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DEVELOPMENT OF PROPOSALS FOR THE MODERNIZATION OF PRIVATE MOTOR VEHICLES IN THE REPUBLIC OF LEBANON

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Abstract :

For the conditions of post-war economic recovery in Lebanon, which lacks both a domestic automotive industry and a developed public transport system, a concept of priority modernization of private transport is proposed, including vehicle servicing and mechanisms for fleet renewal. As instruments of modernization, a set of institutional measures of state regulation is proposed, aimed at accelerating modernization-driven fleet renewal, reducing the multi-brand structure of the vehicle fleet, and promoting the industrialization of the national automotive service sector of Lebanon. the proposed measures are based on an analysis of the current state and recent trends in meeting the transportation needs of urban and rural populations through public and private transport, the age and brand composition of the vehicle fleet, its replenishment patterns, the organizational structure of the automotive service sector and its staffing, as well as the supply of spare parts to motor transport enterprises and service stations. Measures for the joint institutional regulation of fleet modernization and the industrialization of Lebanon's national automotive service sector are substantiated.

Keywords:

(motor transport, vehicle fleet, automotive service, vehicle service station (VSS), motor transport enterprise (MTE), licensing)

Introduction

In Lebanon, with a population of 5.4 million, 80% of all transportation is carried out by motor vehicles. The country's vehicle fleet consists of 1.7 million vehicles, of which 1.3 million are passenger cars [1]. However, 40% of the fleet is not in operation and does not undergo or is not presented for technical inspection [2].

The country has no domestic automotive industry. Each year, Lebanon imports 10–15 thousand vehicles from various manufacturers and 100–300 buses. Fleet renewal reaches only 1.2% of the actually operating fleet, which is three times lower than in Russia. Imports of spare parts have decreased from $5.1 million in 2018 to $2.7 million in 2024, with further substitution by the restoration of worn parts. Vehicle sales and automotive services contribute up to 10% of Lebanon's GDP [3]. Customs and tax legislation effectively encourages the purchase of used vehicles from abroad. At the same time, road traffic accidents and air pollution in major cities remain high..

Public transport is poorly developed, in contrast to private motor vehicles. Urban electric transport and metro systems are absent. The bus fleet reaches only 5% of what is required to meet the transportation needs of urban and rural populations [4]. Private passenger cars and taxis remain the primary means of passenger transportation.

Lebanon's vehicle fleet is extremely diverse in brands and widely dispersed among owners. More than 70% of passenger cars and buses are over 10 years old, while those up to three years old account for less than 4% [1].

In Lebanon's automotive service sector, small workshops at gas stations predominate, generally affiliated with global tire and automotive equipment manufacturers. Over 70% of service bays are concentrated in small workshops and minor service stations, while there are no large service stations with more than 30 bays in the country. Dealer service stations with 10 to 12 service bays are operated by eight manufacturers [5]. Dealers account for only 1.6% of all service stations and less than 5% of total service bays, which is three times lower than in Russia (Table 1).

Table 1

Distribution of Automotive Service Enterprises in Lebanon by Size

Enterprise Categories	Number of Service Bays per Station	Number of Service Bays per Station	Total Service Bays	Share by Number of Bays, %
1. Medium-Sized Service Stations	8...12	up to 20	200	15
2. Dealer Service Stations	10...12	8	90	7
3. Small Service Stations	4...7	60	330	25
4. Auto Workshops	1...2	>40	>680	53
Total		>488	>1300	100

There are service stations for military vehicles and for large industrial and commercial trucks, as well as specialized workshops for the repair of specific components and bodywork. “Independent” service stations are concentrated in major cities, while in rural areas there are small, poorly equipped auto workshops [6, 7].

Vehicle downtime in automotive service is unjustifiably high and often far exceeds the standard labor time for repairs. Poor-quality repairs and prolonged downtimes are common occurrences in the sector [8]. The causes include widespread practices of restoring spare parts instead of purchasing originals, a lack of modern specialized equipment, and insufficient qualifications of a significant portion of auto mechanics. The shortage and turnover of qualified personnel represent the most acute problem in Lebanon’s automotive service industry. Quality control of work is poorly regulated, and customer service falls short of European standards [9, 10].

Statement of the Research Problem

The problem of Lebanon’s automotive service sector lies in the worn-out, excessively multi-brand private vehicle fleet and a technologically inefficient service system oriented toward this fleet, dominated by small auto workshops. As a consequence, the population’s mobility is limited, and business and tourism transportation services. The performance of the motor transport sector causes widespread dissatisfaction with its overall functioning. This situation is a consequence of the disasters of the recent war but does not correspond to the capabilities of modern Lebanon and hinders the country’s prosperity.

It appears that measures aimed solely at renewing automotive service enterprises in Lebanon will not solve the transportation problem. Developing public transport to a level

that meets the needs of urban and rural populations, as an alternative to modernizing private motor vehicles, would require at least a 20-fold increase in non-profitable, large-scale investments. Moreover, these would need to be funded by the state budget, as transferring the burden to businesses would not be feasible. Currently, the authorities of the country do not have such funds available during the post-war recovery period.

Under these circumstances, the modernization of private motor vehicles as a whole—including automotive service and fleet renewal mechanisms—would be incomparably more effective and a fully cost-effective measure for a country without a domestic automotive industry, which is necessarily dependent on the import of vehicles, spare parts, and technologies.

Proposals for the Modernization of Private Motor Vehicles

To address the problem, a set of institutional regulatory measures for Lebanon's private motor vehicles is proposed, broadly represented by the diagram in Figure 1.

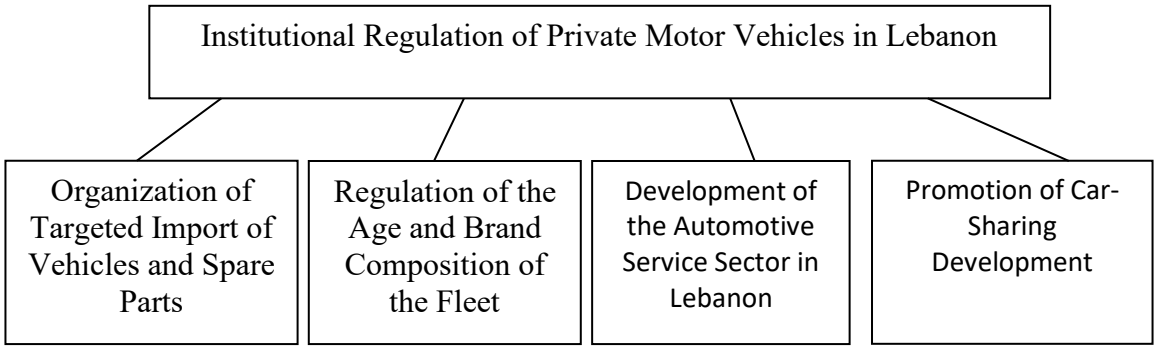

Figure 1.

Proposed Focus of Institutional Regulatory Measures for Private Motor Vehicles in Lebanon

These measures aim to accelerate the modernization-driven renewal of the vehicle fleet and reduce its multi-brand composition, while simultaneously promoting the industrialization of the national automotive service sector to ensure reliable and safe operation of vehicles. Together, these measures will meet the transportation needs of the population, small businesses, and tourism without imposing unsustainable budgetary burdens on the country.

The proposed set of measures is based on the joint institutional regulation of targeted imports of vehicles and spare parts (Figure 2).

It is proposed to organize targeted vehicle imports through an automotive fund established by the authorities, and, based on a tender, select a privileged supplier of vehicles and spare parts for a specified period from among the largest global manufacturers supplying passenger cars, trucks, and buses.

Figure 2. Proposals for Organizing Targeted Imports of Vehicles and Spare Parts

This fund would annually place large orders of tens of thousands of vehicles for subsequent sale to the public and for government needs, as well as spare parts. Combined with promotional support, this measure would ensure that, within a few years, vehicles from a single manufacturer would become predominantly distributed across the country due to price competition.

Under the tender conditions, it is advisable to stipulate not only significant discounts on the purchased vehicles and spare parts, but also obligations for the preferred supplier to establish a network of dealer service stations and training centers for their personnel, as well as to provide repair and operational documentation for the supplied vehicles to the largest independent service stations in Lebanon.

At the same time, it is proposed to implement institutional regulatory measures for the currently chaotic age and brand composition of the private vehicle fleet (Figure 3).

This will require making appropriate amendments to Lebanon's tax and customs legislation.

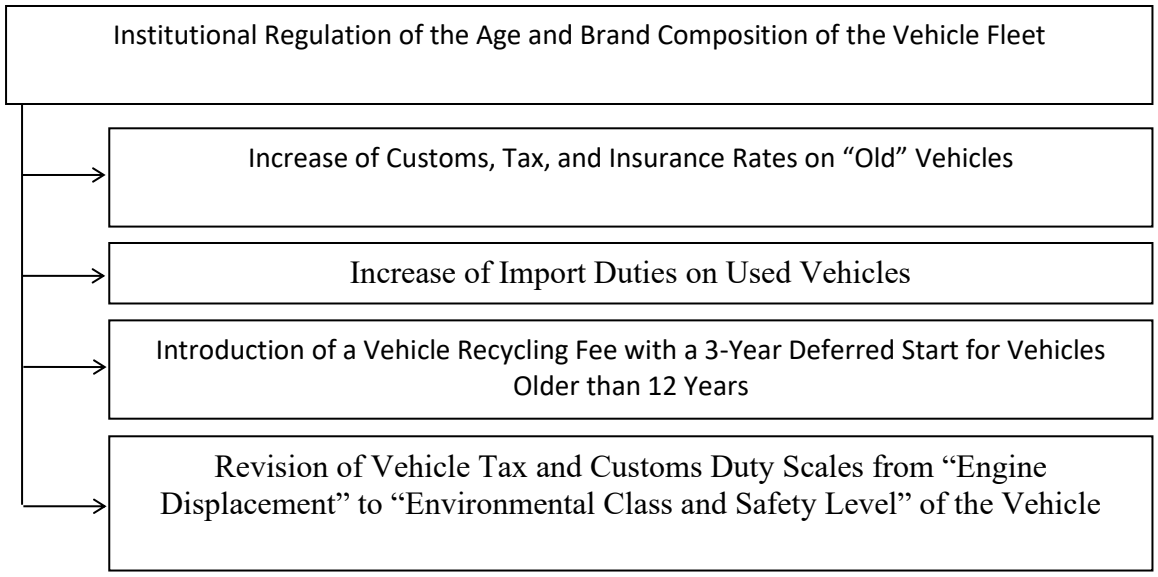

Figure 3. System of Institutional Measures for Regulating the Renewal and Brand Composition of the Vehicle Fleet

Proposals for the Modernization of Lebanon's Automotive Service Sector

Another part of the institutional regulatory measures package is aimed directly at Lebanon's automotive service sector (Figure 4).

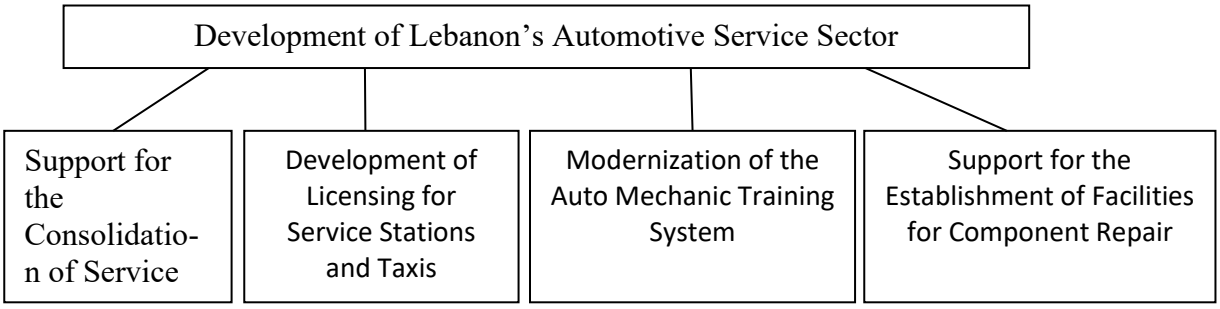

Figure 4. Proposed Focus of Institutional Regulation for the Development of Lebanon's Automotive Service Sector

First and foremost, this involves actively promoting the consolidation of all types of service stations and supporting demand for their services among vehicle owners. One instrument for this could be the tightening of licensing requirements for service stations, which would encourage their consolidation (Figure 5).

It is also proposed to expand the dealer network of the preferred supplier across all cities in Lebanon as much as justified by demand, even if this involves incorporating small service stations.

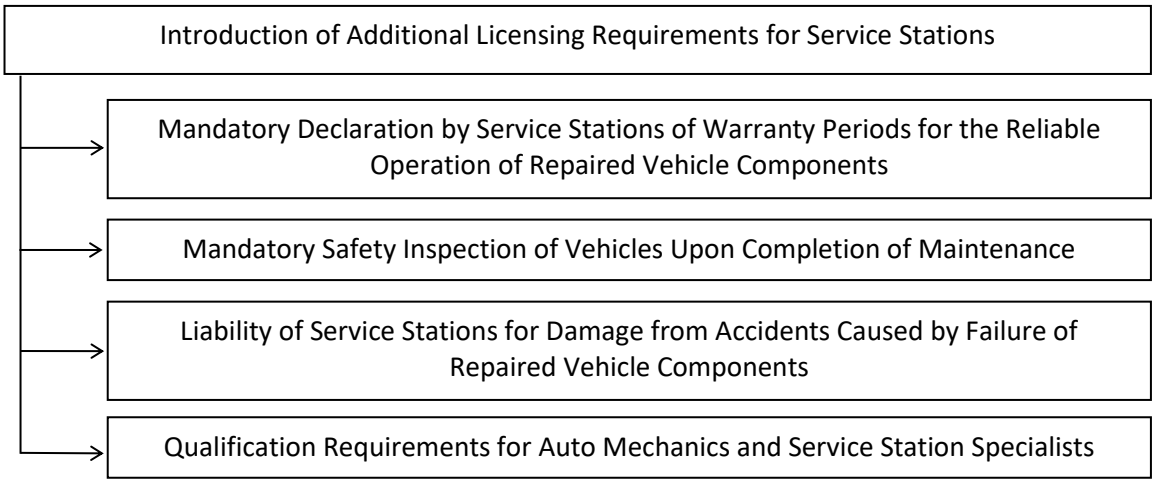

Figure 5. Proposed System of Measures for Improving Licensing Requirements for Service Stations in Key Aspects of Their Operations

The industrialization of automotive service will be supported by a package of measures to promote the establishment of companies for the repair of components and units removed from vehicles (Figure 6).

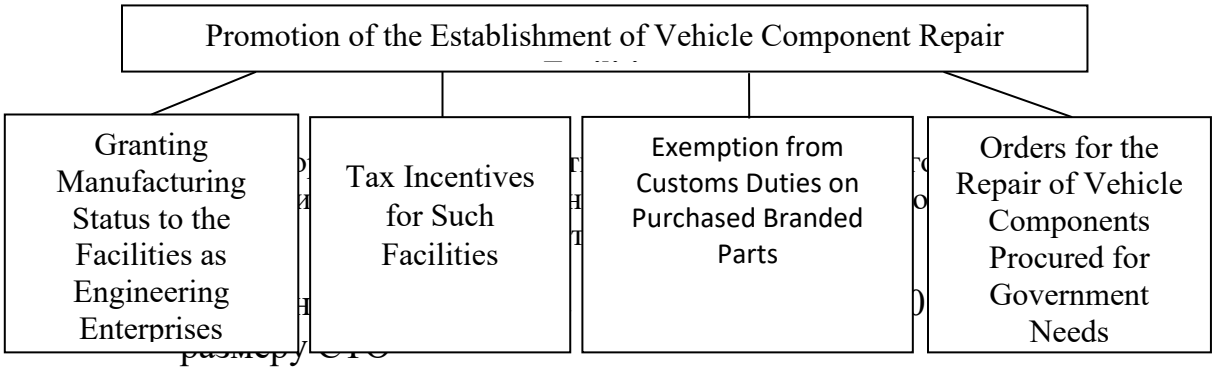

Figure 6. Proposed System of Support Measures for the Organization of Companies for the Repair of Components and Units Removed from Vehicles

Such companies tend to focus on industrial production rather than automotive service and will be especially effective when supported by appropriate institutional measures.

Категории предприятий	Количество постов на предприятии	Количество предприятий	Всего постов	Доля по численности постов, %
1. Специализированные СТО	8...12	20	200	15
2. Дилерские СТО	10...12	8	89	7
3. Малые СТО	4...7	60	330	25
4. Автомастерские	1...2	>40	>680	53
Всего		>488	>1300	100

Conclusion

The proposed trajectory for modernizing private motor vehicles through institutional measures will be more effective and realistic under Lebanon's post-war recovery conditions compared to a rapid, prioritized expansion of public transport resources. This trajectory can be financed primarily by the private sector and does not preclude the development of public transport to the extent that budgetary funds are available. The proposed modernization will require coordinated efforts by the country's authorities, and its implementation is feasible within 5–7 years.

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