

MULTIMODAL TRANSPORTATION – EFFORTS TO MAKE IT HAPPEN IN BRAZIL

by

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ABSTRACT

The objective of this paper is to present the multimodal transport current situation in Brazil and the efforts made by the many countries to create a Multimodal international legislation to overcome the obstacles to its implementation and acceptance. The Brazilian market already realized the advantages brought by the use of the Multimodal Transport Operator - OTM services as a substantial alternative to make the products more competitive, making possible to reach a high level of excellence in the logistics management. The governments play an important role offering a legal and institutional framework required by the regulated market. In Brazil, it is competence of the Inland Transport National Agency - ANTT to create standards and technical regulations to license the OTM to provide logistics services. This paper presents the evolution of the transport chain integration and explains its functionality, also explains, the logistic operators main responsibility regimes, according to the different international conventions and according to some countries private laws, including Brazil. The information presented serves as subsidy for the Brazilian government decisions in order to transpose barriers to promote the development of multimodal transport in Brazil.

KEYWORDS

Multimodal Transport, Logistics, Brazil

INTRODUCTION AND OBJECTIVES

A trading opportunity arises when the right product can be found, at the right place and time at competitive prices. For this, four basic activities should be performed: production, storage, transportation and marketing. In all these activities, there is a strong involvement of the transport associated costs. These costs can be direct, including the price paid for the transport services provided by any facility of transfer and storage, and indirect, such as the financial impact of inventory maintenance and insurance. Additionally, there are the costs associated with management of the handling of goods (such as order processing and cargo tracking).

An efficient transport is essential for the logistics. Logistics is the management of the flow of goods and services between the point of origin and the point of consumption in order to meet the requirements of customers. Trade and transport are closely related to international trade corridors. A trade corridor consists of: customs, financial and commercial practices; government requirements; equipments, infrastructure and the process actors, interacting to produce a country exports and imports.

The government requirements reflect the government policies in the form of laws, regulations and ratified international conventions applicable to international transactions. The actors include commercial parties that provide services for: organizing the physical movement of goods from production to consumption, using the existing infrastructure, implement financial and commercial practices and customs to meet the government requirements.

The objective of this paper is to correlate the government requirements to other elements of the chain, in order to understand the need of implementing the Multimodal Transport.

DEFINITIONS AND CONCEPTS

Initially, Segmented Transport and Multimodal Transport must be carefully defined. Although both use a streamlined logistical structure, there is a huge difference when it comes to the carrier's liability. According to KEEDI (2001), Segmented Transportation, sometimes called Intermodal Transport, includes the issue of individual documents for each modal and for each logistics support activity, such as warehousing, unitizing, spawning, among others. The emission of more than one transport document characterizes not only the increase in bureaucratic activity, but mainly defines the responsibilities of each actor. In other words, each transport mode, as well as each support activity, takes responsibility for an specific part of the chain. Therefore, in case of cargo damage, the shipper may use the right of return against those who caused the damage.

In the Multimodal Transport, according to the United Nations Convention for the Multimodal Transportation of Goods (1980), the Multimodal Transport is the one that uses at least two modes of transport, based on a Multimodal Transport Contract, from the place where the goods are taken under the responsibility of a Multimodal Transport Operator - MTO, to the place designated for delivery.

The MTO is defined as the person who, by its own mean or through another person acting under his custody, holds the contract of Multimodal Transport, acting as principal, accepting full responsibility for the task stated in the carriage contract.

MULTIMODAL TRANSPORT ADVANTAGES

In general, logistics represents a differential for competition among companies and countries, aiming costs reduction and productivity gains. In this context, multimodal transport acquires much more significance. The definition and rationalization of logistic alternatives, points to the full review of the transport system practice: door-to-door, jointly and not fragmented.

Companies which are not able to reach the multimodal competitive advantages, usually choose business terms such as CIF (Cost, Insurance and Freight) and FOB (Free on board), which include the responsibility for hiring only part of the operation logistics activities. The use of more appropriate terms such as DDU (Delivered Duty Unpaid) and DAP (Delivered at Place), would allow these companies to negotiate discounts achieved only by the international transport.

According to Komarova (2000), the advantages of hiring a MTO become clearer when compared to other alternatives for performing the transport. For the company which operates with owned fleet and equipment, it will bear full responsibility for the purchase of fleet, maintenance, financing, staff training and necessary infrastructure to perform the logistics.

However, if a logistic operator is hired, either for segmented or Multimodal Transport, it eliminates the need of investment and the logistics administrative activities can be summarized to the specification and purchase of service. In other words, if a company chooses to have its own logistics sector, the related operation costs are fully assumed by the company. On the other hand, by hiring a multimodal logistics operator the costs are shared with other MTO customers. The larger are cargo volume, the larger is the base for apportionment of direct and indirect costs.

The differentiation of the multimodalism implemented by an MTO is precisely the benefits that he promotes. In summary, some of these benefits are (4):

- more appropriate purchase and sale contracts;
- Better use of the capacity of our transportation matrix and
- utilization of more energy efficient mode combinations;
- Better use of information technologies;
- Negotiation gains of scale;
- Better use of the infrastructure for support activities such as storage and handling;
- Taking advantage of international experience either for transport and trade bureaucratic procedures;
- Reduced overhead costs, among others.

WORLD REGULATION RATIFIED IN BRAZIL

Historically, carriers reduced their exposure to claims for damages, including, in their Bills of Lading, all sorts of exemptions and limitations of liability. To avoid carriers' abuses, countries have celebrated conventions which established bases and limits of liability.

Currently, the great diversity of laws and conventions which fix carriers liability for each mode of transport is probably the biggest obstacle to the development of the Multimodal Transport. According to the UN (2001), a multimodal operation consists of several transport modalities, such as, sea, road, rail or air. Each mode is subject of a convention or mandatory national law. Table 1 below presents a summary of relevant international conventions by modal:

**TABLE 1
INTERNATIONAL CONVENTIONS APPLICABLE TO UNIMODAL TRANSPORT**

MODE	INTERNATIONAL CONVENTION APPLICABLE
MARITIME	<ul style="list-style-type: none"> - International Convention for the Unification of Certain Legal Rules Related to the Maritime Bill of Lading, 1924 (Hague Rules). - Protocol for Modification of the Hague Rules, 1968 (Hague / Visby Rules). - Protocol for Modification of the Rules Hague / Visby, 1979. - UN Convention for the Carriage of Goods by Sea, 1978 (Hamburg Rules) - Rotterdam-Convention, 2010
ROAD	Convention for the Contract for International Carriage of Goods by Road (CMR),
RAIL	<ul style="list-style-type: none"> - Unification of the Rules related to the International Carriage of Goods by Rail Contract (CIM), Appendix B of the Convention related to the International Carriage by Rail (COTIF), 1980. - Protocol for Modification of the CIM-COTIF 1999.
AIRWAY	<ul style="list-style-type: none"> - Convention for the Rules Unification related to International Carriage by Air (Warsaw Convention), 1929. - Hague Protocol, 1955. - Montreal Protocol 4, 1975. - Montreal Convention 1999.

In any event, in the lack of a uniform liability system for multimodal transport, the liability for each stage of transport is determined by the unimodal convention or national law existing. Thus, the MTO liability for loss or damage of goods, may be different, depending on the stage of transport where the loss occurred. The issue becomes even more complicated if the place of loss or damage cannot be defined or occur gradually throughout the shipping process. According ZUIDWIJK (2002a), the diversity of bases and limits of liability and different documents with different legal values, ultimately discourage any logistics operator to provide a door to door service, passing through various different legal systems. This is not a big problem for unimodal transport, but obviously becomes important when attempts are made to combine the different modes of transport and inevitably, their different legal regimes in a single transport operation ruled by a single contract. This statement can be seen in the following example:

The example shows the transport of a container filled with leather from Goiás, Brazil to Frankfurt, Germany. The container comes from a farm in Goiás, it is sent by road to a Dry Port, where it is shipped on the express train to the terminal of Vila Velha, in the city of Vitória, Brazil. From there, it is shipped to the port of Rotterdam in Holland. Once there, it is sent by rail to an intermodal terminal in Cologne, Germany, and finally by road to Frankfurt. Applying different rules to this container we have (Table 2):

TABLE 2
LEGAL DIVERSITY IN THE DOOR-TO-DOOR TRANSPORT

Transport Door-to-Door	Applicable Law
Transport by truck in from Goiás to dry port	deregulated
Railway from dryport to the port of Vitória	Transport by Rail Regulation (TRR)
Transport by sea from Vitoria to Rotterdam	Hague / Visby Rules
Transport by rail from Rotterdam to Cologne	CIM/COTIF
Transport by road in Germany	CMR

According to ZUIDWIJK (2002b) the development of an integrated transport chain, which resulted in the transport Intermodal / Multimodal, began with the perception of the shipper owners that they could offer freight reductions by negotiating large volumes of cargo, offering also a road leg before loading and after unloading for the maritime transport. Thus, the shipper owner assumed the status of a cargo agent in the contract of transport by road; he does not take any responsibility in case of claims for the non maritime legs though.

This service offered by the ship owners was promptly answered by the Freight-Forwarders who, in addition to operating as a simple agent, also operated as a contracting carrier. Under the U.S. law, the freight-forwarder ceases to belong to this category and becomes a NVOCC (Non Vessel Operating Common Carrier).

To avoid losing market, ship owners have also adopted the same procedure. Thus the Intermodal Transport service began to be offered. At first, these integrated transport occurred under the most different conditions, producing a confusing legal situation. The lack of uniformity caused difficulties for traders, insurance companies and banks.

For this reason, non-governmental entities have established more standardized rules. The first attempt happened in 30s by the National Institute for the Unification of Private Law (UNIDROIT). Finally, in 1975, the International Chamber of Commerce (ICC) published the rules for combined transport documents (ICC Publication 298), which have voluntary application and the parties began to universally use it in contracts covering the origin/destination, including transport by sea and road.

Despite the ICC 298 have introduced more uniformity, these rules have not changed the complicated scenario of multiple liabilities. Meanwhile, in 1973, the UN began to discuss the subject. After years of deliberation, it was adopted the "United Nations Convention on Multimodal Transport in 1980".

In theory, the introduction of a uniform legal system would simplify the Multimodal Transport. In practice, it didn't work, since very few countries have ratified it. The main explanations why it was not fully applicable, relates primarily to insurance problems (UN, 1992). In theory, the MTO is legally responsible throughout the transportation chain, having the right to claim against the subcontracted carriers. It is not always possible to claim against a carrier based on the unimodal agreement thought. For example, the maritime carrier, according to Hague / Visby Rules, is not liable for damages caused by navigation errors (collision, grounding, etc.) and fire, which usually have huge proportions. In turn, the ship owner may have a same vessel operated under two different liability regimes.

The UNCTAD (UN), along with the ICC, established new rules, based on the Hague / Visby rules, which began to be used in January 1992. These rules are also voluntary between parties.

For a better understanding of the liability system and the divergent rules for Multimodal Transport, will be described below, the two main regimes of responsibility that can be applied to transport involving more than one transport modality (2001):

- Uniform: according to the uniform system, the same regime, boundaries and periods of responsibility are applied to every stage the Multimodal Transport, regardless of the stage in which the loss or damage occurred.

- Network: according to the Network system the responsibility of the OTM for localized damage (damage which is known to have occurred during a particular stage of the transport) is determined with reference to the International Convention or national law applicable to the stage during which the damage occurred.

In summary, some of the main barriers are related to insurance questions. These are some of the reasons why in the world, it is not common to find a carrier which accepts a contract of carriage under the conditions of the UN Convention of 1980, continuing to use the combined transport / intermodal system (2002a).

COMPARISON BETWEEN MULTIMODAL TRANSPORT RULES

Several countries in South America have joined to various regional conventions, which contains different clauses, moreover, some have established their own laws. All these legal instruments have certain differences, which will probably cause confusion if they all become effective at the same time.

According to the UN report (2001): "The lack of an acceptable international legal framework, has resulted in initiatives and laws intended to override the doubts and problems that persist to date. There are concern about the proliferation of individual laws, with possible different legal approaches, which add more confusion and legal challenges to existing arrangements in the Multimodal Transport. "Tables 3 and 4 present the laws and agreements for some countries and economic regions.

TABLE 3
MULTIMODAL TRANSPORT AGREEMENTS AND INTERNATIONAL CONVENTIONS

REGION	AGREEMENT	SCOPE OF APPLICATION
Andean Community	Decision 331 of March 4, 1993. Modified by Decision 393 of July 9, 1996: International Multimodal Transport.	Applies to all international multimodal transport contracts, if the location of collection or delivery of goods by MTO is inside of a member state territory.
Mercosul	Partial Scope Agreement for Facilitation of Multimodal Transportation, April 27, 1995.	The agreement applies to contracts of Multimodal Transport in which the place of collection or delivery of the goods by the MTO is located inside a member state territory.
ALADI	International Agreement on Multimodal Transport.	The agreement applies to contracts of multimodal transport in which the place of collection or delivery of cargo by the MTO, is located inside of the territory of a signatory country.

Source: United Nations (2006)

According to ZUIDWIJK (2002a), none of these Conventions are effective. The same author believes that, instead of enacting laws on Multimodal Transport, countries should evaluate the usefulness of a review of the unimodal transport legislation.

Good examples of Multimodal Transport regulation can be found in Germany and USA. The Act of Reform of the Transport Law or the All Activities Transport Law, held in Germany, applies to all sectors belonging to the multimodal chain. Germany did not invent anything new to the Multimodal Transport, but has adapted all the rules of the chain into a single law, which applies to both and International Multimodal Transport, simplified when compared to the brazilian legal frame work.

The USA does not have a Multimodal Transport Act, having instead an effective application of unimodal transport laws, adequate infrastructure, transfer terminals and a good national security.

TABLE 4
COUNTRIES MULTIMODAL TRANSPORT LAWS BY COUNTRY

COUNTRY	LAW	SCOPE OF APPLICATION
Argentine	Law 24921: Multimodal Transport of Goods, Official Gazette of January 12, 1998.	The law applies to the National Multimodal Transport. It also applies to international multimodal transport if the place of delivery of the goods is located in Argentina (imports) and does not apply to exports.
Brazil	Law 9611 of February 19, 1998 on Multimodal Transport of Goods.	The law applies to both national and international multimodal transport if the location of collection or delivery of goods is located in Brazil.
Germany	Transport Law Reform Act, 1998	The act applies to the unimodal contract for the carriage of goods by land, waterway and air and all contracts of multimodal transport including the maritime stage, except in cases of localized damage, when are applied relevant international conventions.
México	Regulation on International Multimodal Transport, July 6, 1989.	Mexico is part of the Multimodal Transport Convention and enacted the text of the Convention in the official gazette of April 27, 1982 and subsequently ratified the international regulation on Multimodal Transport, published in the Official Gazette of July 7, 1989. The regulation applies to the International Multimodal Transport and regulates the multimodal transport operator and some of their activities.
Paraguay	As a state member of Mercosur Paraguay implemented the Partial Scope Agreement for Facilitation of Multimodal Transport by the Decree 16927 of April 16, 1997.	

Source: United Nations (2006)

RESTRICTIONS FOR THE EVOLUTION OF MULTIMODAL TRANSPORT IN BRAZIL

Since the "Multimodal Transport Convention" UN 1980, the Brazilian government has discussed the rules of Multimodal Transport and its regulation. The first substantial action, in order to allow the establishment of clear rules on the door to door transport in Brazil (with a single agent responsible for the whole supply chain), emerged in 1994 with the Agreement for the Facilitation of Multimodal Transport for MERCOSUR.

From this agreement, which applies only if the Document or Bill of Lading expressly refer to the agreement have been established the main legislative provisions for this activity:

- Decree No. 1563 of 1995 ruling the signed Agreement;
- Law No. 9611 of 1998, known as the Brazilian Law of Multimodal Transport and, finally,
- Decree No. 3411, 2000, which regulates the Law
- Decree No. 5276 of 2004 amending Decree No. 3411.

According to the legislation mentioned above we can say that Multimodal Transport is regulated in Brazil. Why it doesn't work then? This is a question that must be answered from two aspects: legal and infrastructure.

Legal Aspect

Besides the difficulties in achieving uniformity in international regulation, there is another legal barrier to make the Multimodal Transport more effective in Brazil.

- i) Taxes: There are officially 434 MTO in Brazil (12). They are registered and authorized by the Brazilian government (Inland Transport National Agency) to operate. To support the multimodal operation has been set a standard Multimodal Bill of Lading approved by the State Secretaries of Finance in 2003.
- ii) A major difficulty in using the document is due to tax issues. The Tax on Goods and Services Movements - GSMT applies to all interstate transport operation and is regulated separately and differently by each state

(Brazil has 27 states plus the Federal District). According to Mr. Thiers Costa, a member of the Transport National Confederation, regarding transport taxes in Brazil: "Brazil is a different country in each state".

As in the Multimodal Transport, cargo can be transported through many states, before reaching its final destination, there are huge rule differences between each state when it comes to taxes collecting, making it difficult to collect taxes properly. This situation encourages logistical inefficiency, such as making unnecessary transport or the use of longer routes, damaging the national economic system. Now a days, the transport is performed with the issuance of many documents (and many people responsible), which features an Intermodal transport.

Additionally, some of these states believe that taxes on transport also focus on export operations, increasing the costs of Brazilian exported products and making our price less competitive in the international market. An ideal solution would be a complete political reform in the tax system, standardizing tax rates and collecting procedures in all the 27 states and the federal district.

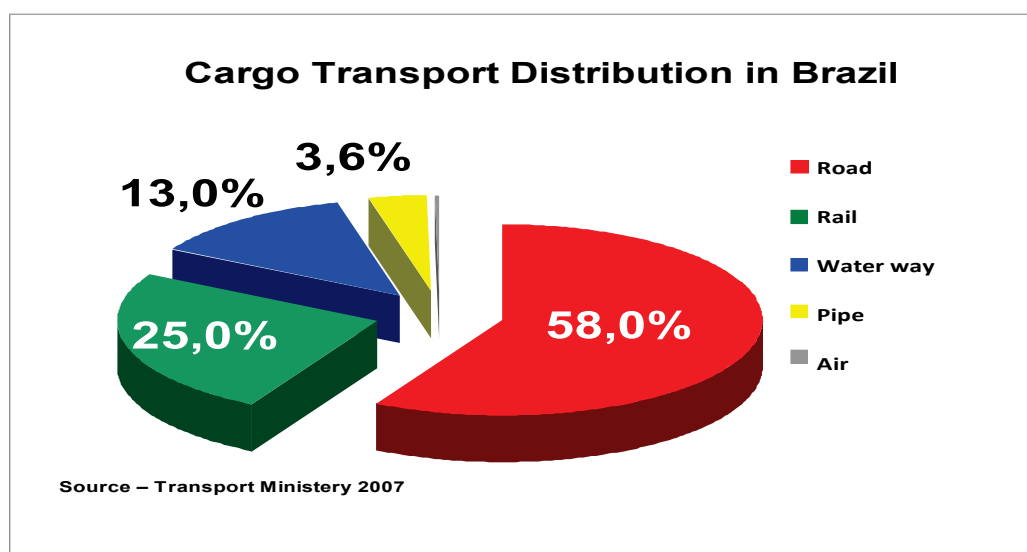
Another legal barrier which impacted negatively on the implementation of multimodal transport in Brazil was the cargo insurance. Law 9.611/98 and Decree 3411/00 established a new legal barrier for the implementation of Multimodal Transport in Brazil: requires the MTO, for the release of the registry, an insurance policy covering their liability on the goods under his custody. To get this policy from an insurance company was practically impossible, since no insurance company offered to guarantee a still undefined transport. This problem was solved with the publication of Decree No. 5276/2004 which removed the requirement for the insurance policy in the act of registration of the MTO at National inland Transport Agency -ANTT. This decree had a significant impact in the market, since after issuing the decree the number of OTM registered rose from 30 in 2004 to 164 in 2005.

In Brazil, it is responsibility of the National inland Transport Agency – ANTT, to propose enabling Multimodal Transport Operators, monitoring the Multimodal Transportation and coordinating with professional associations, shippers, cargo owners, regulatory agencies in other modes, government agencies and others involved with the movement of goods to promote multimodal transport. ANTT is a federal regulatory agency bounded, but not hierarchically subordinated, to the Transport Ministry.

Infrastructure

The existing infrastructure of transport in Brazil represents a barrier to the integration of different transport modes. It is important to emphasize the great contribution of the transport by road. This is alarming information, taking into consideration the territorial continental dimensions of Brazil. Figure 1, below, shows transport matrix in Brazil.

FIGURE 1
PARTICIPATION OF THE TRANSPORT SECTOR IN THE BRAZILLIAN ECONOMY



Source: CNT, Ministry of Environment, IBGE and GEIPOT.

FIGURE 2
PARTICIPATION OF MODAL TRANSPORT WORLD – TONS X KM

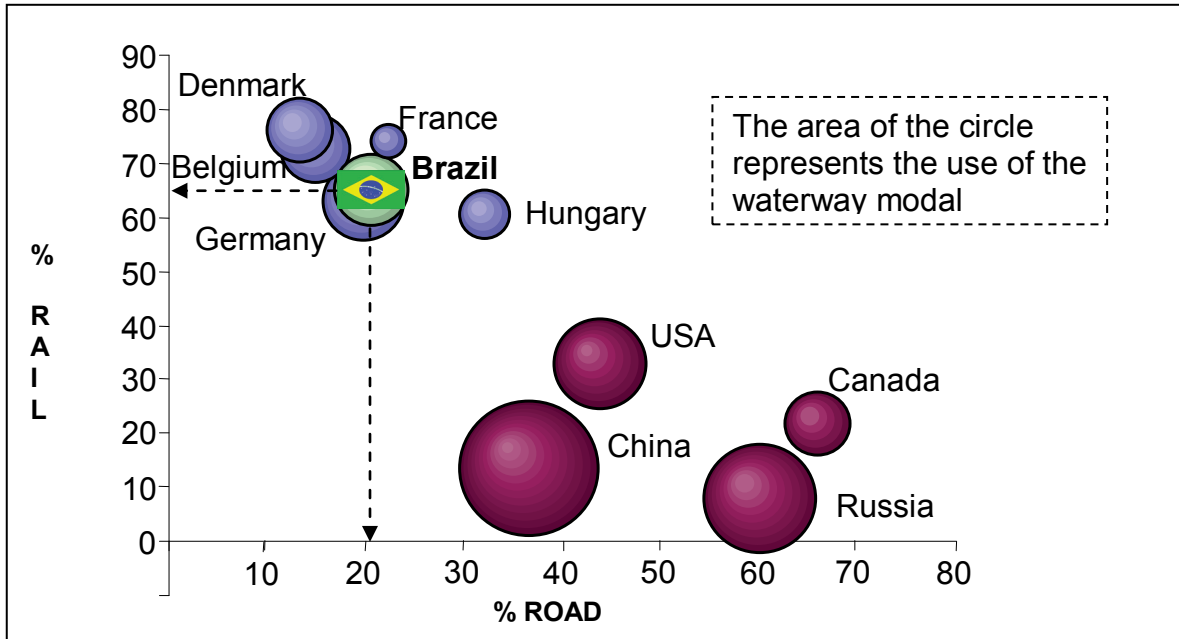


Figure 2 shows the share of transport mentioned above, including the data related to other countries. Note that in this chart, Brazil should be located close to countries with the same geographical size, however, is close to countries with dimensions up to ten times smaller.

Following are listed five parameters which, among others, best explain the distortion presented above:

- i) Transport by road: Currently, freight by road is considerably cheap. The almost total deregulation and high unemployment in the market led to the emergence of a large number of independent carriers, charging freight rates below their own costs. These aspects reflect a high rate of accidents, caused mainly by lack of maintenance on the vehicles, the high average age of the fleet, loadings heavier than allowed and the long hours that independent drivers are submitted. These unrealistic freight values become a competition disadvantage compared to other modes of transportation that are more efficient in long distance.
- ii) Rail Transport: Before the process of privatization of railroads began, the Brazilian government has continually reduced investment in the railway sector. Currently, private companies that took control of the granted railroads have a serious problem related to infrastructure and maintenance of rolling stock.
- iii) Maritime Transport: The average productivity of Brazilian ports is around 20 TEU / h. This figure is 50% below the global benchmark. The excessive man power used in Brazilian ports is the main cause for the inefficient performance. Additionally, the number of ships built by the Brazilian shipyards had a huge drop in recent decades.
- iv) Waterway Transport: Brazil has a huge network of inland waterways, but their use for transportation is small. The interior navigation has the lowest rate of investment in the sector over the last decade. Also the lack of integrated actions, based on rivers multiple use, has hampered the effective potential of this mode of transport
- v) Multimodal Terminal: A small number of Multimodal terminals and excessive bureaucracy, especially in the international trade area are other factors that inhibit the development of Multimodality in Brazil. The inefficiency in cargo transportation generates an excess of inventory, designed to avoid delays in deliveries and resolve problems caused by accidents and theft.

CONCLUSION

The scene, contrary to popular belief, is not pessimistic: basically represents great potential for the Multimodal Transport. Currently, one of the main policies of the governments of developing countries like Brazil is to increase the volume of exports, ensuring a larger reservation of resources, free of external investors. To achieve this goal, must be privileged the national transport and more efficient contracts.

This goal is difficult to achieve, primarily because no organization can improve this complex network by itself. The Multimodal Transport involves not only transport systems and vehicles, but also a combination of business decisions, regulations and responsibility practices. It is needed an intensive coordination between the public and private, between the various transport modalities and between different nations that compose this vast network.

International organizations such as the ICC, UNCTAD, UNCITRAL, in addition to the committees of the European Union, United Nations and the United States, maintain efforts to advance in the search for a new legislation to promote a global standardization of rules applicable to the Multimodal Transport.

To improve the multimodal transport, it is suggested to Brazil to take the following actions , concerning the transport policy:

- Standardize procedures and legal guidelines for the application of transport related taxes;
- Clearly establish the role and the conditions for the competition of different modes and promote sustainable development to meet demand;
- Indicate public and private resources available, and create a safe environment for investment;
- Enable private sector participation in government decisions and,
- Allow a more efficient legal, institutional and economic management for the cargo flows, by constant updating the procedures, reducing the execution time and bureaucracy at borders, based on international best practices.

Multimodality depends on the efficient use of the Multimodal Transport capacity and on combinations more economic energetically. To allow gains of scale in international negotiations, make better use of infrastructure to support activities and reduce costs for small and medium businesses, Multimodal Transport should be promoted in Brazil as soon as possible, removing legal barriers and permitting the necessary investments in transportation infrastructure. It is important to note that the integration of the entire door to door chain converges to reduce costs and to optimize the cargo flow, in a unique and incomparable logistic chain.

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