve the ML-1 project, it was hanging in the balance for the last five to six years.

- The function of the Pakistan railway is to provide support to the private sector and play its role for national development as a contributor towards the national economy. The government needs to align its Objectives to support the private sector.
- To reduce the freight rates by five to ten percent with an increase in demand. The railway placed orders for 230 passenger coaches and 820 freight cargos. Along with this introduced a Precure Lease and Transfer Model (PLT) for securing freight wagons.
- Rolling stock is extremely important. Most of our rolling stock is more than 40 years of age, which means beyond economic repair. The plan is to remove all the condemned vehicles and replace them with new vehicles to make the railway more efficient through a public-private partnership or joint venture (JV). We have hired an international consultant. They made a consortium led by KPMG. They are preparing a joint venture proposal. The government will only give a pay-back guarantee. It will provide its infrastructure in the form of workshops, railways manufacturing facilities, our engineers, sheds, trained staff, the investment in machinery, and the capital investment will be done by the JV partners.
- To enhance capacity building of the Pakistan Railways, one component is to grow specialized units of business development, human resource management, information technology, and legal range. PR is hiring people for these departments like CEO of healthcare from the private sector, CEO of trade transportation company from the private sector, and CEO of the tax, which is Pakistan railways advisory and consultancy services.
- Ownership is Like a big gap in Pakistan; theoretically, it should be the Pakistan railway board that should take the ownership, and a cabinet committee on railways should drive Pakistan's initiative and master plan.
- PR has initiated a reform process for pension payments. After some initiatives, the financial burden of PR in the last year was reduced directly by three billion rupees by an increase in PR's income about one billion rupees, and expenditure was reduced by almost two billion rupees.
- During Covid-19, Pakistan railway was the best performing department about devising a foolproof SOP and then foolproof implementation of those SOPs. It established quarantine centers at the Torkham and Chaman border to quarantine the people who had to travel to Pakistan from these border areas.
- Some software is already installed for human resource management information systems. There is a planning portal on which all present and future projects are designed. The software has been launched and is for free booking. There are two mega IT initiatives; one is the implementation of ERP. CTWP has devised the project. The second is a CRM customer relationship management software with the name of railway automated booking and travel assistance through which artificial intelligence-based booking will be introduced.
- The rationale for all these reforms is that there are three pillars.1) one is to engage the private sector, 2) the second is to build human capital, and 3) third is automation and digitalization, so all our efforts are surrounding these three main areas of course in keeping track of the improvement and the development planning.
- Within the last year, the railway has completed the connectivity with the SAPT, and that will give a huge potential so the advanced cargo going from SAPT will be directly loaded to the trains, and it will go to Azakhel to Chaman.
- Five hundred acres of PR retrieved from encroachments worth millions of rupees. We have initiated mega projects for Karachi like Karachi circular railways, a shuttle service for containers from KPT to PEPRI, which is 55 kilometers outside Karachi so that 5000 truckloads from Karachi city will be reduced daily.
- We have hired a consultant to establish a separate pension fund and introduce a contributory provident fund in place of defined benefits.
- Three consultants are reporting on the railway. one is for establishing the regulator, the second is for pension reform, and the third is for preparing the business model for ML-1. Considering the ML-1 project coming up and the two of these consultants' design and implement consultants. They will implement those reforms themselves.

Dr. Amer Zafar Durrani:

- The railway is a hundred-billion-rupee organization that has 65000 employees; what does that translate to. It translates to the productivity of about nine thousand six hundred dollars per employee an average US I.T company. We should consider measuring productivity.
- The gains from the Pakistan railway over the past time add up to about 9 million US dollars of gains until the present year. The railway is contributing to about four to six percent of GDP losses. The railway is causing an economic weight or retardant of about 10.8 billion US dollars, that's 1.7 trillion Pakistani rupees which is pretty much.
- It's nice that we are all going to get I.T enabled but What our targets should be is when will the Pakistan railway genuinely carry 50 percent of all ton's kilometers in Pakistan? Which is way below its potential, and it can be because of the nature of our mainline. When will the Pakistan railway carry 25 of all passenger-kilometers generated in Pakistan by land?
- KPIs have put forth revenue timeliness and accidents. KPIs is a railway company, one of many running the tracks. A company that was a virgin. KPIs need to take the share of the market from another railway operator, but it's going to come from the freight and passengers at the road level.

ML-1 Making or Breaking of Pakistan Railway

Key Messages

- Pakistan railway has been neglected both in terms of infrastructure, government, and the managerial side. The customer services and the service delivery all of that has suffered. The railway strategic investment framework and work has been done by Pakistan railway in collaboration with the support of the Asian government bank. Pakistan, the managerial side, how to bring in the private sectors the very important comment. Pakistan railway is a public good, and the government must provide it. The ordinary people still kind of think about railways as the transportation for the low-income group.
- Freight is key to transportation business and integrated logistics system into the region with huge trade business being dependent upon marginal profits logistics. The cost of logistics is a very big factor in accessing markets, how goods are transported, about connectivity with Afghanistan Central Asia and South Asia would be better to realize the full potential of the freight.
- The planning commission is very committed to getting the ML-1 done. It is a difficult project; there is a lot of diligence required on the technical side to give us the right direction. The project is approved now with the amount of work. The Chinese would be great support not only because they have shown some very rapid strides in radius. They are making huge progress on one of the fastest-growing railway networks globally, and their track record and security safety everything is excellent the technology is continuously improving.
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The strategic investment plan is a national freight and logistics policy plan. It is a very comprehensive document. It's quite a wide-ranging plan, and the crucial governments are also engaged there. Another point, unbridled transportation freight transportation on the roads and the expansion mindless expansion of the road network are horrendous. The freight on the roads and without exile road management has caused a lot of damage to the infrastructure the investments have been wasted.

- The private sector or the free transporters should use whichever network is more effective and efficient. The railway becomes more efficient on the freight side through subsidizing the passenger transport because there are differentials available in the freight, which will lead to more profits. The government should do this as a matter of policy or a matter of economic efficiency.
- ML-1 runs from Karachi up to Peshawar, and we have other corridors as ML-2 and ML-3. So basically, the project profile of ML-1 practically will be completed in eight and a half years. We have divided an implementation scheme into three packages, and the total cost would be 6.806 billion. It will be an engineering procurement and construction project.
- The first JCC meeting in 2015 was taken as a priority project and framework agreement between China and Pakistan. It was completed in 2016. The second framework of the agreement was signed in Beijing in 2017. Pakistan Railways and China declared this project as strategic it was also completed in 2020.
- The prime objective of this project is as we have a huge line capacity from 34 to 135 trains each way per day. The freight volume, which is currently at 8 to 9 million, will be 35 million per annum. At the end of this project, passenger trains will increase from 20 to 40 per day. The freight share is from 4 % to 20 %. The construction schedule will be completing package one from April 2022 to March 2027. The package duration is five years, and the cost will be 2.7 billion. Similarly, package two will be Keamari to Hyderabad duration will be seven years, and it will be completed with a cost of 2.675 billion. Package three will be Lalamusa to Rawalpindi will be completed in four years.
- There is a need to build human resource capacity to handle ML-1, maintenance operation, and marketing challenges. Current human resources and strategy are not able to develop the solution to get the real benefit of this huge investment in the shape of ML-1 work. So, we need to upgrade our accounting system, Ring-Fence income, and expenditures from the rest of the railways. We must make extraordinary coordination between PR and the private sector to get the maximum benefit from the proposed structures.
- We must develop a business development unit based on the market analysis. We will have ML-1 authority, which works independently to operate as a company holding the infrastructure and maintaining infrastructure. The best mode of business available to the ML-1 authority will be given, whether a public company or a private company. The training of software is concerned. We will introduce a new regime of training is like for pre-service in service and refreshers training. It is going to increase their skill and efficiency as modern era requirements.
- There's a huge demand for the freight and the percentage available in the market. The ML-1 is the lifeline for the freight transportation of this country. Freight business is the historical trend in 2014-15 historic jump with just exporting one export train. We have an increase of rate from 3 to 8.38 million by the year 2018-19. So, average increase per year in freight in four years. In the coming years, there is an increase in freight business 5% per year during construction, 20 % increase per year for three years of reconstruction, and 10% increase per the year 2030-2040.
- It's a great positive environmental effect due to reduced carbon footprint, especially by reducing the one freight train replaces 70 freight trucks on the road. So, it's a huge contribution towards the low carbon. The private sector engagement, employment opportunities, time savings, increased employment rate, and road safety are very generic in analysis.

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