

Impact Of Sagarmala & Bharatmala on Port-led Development in India.

Yashkumar Vyas¹ and Raghav Acharya²

¹Student of MBA in Maritime Management, Department of Maritime Management, Gujarat Univerisity, Ahmedabad, India

²Research Scholar, B.K.School of Professional and Management Studies, Gujarat University, Ahmedabad, India.

Abstract - “SAGARMALA” and “BHARATMALA PARIYOJANA,” call for India’s infrastructure development. The country-wide attitude National Perspective Plan (NPP) has identified quite a few initiatives and enablers beneath these four pillars which can unencumber the opportunities for port-led development. BHARATMALA PARIYOJANA is the flagship programme of the government focusing on and targeted towards the enhancement of road connectivity and road infrastructure across the nation. The SAGARMALA programme, anchored by the Ministry of Transport, envisions the concept of port modernization and capability augmentation, green and speedy evacuation, port-led industrialization, and coastal community development. Under this programme, the initiative of Port Modernization and Capacity augmentation is carried out having the objective of augmenting the operational efficiency of ports, 45+ capacity enhancement projects at major ports, and establishing 6-8 new ports. Various challenges are and will be identified which will be hampering the development and operations of the efficiency of the port. It will also be a vital monetary factor too in the back of the programme as through the right infrastructure of roads borders will open and border alternate will begin to be able to boost the economy of hilly locations and local people. This will eventually lead to the economic development of India. The NHAI has been entrusted with the task of venture management Consultancy along with the preparation of feasibility examination/ targeted venture documents of selected avenue stretches/corridors of diverse roads in the States of Bihar, Gujrat, Rajasthan, Uttar Pradesh, West Bengal, Tamil Nadu & Puducherry, and Odisha to 2/4 lane with paved shoulder NH configuration beneath the NH. The remarkable benefit of this project is that it will strengthen the road connectivity with border areas and other neighbouring nations, by growing the strength of the border area it will boost the border trade.

Keywords - Port-led development, Port-led industrialization, SAGARMALA, BHARATMALA PARIYOJANA, Infrastructure development, Economic development.

I. INTRODUCTION

Infrastructure development helps the country grow and aids the nation with international/global markets and lower-cost global connectivity. Infrastructure development is required to increase corporate and industrial productivity and production by slashing production and transportation expenses. According to the government press release and post on the website of press release page on 9th February 2023, it states that India has been ranked 5th in the world in the recent Global Quality Infrastructure Index (GQII) 2021. Infrastructure is the major sector that provides overall development to the Indian economy. Now when the matter of discussion is “Why does India need marine/port infrastructure development?” the answer comes to be straightforward, all the ports across India handle approximately 95% (by volume) of India’s external trade. India is included in the world’s top 5 ship recycling countries and holds a share of 30% in the global ship recycling market. India is also ranked 18th in the world’s shipping tonnage, not only that India is considered the 16th largest maritime country in the world. India has about 12 major ports and near about 200 minor ports. The 12 major ports are Deendayal (Kandla), Mumbai, Mormugao, New Mangalore, Cochin, Chennai, Ennore (Kamarajar), Tuticorin (V O Chidambaranar), Visakhapatnam, Paradip and Kolkata (including Haldia) and Jawaharlal Nehru Port. During Maritime India Summit (MIS) 2021, a total of 486 MOUs were signed by 22 maritime ports/ agencies for \$47.02 billion across different sectors and subsectors. India has become 4th country in the whole world to have its independent Regional Navigation Satellite System (IRNSS). While talking about infrastructure development and especially marine infrastructure development, the government of India has taken several measures and initiatives concerning infrastructure development. The two major projects/programmes of the government of India which it is found to be very much focused on maritime and logistics infrastructure development. These two projects are SAGARMALA & BHARATMALA PARIYOJANA. The SAGARMALA project will narrow down the scope for identifying the problems in the port industry and eliminate them. Basic financial development of the country especially industrialization via Port primarily based projects and improvement of the coastal region is the general motto of the SAGARMALA Programme. Maritime Clusters and Coastal Economic Zones are envisaged to be installed under the programme. BHARATMALA PARIYOJANA is the flagship programme of the government focusing on and targeted towards the enhancement of road connectivity and road infrastructure across the nation. Various MMLPs (Multi Modal Logistics Parks) are to be built under the BHARATMALA PARIYOJANA. Under the programme of SAGARMALA, the government of India is focused on upgrading and modernizing the ports and joining or integrating them with SEZs (Special Economic Zones), industrial parks, logistics parks, MMLPs (Multi Modal Logistics Parks), and transportation corridors. India is lacking a large quantity of international market trade via coastal lines due to the unavailability of port infrastructure facilities and advanced port/coastal technologies., the cost of EXIM logistics is quite high through Indian maritime transport compared to other countries like China, South Korea, Japan, Germany, America, and other development countries. So, the plan under programme SAGARMALA is to mitigate and lower the logistics cost and strengthen India’s export-import industry. Under this programme, the initiative of port modernization is carried out having the objective of augmenting the operational efficiency of ports, 45+ capacity enhancement projects at major ports, and establishing 6-8 new ports. Project SAGARMALA will be the fuel for port-led industrialization by establishing 14 CEZs (Coastal Economic Zones), Industrial clusters mapping additional capacity for modernizing India’s ports to achieve ease of doing business. Under BHARATMLA PARIYOJANA Ministry of Road Transport & Highways

(MoRTH) and Ministry of Ports, Shipping & Waterways, and the Ministry of State for Road Transport & Highways, signed a tripartite agreement for the rapid development of modern MMLPs (Multi Modal Logistics Parks). Under the phase-I of BHARATMALA PARIYOJANA total of 34,800 km of national highways are implemented in 5 years (from 2017 to 2022) at an estimated outlay of Rs.5,35,000 crore. The other motive of the BAHARATMALA PARIYOJANA is to generate direct and indirect employment opportunities in the construction and infrastructure development are also part of the enhanced economic development activities resulting from better connectivity of roads and national highways across the country. In short, both projects have great significance in the development of the Indian economy and Indian infrastructure.

Objectives: -

The objective to research this topic is to study the recent developments in the port sector in India. Especially about the infrastructure development in ports and the maritime sector. The research studies show how the transformation of ports and logistics infrastructure will happen through the initiatives of the Government of India (GOI) by launching 2 major projects/programmes named SAGARMALA and BHARATMALA PARIYOJANA. The programme SAGARMALA is focused on the development of port-led infrastructure development, whereas the BHARATMALA PARIYOJANA is focused on the enhancement of road connectivity and the development of highways and economic corridors across the nation. The objective of this study is to identify impact the infrastructural developments in Indian coastal areas to boost cargo engagements. The research studies show the steps taken by the Government of India (GoI) to reduce logistics costs in international trade (EXIM) and domestic trade and transportation.

II. LITERATURE REVIEW

Jean-Paul (2010) has identified that transportation plays a vital role in the movement of goods from one destination to another. The author also identified various drivers of change for the transportation system. Certain factors can affect drivers of change. Maritime transportation has the opportunity to a new era of engagement for public policy with the development of an efficient maritime as well as land interface. Still, for the developments of the port, there is room for discussion regarding their operational and investment strategies. An emerging governance structure issues the improvement of port clusters in which port and maritime stakeholders can higher coordinate their operational and investment strategies.

According to P.K. Ghosh (2015), China's intentions for Maritime silk routes have already sparked debate among the neighbouring countries and policy-makers. The sole motive of China's notion of a maritime silk route is purely diplomacy, the economic and geopolitical quest to strengthen the Chinese power in the maritime sector. Nevertheless, this move of China to broaden its reach in the ocean is very much vulnerable for India's Ocean region, knowing that India is suffering from the inherent technology gap, in the current scenario, the notion of China for the maritime silk route is currently impractical. These statements by President Xi do not reveal the hidden security motive behind the initiative: "Most importantly, it should be a three-way dynamic combination of infrastructure, institutions and people-to-people exchanges and five-way progress in policy communication, trade link, capital flow and understanding among peoples. Equally most important, the initiative must consider the systemic realities of today's shipping world, otherwise it will be totally impractical. Hence, either China adjusts to the commercial shipping world or the shipping world adjusts to China, one of the world's most powerful shipping entities.

With reference to, Final Report on SAGARMALA (Vol. 1), Ministry of Shipping/ India Port Association (2016). In this volume, there are major topics covered, like origin-destination analysis and traffic projections for key cargo commodities. The Indian economy has surged ahead in the past few years, so now there need for the development of infrastructure. Especially the maritime sector requires a major focus in terms of infrastructure development because the maritime sector contributes high shares in the Indian economy. The majority of the trade is done by sea, so it is a requirement for the development of coastal area regions. The sole focus of the SAGARMALA project is to have port-led development along with boosting the infrastructure. The vision of SAGARMALA is to change how India moves logistically, boost development through port and shipping and empower the coastal communities.

According to Final Report on SAGARMALA (Vol. 2), Ministry of Shipping/ India Port Association (2016). The key focus of this volume is on port-led industrialization of the coastal area. The SAGARMALA project is the first step towards initiating port-led industrialization developments. Various industries like cement, coal, and metal will fall under one umbrella of port-led industrialization. The project is purely aligned to state industrial plans' availability of production factors e.g., raw materials skills. All the major and non-major ports are linked to the initiative of CEZ. The CEZ will typically comprise a few coastal or coast-proximate districts. Well under CEZ and port-led industrialization developments, various ports and logistics will get an economic boost.

As per, the Final Report on SAGARMALA (Vol. 3), Ministry of Shipping/ India Port Association (2016). The major topic covered in this volume is about port-led development. Now there is not only one but many components which contribute to port-led development like a supply chain for key commodities like cement, coal, metal etc., port-modernization, port-connectivity, port-led industrialization, coastal community development can be achieved through economic stimulus, skill development, marine fisherman community development, island development etc. These components will lead to cost reduction in logistics.

Final Report on SAGARMALA (Vol. 6), Ministry of Shipping/ India Port Association (2016), according to this volume of the document, it is well described that Andaman and Nicobar are strategic regions in phrases of countries' security and worldwide alternate. tendencies of those islands are not always restrained to the protection of the nation however it's also the source of livelihood for the neighbourhood. So, a few key initiatives are recognized and inspiration for the same is surpassed which includes loose trade and warehousing zone in Andaman, a transshipment hub at Nicobar, the shipyard at Nicobar, a bunkering hub at Nicobar, cruise tourism at Nicobar and many more. FTWZ and transshipment hub do not appear to be a feasible alternative because of the unavailability of the hinterland called for and delivery. Cruise tourism is to be the only possible option to initiate on those islands.

Jai Prakash (2017) has analysed that the overall 7000 crores Rs. Will be invested in the SAGARMALA project, in which the majority of the investment will be done by the government itself, and the rest there will public private partnership (PPP). The key components

of the project will be port-led industrialization, a reliable evacuation system, and coastal economic development. the SAGARMALA project is the holistic approach to port development infrastructure in coastal regions of India.

Capt. N Kumar, T. Subhashini (2018) has identified that there is still not adequate development of coastal regions and maritime sectors in India. India is still lacking behind in maritime infrastructure development. Now there is a need to port modernization and port-led development for boosting the maritime sector which will eventually help in boosting the economic development of India. In this scenario, the project SAGARMALA plays a pivotal role by initiating the key objectives of port modernization, port-connectivity enhancement, port-led industrialization, coastal community development, and many others. Along with the economic boost, the SAGARMALA project will even enable the doors for opportunities in employment generation.

According to Cyril C. George, J. Rengamani (2019) the need for the maritime sector to emerge as the key role player in the economic development of the nation. As India has a fabulous coastline of 7500 km, opportunities are a lot out there for the maritime sector. Not only the growth of the maritime sector will contribute the economic growth but even it will help the nation to cut down the logistics coast. Here, comes the SAGARMALA project, the core focus of this project is to transform the logistics sector, develop of port and shipping sector, create an institutional framework, and coastal community development. Various maritime clusters and coastal economic zones are to be set up under this project which will help the nation in its domestic as well as international trade by enabling the port-led infrastructure development. Well, the success of this project will bring a newer horizon to the economic development of the country.

Ministry of Road Transport & Highways, Ministry of Information and Broadcasting Government of India (2021). India has a road network of 54.28 lakh km, optimizing them at their fullest capacity will yield the best in terms of economic benefits. BHARATMALA PARIYOJANA project is the umbrella project under it will there will be a focus on optimizing the efficiency of the movement of goods and people across the country. This project is focused on already-built infrastructure, multi-modal dynamic integration, and lowering infrastructure gaps for seamless and uninterrupted movement. Once the project will be on the move in reality it will be connecting 550 districts in the country through national highways (NH) networks.

With respect to, the Ministry of Road Transport & Highways, Government of India (2021), BHARATMALA Phase-1, the Ministry has taken up a distinctive assessment of the NHs network so that you can broaden the street connectivity to border regions, development of Coastal roads which includes street connectivity for non-main ports, improvement inside the performance of national Corridors, development of economic Corridors, Inter Corridors and Feeder Routes along with integration with SAGARMALA, and many others., under BHARATMALA PARIYOJANA. The BHARATMALA PARIYOJANA envisages the improvement of approximately 26,000 km length of economic Corridors, which together with Golden Quadrilateral (GQ) and North-South and East-West (NS-EW) Corridors are anticipated to hold most of the Freight site visitors on roads. similarly, approximately a stretch of 8,000 km of Inter Corridors and about 7,500 km of Feeder Routes were potentially identified for improving the effectiveness of Economic Corridors, GQ, and North-South (NS)-East-West (EW) Corridors.

Ministry of Road Transport & Highways, Government of India (MoRTH). BHARATMALA is one of the fabulous and prominent road and highway projects of the present government. The aim is to construct three roads of 5300km under this project. The remarkable benefit of this project is that it will strengthen road connectivity with border areas and other neighbouring nations, by growing the strength of the border area it will boost the border trade which will eventually lead to the economic development of India. The BHARATMALA project is under the working rights with the National highways authority of India (NHAI). The major benefit will go to border security and defence, as currently there is a very weak supply chain for the supplies to Indian troops on the border, once the project will be initiated it will boost the supplies and connectivity to the border areas during peace and operation time. In short, BHARATMALA PARIYOJANA will add various dynamic dimensions to the road and highway infrastructure of India.

III. CONCLUSIONS

India has 7,500 km of coastline spanning thirteen maritime states and union territories. 95 per cent of India's trade by way of volume and 70 % through cost takes area through maritime delivery. Globally, maritime countries which include China, South Korea, Japan, and the USA have correctly used their coastline for "port-led development." The SAGARMALA programme, anchored by using the Ministry of Transport, envisions the concept of port-led development with 4 vital pillars: port modernization and capability augmentation, green and speedy evacuation, port-led industrialisation, and coastal community development. The look estimates the ability to shop around INR 35,000-40,000 Crores according to annum by way of optimizing logistics flows for key commodities via 2025. four key projects should force these savings: Coastal delivery to carry approximately 230-280 MMTPA from cutting-edge and deliberate capacities across coal, cement, iron and steel, meals grains, fertilizers, POL (envisioned INR 21,000-27,000 Crores saving using 2025). New coastal capacities for bulk commodities (metal and cement) of eighty-one hundred MMTPA (envisioned INR 5,500-6,500 Crores saving through 2025). reduced time to export containers using five days (envisioned INR five,000-6,000 Crores saving with the aid of 2025). growth % of railways in container modal mix from modern-day 18 per cent via 2025 leading to a saving of around 2,000-3,000 INR crores. The concept of "port-led development" is central to the SAGARMALA imaginative and prescient. Port-led improvement specializes in logistics-intensive industries (in which transportation represents a high % of costs, or well-timed logistics is a critical achievement thing). those industries may be structurally competitive if developed proximate to coast/waterways. They might be supported via green and current port infrastructure and seamless multi-modal connectivity. The population in adjoining areas might be sufficiently skilled to take part in the economic opportunities on provide. The synergistic and coordinated development of the above 4 components—logistics extensive industries, green ports, seamless connectivity, and needful skill base—results in unlocking monetary fees. The SAGARMALA country-wide attitude National Perspective Plan (NPP) has identified quite a few initiatives and enablers beneath these four pillars, which can unencumber the opportunities for port-led development. The relaxation of this segment summarizes the important thing findings and projects related to every pillar. Over a hundred and fifty initiatives were identified throughout these four pillars. Executing those projects may want to mobilise funding of INR 4 lakh cr inside the infrastructure sector. an extra investment of INR 7 to 8 lakh cr will be inside the business and production sectors. The port-led development has the purpose of developing green ports which will mitigate the negative impact of port operation on the environment. Various problems are and will be identified which are hampering the development and operations of the efficiency of the port such as port-traffic regulations, and dredging operations in

the port. So, the SAGARMALA project will narrow down the scope for identifying the problems in the port industry and eliminate them. Basic financial development of the country especially industrialization via Port primarily based projects and improvement of the coastal region is the general motto of the SAGARMALA Programme. Maritime Clusters and Coastal Economic Zones are envisaged to be installed under the programme. As shipping and EXIM trade are having global ramifications, it is miles important to cope with the cost and time involved in the motion of EXIM containers. In this context, the movement of containers in the country is needed to be addressed. motion among gateway Ports and hinterland is particularly with the aid of road and the modal shift from road to rail must be geared up as carried out within the countries like China. The rail sector is likewise dealing with a lot of challenges due to congestion and priority to passenger trains, better freight to compensate for passenger expenses, lack of availability of rakes at ICDs etc. Roads are also congested causing congestion within the method roads of many Ports which highlights the want for offering proper last mile connectivity. Delays are also taking location in customs clearance formalities and delivery formalities and the initiatives taken below 'Ease of Doing businesses' has an extended manner to visit translate into a huge reduction of price and time within the motion of EXIM containers. the overall photograph rising is the brilliant unlocked ability of the coastline of the country for development which is being leveraged through a nicely prepared SAGARMALA Programme so that it will show to be a beacon of improvement within the monetary horizon of the country.

"BHARATMALA PARIYOJANA" is the name given to the ambitious road and highways project of present Union authorities. The assignment starts from Gujarat and Rajasthan, moving to Punjab and then cowl the whole string of Himalayan states -Jammu and Kashmir, Himachal Pradesh, Uttarakhand - and then quantities of borders of Uttar Pradesh and Bihar along Terai, and traversing to Sikkim, Assam, Arunachal Pradesh, and right up to the Indo-Myanmar border in Manipur and Mizoram where it ends. The authorities underneath the scheme plans to construct about 5,300 km of roads under the BHARATMALA PARIYOJANA. The Strategic significance of the task is: it will improve connectivity in border areas. presently resources to India's troops as well as navy shipping happens through bad best roads which may be a negative element for armed force during emergency and warfare conditions "BHARATMALA PARIYOJANA" is designed to attend to that; there may be a vital monetary factor too in the back of "BHARATMALA PARIYOJANA" mission as thru right infrastructure of roads borders will open and border alternate will begin to be able to boost up the economy of hilly location and local people. Roads are the equipment of improvement as they pressure the financial system. States with proper road connectivity are economically in the correct position. The country-wide Highways Authority of India (NHAI) has been entrusted with the task of venture management Consultancy together with the preparation of Feasibility examination/targeted venture documents of selected avenue stretches/corridors of diverse roads in the States of Bihar, Gujrat, Rajasthan, Uttar Pradesh, West Bengal, Tamil Nadu & Puducherry, and Odisha to 2/4 lane with paved shoulder NH configuration beneath BHARATMALA PARIYOJANA. BHARATMALA PARIYOJANA is one of the fabulous and prominent road and highway projects of the present government. The aim is to construct three roads of 5300km under this project. The remarkable benefit of this project is that it will strengthen the road connectivity with border areas and other neighbouring nations, by growing the strength of the border area it will boost the border trade which will eventually lead to the economic development of India. The BHARATMALA PARIYOJANA project is under the working rights with the National highways authority of India (NHAI). The major benefit will go to border security and defence, as currently there is a very weak supply chain for the supplies to Indian troops on the border, once the project will be initiated it will boost the supplies and connectivity to the border area during peace and operation time. In short BHARATMALA PARIYOJANA will add various dynamic dimensions to the road and highway infrastructure of India.

IV. FINDINGS: -

India is a democratic country that is growing in terms of economy and infrastructure at a great pace. India is the world's 5th largest economy with a GDP of \$3.74 trillion. The nation needs infrastructure reformations to match the benchmark standards. India's overall export (merchandise and service combined) for the year 2023 is \$60.29 billion. The logistics cost in India is 13% of the overall GDP of the nation, compared to 8% in the rest of the world. So, there is a huge gap between 8% and 13%. The major reason for this vast gap is the lack of infrastructure for logistics and the EXIM process. To mitigate this gap, on 31st July 2015, Ministry of Ports, Shipping and Waterways launched the project SAGARMALA. The project was launched after the government of India and its cabinet approved it in 2015. The project is having the objective to use the Indian coastline of 7500km to its fullest potential to unleash its economic potential. The key focus of the programme SAGARMALA is to bring down the logistics cost for export and imports as well as for domestic trades with minimum infrastructure investments. This programme is not just focused on maritime infrastructure development, but there are other initiatives such as coastal community development are also part of the programme SAGARMALA. According to the website of the Ministry of Ports, Shipping and Waterways, it has been found that approximately 18% of India's population is located and lives in 72 coastal districts that comprise 12% of India's mainland. Under the coastal community development initiative, the approach is to improve the living and quality standards of these people. The focus will be on skill development through skill building and training, by enabling technology in traditional professions, there are specific action plans with time bound for improving physical and social infrastructure concerning the coastal states. The coastal community development plan consists of skill development, coastal tourism, development of fishing harbours & R&D in the port and maritime sector. As stated above that the programme SAGARMALA will bring a positive impact on the economy of the nation, it has been estimated that by the year 2025, SAGARMALA may boost India's export of goods to \$110 billion, not only that the programme will also provide an estimated 10 million new jobs (4 million in direct employment). The SAGARMALA project objective is to slash the logistics cost incurred in the EXIM process. Some other economic objectives are reduction in the cost of domestic transportation by using the modal mix and identifying the industrial capacity near ports and coasts to reduce the transportation cost of bulk cargoes. The other economic positive impact will be in terms of developing CEZs (coastal economic zone) and SEZs (special economic zones) close to ports to promote export competitiveness. Port-led industrialization is the project carried out under the SAGARMALA programme to set up CEZs (Coastal economic zones), CEUs (Coastal economic units), port-linked industrial and maritime clusters and smart industry port cities. The vision of the SAGARMALA programme is to reduce the logistics cost and time for the movement of cargo internationally (EXIM) and nationally (Domestic trade).

BHARATMALA PARIYOJANA is something that is an "Umbrella" programme of the ministry to slide up road connectivity across the nation while SAGARMALA is the government's flagship initiative programme to promote and develop and upgrade and modernize ports along the coastline. SAGARMALA focuses on the aspects of the development of marine and land infrastructure, whereas

BHARATMALA PARIYOJANA is the flagship programme of the government focusing on and targeted towards the enhancement of road connectivity and road infrastructure across the nation. Various MMLPs (Multi Modal Logistics Parks) are to be built under the BHARATMALA PARIYOJANA. MMLPs the goods and freight handling capacity with both rail and road connectivity, apart from that MMLPs from access to various facilities such as cold storage, warehouses, container terminals, cargo terminals (bulk, break-bulk), and various value-added services such as customs clearance with bonded storage yards, quarantine zones etc. BHARATMALA PARIYOJANA has strategic significance while including the construction of border roads to promote trade with neighbouring countries such as Myanmar, Bangladesh, Bhutan, and Nepal. Along with the significance of trade relations with other neighbouring countries, the programme also has strategic relevance concerning border security. Under this programme around 26,200km of economic corridors have been identified, economic corridors are the routes that accommodate the heavy freight traffic. All the projects under BHARATMALA PARIYOJANA are to be technically and financially appraised by an empowered project appraisal and technical committee to be set up in the NHAI (National Highways Authority of India and MoRTH (Ministry of Road Transport and Highways). There are various components of BHARATMALA PARIYOJANA such as feeder route or inter corridor, national corridor efficiency improvement, border road and international connectivity, port connectivity and coastal roads, greenfield expressway, brownfield projects and many more. BHARATMALA PARIYOJANA programme will connect the areas that are dotted along the shorelines or coastlines and important ports, the central government has already ordered the construction of 2000km of roads and port infrastructure. Greenfield expressways are those in which architects starts from scratch, it titles the development on vacant site. The major focus is on the construction and development of green field expressways for better traffic and freight management. The total stretch of 2000km of roads are connecting the coastal regions and ports. The BHARATMALA PARIYOJANA was announced in the year 2017 and is about to complete in the year 2022, however, the targeted completion time has got delayed but the current reports suggest that now it is close to completion. There is a search for funds for investment is carried out by the central government. If the estimated budget is not achieved or not met, then the central government has the intention to auction the completed highway projects or can even look for foreign debts or foreign bond markets.

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