


Economic Analysis of Law in the Regulation of Maritime Transport and Port Activity: The Brazilian Case

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Abstract

The objective of this article is to contribute to the use of Economic Analysis of Law (EAL) in the regulation of maritime container transport and port activity in Brazil, which contributes to the use of EAL in other countries. The theme is justified considering that, in the Brazilian case, there is no effective economic regulation to enable affordable prices and tariffs in that sector, a condition of *adequate service*, which has been causing negative externalities, such as loss of competitiveness of Brazilian products in foreign trade. In this sense, the text is divided into two parts. Part I deals with the concepts of economic analysis, economic regulation, market and government failures, and Part II deals with the possibility of using EAL in maritime container transport and in port services. Finally, a conclusion will be made, followed by references. This legal paper was financed in part by the Coordination for the Improvement of Higher Education Personnel—Brazil (CAPES)—Finance Code 001, with support from the *Programa de Excelência Acadêmica* (PROEX).

Keywords

Regulation, Economic Analysis of Law, Shipping and Port Sectors, Maritime Law

1. Introduction and Justification

The logistical crisis caused by the COVID-19 pandemic has led to a significant increase in sea freight worldwide. In Brazil, according to the National Agency for Waterway Transport (ANTAQ) the main impacts are the increase of port omissions, the concentration of cargo movements, the occupation of the terminal patio, the credibility of the clients due to unpredictability of the cargo's delivery at

the port of destiny, the increasing of the shipping prices/rates, and also occurrences of cargo ships with crew members tested with COVID-19 (ANTAQ, 2022: p. 6).

According to the United Nations Conference on Trade and Development (UNCTAD):

The impact on freight rates has been greatest on trade routes to developing regions, where consumers and businesses can least afford it. Currently, rates to South America and Western Africa are higher than to any other major trade region. By early 2021, for example, freight rates from China to South America had jumped 443% compared with 63% on the route between Asia and North America's eastern coast (UNCTAD, 2022: Figure 1). Part of the explanation lies in the fact that routes from China to countries in South America and Africa are often longer. More ships are required for weekly service on these routes, meaning many containers are also "stuck" on these routes. (UNCTAD, 2022)

In addition, prices in maritime transport and in port activity have not been the object of an economic regulation that provides adequate service, through affordable prices and tariffs, as determined by the regulatory framework in Brazil. In this scenario, the Economic Analysis of Law (EAL) assumes importance.

The theme is justified by the negative externalities of the inexistence of criteria to avoid abusive prices and tariffs regulated by the National Agency for Waterway Transport (ANTAQ), such as in container demurrage and port storage, which allows prices that violate the affordability and, in turn, create an obstacle to the effectiveness of the adequate service.

This is a problem that reduces the competitiveness of goods transported by sea and that greatly affects developing countries such as Brazil. Thus, we argue that EAL can contribute to guaranteeing the balance of interests in the sector, through the effectiveness of *adequate service*, especially based on item V, of Article 170; and Articles 174 and 175, sole paragraph, subsection IV, of the 1988 Federal Constitution (Brazil, 1988), Resolution no. 75/2022 (infractions and penalties in the port sector) (ANTAQ, 2022) and Normative Resolution no. 62/2021 (rights and duties of the maritime carrier, intermediary agent and user) (ANTAQ, 2021), both from ANTAQ¹.

Thus, some questions may be raised: (i) could the prices in maritime transport and in port activity be monitored and regulated?; (ii) what is the relationship between efficiency in justice and justice in economy and (iii) how does the law and economics influence each other in analyzing the study of economic conduct?

¹For a deeper understanding of this issue: Osvaldo Agripino de Castro Junior & Maicon Rodrigues (2020), *Defesa da Concorrência e verticalização no setor portuário* [Defense of Competition and Verticalization in the Port Sector], 8-1 RDC 107,133; Osvaldo Agripino de Castro Junior (2019), *Regulation and Reasonable Prices in Brazilian's Shipping and Port Sectors*, 8-11 IJSR 1183, 1192. This legal paper is a scientific production of the Master's and Doctorate in Legal Science (PPCJ) at the University of Vale do Itajaí.

2. Economic Analysis of Law

2.1. Relevant Concepts and Historical Aspects

The development of the relationship between Law and Economics took place from teaching as a discipline at the University of Chicago Law School, with the appointment of economist Henry Simons, from the School of Economics, where he had an unfulfilling career, because he was not interested in economics, but in jurisprudential and political issues².

The starting point of the discipline is the article *The Nature of the Firm*, by Ronald Coase (Coase, 1937), through the development of the “transaction costs theory”, which drew attention to the fact that there were costs inherent to operations in the market, where costs in the firm may be reduced or increased by law. When they are high, they tend to increase the social cost of a given activity, creating obstacles to its exercise. The company works as a bundle of contracts and reducer of such costs.

To specify the object of EAL, we argue that it is the study of economic conduct carried out under conditions determined by legal norms, however, this is only one of the aspects or possibilities that, according to Posner, are typical of the positivist strand of economic analysis of law (Posner, 1979: pp. 284-285).

The historical approach to economic analysis, albeit in a summarized form, according to Steven Shavell (2004: p. 4), contributes to the understanding of the discipline:

The economic view may be said to have originated mainly with writings on crime by Becarria (1767) and, especially, Bentham (1789). Bentham developed in significant detail the idea that legal sanctions may discourage bad conduct and that sanctions should be employed when they will effectively deter but not when they will fail to do so (as with the insane). Curiously, however, after Bentham, the economic approach to law lay largely dormant until the 1960s and 1970s. In that period, Coase (1960) wrote a provocative article on the incentives to reduce harms engendered by property rights assignments; Becker (1968) authored an influential article on crime, casting into modern terms and extending Bentham’s earlier contributions; Calabresi (1970) published and extended treatment of liability rules and the accident problem; and Posner (1972a) wrote a comprehensive textbook and a number of articles, as well as established the *Journal of Legal Studies*, in which scholarship in economic analysis of law could be regularly published. Since that time, economic analysis of law has grown fairly scholarship.

Indeed, according to Posner (1979: p. 288), “a separate branch of positive analysis of law, in which I have been particularly interested, relates not only to

²On legal certainty, the history of EAL in the United States, and the relevance of Comparative Law to institutional reform and development, see: Celso Campilongo *Preface to Osvaldo Agripino de Castro Junior, Introdução ao Direito e Desenvolvimento—Estudo Comparado para a Reforma do Sistema Judicial* [Introduction to Law and Development—Comparative Study for the Reform of the Judicial System], at 53, 88 (Editora do Conselho Federal da OAB 2004).

the behavior of individuals and firms regulated by the legal system, but to the structure of the system itself”.

According to Steven Shavell (2004: p. 4), when dealing with the economic approach to the analysis of law, two basic types of questions about legal norms must be mentioned:

The first type is *descriptive*, concerning the effects of legal rules. For example, what is the influence of our system of liability for automobile accidents on the number of these accidents, on the compensation of accidents victims, and on litigation expenses? The other type of question is *normative*, pertaining to the social desirability of legal rules. Thus, it might be asked whether our system of liability for automobile accidents is socially good, given its various consequences.

In response to the two types of questions about the economic approach, the theory’s attention is usually focused on stylized models of individual behavior and the legal system. The advantage of studying models allows descriptive and normative questions to be answered in an ambiguous way, which can clarify the influence of legal norms on behavior and help in legal decision-making (Shavell, 2004: p. 4).

Cooperation between Law and Economics is taught by Porto (2021: p. 4):

Law and Economics can interact in two ways: (i) the complementary dialogic interaction between the sciences; and (ii) using economics as a research method applied to the legal problem. The two forms keep great similarities and great differences between them. In the first interaction, the sciences dialogue without hierarchization and complementarity is sought: when one fails to provide answers, one seeks in the other what is needed to understand the phenomenon. Faced with a certain phenomenon that is difficult to explain, one wants to achieve the theoretical growth of a discipline from the appropriation of the instruments of the other.

In this scenario, the interdependence between Law, understood here as the set of legislation, doctrine and jurisprudence, and Economics, a science that is concerned with scarcity and consists of the analysis of the production, distribution and consumption of goods and services, that is, it studies the choices of individuals and companies, is evident. Economics is divided into two major branches: microeconomics, which studies individual behaviors, and macroeconomics, which studies the aggregate result of various individual behaviors.

There is no problem in seeking more efficiency in justice and an economy with more justice. There is a strong area of convergence between the two branches of knowledge, in this zone of overlap there is a space for dialogue, with a zone of congruence, and great cooperation to solve problems of justice and efficiency, not being incompatible.

But what distinguishes EAL from other types of analysis of law? According to Steven Shavell, one might ask whether there is any qualitative difference between

EAL, as already defined, and other approaches to its measurement. Is it not in each legal analyst's interest to determine how legal norms affect behavior and then to assess the rules related to some criterion of social good?

The answer is yes, and thus, in a general sense, EAL can be distinguished from other types of analysis of law, which can be done through three characteristics (Shavell, 2004: p. 4):

First, economic analysis emphasizes the use of stylized models and of statistical, empirical tests of theory, whereas other approaches usually do neither. Second, in describing behavior, economic analysis gives much greater weight than other approaches to the view that actors are rational, acting with a view toward the possible consequences of their choices. And third, in normative evaluation, economic analysis makes explicit the measure of social welfare considered, whereas other approaches often leave the criterion of the social good unclear or substantially implicit.

In Brazil, a country whose law originates from the Roman-Germanic tradition (civil law tradition), and with a strong influence of French law on Administrative Law, unlike North American law, of Anglo-Saxon tradition (common law tradition), the approximation between Law and Economics was more conflicting, especially in the 1980s³. This is verified, for example, in the edition of economic plans to combat inflation, with great judicialization, and without success. Legal Science had little dialogue with Economics. Lawyers and economists were not cooperating.

According to Porto (2021: p. 4):

Parsimoniously, the speeches in favor of bringing the areas closer were being built, as their benefits were demonstrated. The methodological contributions of the EAL made it possible to understand many of the constitutional institutes, from the perspective of the economic analysis of Law. Interesting examples are the contract and ownership..., as eminently legal concepts, and efficiency, a central concept in the economy. To some extent, bringing definitions linked to other sciences to the heart of the constitutions—as the Constituent Power derived by amending the *caput* of Article 37 of the Federal Constitution and inserting efficiency—can bring discord and animosity about the operability of its content among jurists. However, this animosity settles down as time passes and space is made for the benefits that are presented. A result of this is the growing Brazilian interest in appealing to EAL to understand various objects of the legal system.

³About the comparative analysis of the history of common law and civil law, and its developments in the legal models (law) of the United States and Brazil, through eleven determinant elements of the judicial systems of those countries, see our Doctoral Thesis at the Graduate Law Course at the Federal University of Santa Catarina [UFSC]), defended in August 2001, with a research period (Sandwich Doctorate) at Stanford Law School: Osvaldo Agripino de Castro Junior, *Análise comparativa dos sistemas judiciais norte-americano e brasileiro e seus impactos no desenvolvimento social* [Comparative analysis of US and Brazilian judicial systems and their impacts on social development] (Aug. 21, 2001) (Ph.D. dissertation, Federal University of Santa Catarina).

It should also be noted the spread of EAL in the world⁴, especially from the second half of the 20th century, and in Brazil, in the 1990s, and the relevance of the relationship between Legal Science and Economic Science for the development of countries. The economy acts on the law more or less strongly depending on the specificity of the sector, on the economic constitution and the conception of what is made of its relations. However, as any singular causal explanation may be reductionist, interdisciplinarity is fundamental to understanding the relationship between law and economics.

Although what makes the law is not the interests, but the claims filed and/or resolved by the judicial system, most of them with an economic interest, there is a lack of knowledge of lawyers about economic issues, as well as economists in what refers to legal matters, that is, a lack of articulation and interdisciplinarity that is extremely harmful to development (Castro Junior, 2001).

2.2. Market Failure

As this is an issue that requires the intervention of the regulatory State, which adopted sectoral regulation, via ANTAQ, created by Law no. 10.233/2001 (The National Agency for Waterway Transport Law, 2001), it is relevant to conceptualize the figures of market failure and government failure, whose existence in a given market, as the maritime transport and port services sectors, justifies the creation of an independent sectoral regulatory agency⁵.

To Mark Seidenfeld (1996: p. 61), the concept of market failure, within economic theory, refers to the specific circumstances that lead a free market system to the inefficient allocation of goods and services. Market imperfections are deviations from competitive market conditions that lead private individuals and organizations, which seek to maximize their own interests, to do things that are not in the social interest. Thus, Porto (2021: pp. 12-13), wrote:

(...) market failures can be seen as situations in which the actions of individuals in pursuit of their pure self-interest lead to results that are not efficient from the collective point of view. Market failures are often associated with information asymmetries, uncompetitive market structures, natural monopoly problems, externalities, or public goods. The existence of a market failure is often used as a justification for government intervention in a

⁴One of the pioneering works that demonstrate this vast development and expansion of EAL is that of Posner, an American judge and academic: Posner, R. (2014). *Economic Analysis of Law*. Aspen Law & Business.

⁵About the comparative analysis of twenty-two determinant elements of the sectorial regulation of air, maritime transport and ports in the United States and Brazil, via the Federal Aviation Administration (FAA) and the National Civil Aviation Agency (ANAC), and through the Federal Maritime Commission (FMC), and ANTAQ, see Post-Doctoral internship report at the Mossavar-Rahmani Center for Business and Government, Kennedy School of Government, Harvard University, with a scholarship from the Coordination for the Improvement of Higher Education Personnel (CAPES), in 2007-2008: Brown (2009: p. 9). Preface. In: Castro Junior, O. A. *Direito Regulatório e Inovação nos Transportes e Portos nos Estados Unidos e Brasil* [Regulatory Law and Innovation in Transport and Ports in the United States and Brazil]. Florianópolis: Conceito. This book is a scientific production of the Master's and Doctorate in Legal Science (PPCJ) at the University of Vale do Itajaí.

particular market. Microeconomics is concerned with the study of the causes of market failures, and the possible means of correcting them, when they occur. Such analysis plays an important role in public policy decisions. However, some types of government interventions and policies and tax legislation, subsidies, price and wage controls, while constituting public attempts to correct market failures, can also lead to inefficient resource allocations (sometimes called government failures). In these cases, there is a choice between imperfect outcomes, that is, imperfect market outcomes, with or without government intervention. In any case, by definition, if there is a market failure, the result is not Pareto efficiency.

2.3. Government Failure

In the maritime container transport sector, with great horizontal concentration and verticalization (the carrier is a partner in the terminal where it operates), and in port services, regulated by ANTAQ, despite its learning curve to provide adequate service throughout the last decade, there is still no registration and monitoring of freight prices, extra-freight charges and port services, given the *ex post* regulation model adopted, not recommended for relevant markets with high concentration, and not *ex ante*, which would be ideal.

In this model, the regulator acts in a minimal way, upon provocation by the user harmed by possible charging of an abusive price. In turn, ANTAQ does not yet have criteria to define what a non-abusive price is, in the face of a complaint, which can cause insecurity for the parties, whether for the service provider, on the one hand, or for the user, on the other hand. In this context, the concept of government failure stands out, as pointed out by Porto (2021: p. 19):

(...) it is important to highlight some aspects related to the complexity of the state task of regulating economic activities in cases of market failures. As stated, some types of government interventions and policies, such as taxes, subsidies, bailouts, price and wage controls, which may constitute public attempts to correct market failures, can also lead to inefficient resource allocations (sometimes called government failures).

The public sector analogy for market failure occurs when state intervention leads to a less efficient allocation of goods and resources relative to market allocation. As with market failures, there are many different types of government failures that describe the corresponding distortions. (...). The idea of government failure is associated with the argument that, even when the market does not meet the conditions of perfect competition, state intervention can generate even worse results, in terms of efficiency, rather than better.

Government failure can be considered when, in the face of a given market failure, there is state intervention, which can exacerbate the problem, instead of seeking the effectiveness of the public interest. Thus, adequate state regulation is relevant, as well as the use of tools such as the EAL and the regulatory impact

analysis (RIA) conceptualized by Decree no. 10.411/2020, as follows:

Article 2 For the purposes of this Decree, the following are considered: I—regulatory impact analysis—RIA—procedure, based on the definition of a regulatory problem, of evaluation prior to the edition of the normative acts dealt with in this Decree, which will contain information and data about its likely effects, to verify the reasonableness of the impact and support decision-making (...). *Decreto No. 10.411, de 30 de Junho de 2020, Diário Oficial da União [D.O.U.] de 1.07.2020 (Braz.)*.

It is important to mention that RIA is regulated by Article 6, of the Regulatory Agency Law (Law no. 13.848/2019), and by Article 5, of the Economic Freedom Act (Law no. 13.874/2019), both regulated by Decree no. 10.411/2020 (30 de Junho de 2020, Diário Oficial da União [D.O.U.] de 1.07.2020 (Braz.)).

The article 6 of the of the Regulatory Agency Law (Law no. 13.848/2019) lays down:

Article 6 The adoption and proposals to amend normative acts of general interest to economic agents, consumers or users of the services provided will, under the terms of the regulation, be preceded by the performance of a Regulatory Impact Analysis (RIA), which will contain information and data on the possible effects of the normative act. 1st Regulation will provide for the content and methodology of the RIA, the minimum requirements to be examined, as well as the cases in which it will be mandatory and those in which it may be waived. (...) Section 5. In cases where RIA is not carried out, at least a technical note or equivalent document that substantiated the decision proposal, must be made available.” *Lei No. 13.848, de 25 de Junho de 2019, Diário Oficial da União [D.O.U.] de 26.6.2019 (Braz.)*.

Article 5, of the Economic Freedom Act (Law no. 13.874/2019) states that:

Article 5. Proposals for editing and amending normative acts of general interest to economic agents or users of the services provided, edited by a body or entity of the federal public administration, including autarchies and public foundations, will be preceded by an impact analysis regulatory framework, which will contain information and data on the possible effects of the normative act to verify the reasonableness of its economic impact. Sole paragraph. Regulation will provide for the start date of the requirement referred to in the caput of this article and on the content, the methodology of the regulatory impact analysis, the minimum requirements to be examined, the cases in which its performance will be mandatory and the cases in which that can be waived.” *Lei No. 13.874, de 20 de Setembro de 2019, Diário Oficial da União [D.O.U.] de 20.9.2019 (Braz.)*.

The same is true of the use of EAL and microeconomics in defense of competition, as Luciana Yeung (2021: p. 16) affirms:

The actions and strategic decisions of each of the companies competing in

this market have great impacts on their revenue, on their customers, and also on their competitors. So the interaction is best described by strategic games, shaped by the fascinating microeconomics of game theory. In it, the concepts of prisoners' dilemma, dominant strategies, Nash equilibrium, etc., are discussed.

3. Possibilities of Using EAL in Maritime Container Transport and Port Services

3.1. Justification for the Use of the EAL

After this brief introduction to EAL, the following questions arise: 1) Can the discipline be useful for the balance of interests in maritime transport and in the port sector? 2) As such services are regulated activities, since both the maritime carrier and the port operator carry out activities under the regulation of the National Water Transport Agency (ANTAQ), pursuant to Article 20, items I and II, and Article 23, both of Law no. 10.233/2001⁶, and must observe affordable prices and tariffs (Article 20, II, a), what are the possibilities of using EAL?

Before answering the two questions above, there is a need to discuss independent sectoral regulation. Economic regulation is the restrictive state function of free enterprise necessary to correct situations in which the market *per se* is not able to allocate resources efficiently, as well as to provide adequate service. Traditional economic theory justifies state intervention in the face of market failures, as is the case in the sector regulated by ANTAQ, as well as imposing limits on the fundamentalism of free enterprise.

The objective is to correct the flaws and generate economic efficiency, such as criteria to avoid abusive prices in regulated markets, such as that of ANTAQ. The role of the Regulatory Guarantor State can be performed by activities such as disciplining, normalizing, regulating, inspecting and sanctioning, as well as establishing criteria for a price cap, which should not be confused with price fixing.

First of all, it should be made clear that regulatory intervention with the aid of EAL is based on the Economic Freedom Act itself, since although Article 2 deals

⁶Article 20. The objectives of the National Regulatory Agencies for Land and Waterway Transport are: I—to implement, in their respective spheres of action, the policies formulated by the National Council for the Integration of Transport Policies, the Ministry of Transport and the Department of Ports of the Presidency of the Republic, in the respective areas of competence, according to the principles and guidelines established in this Law; II—regulate or supervise, in their respective spheres and attributions, the activities of provision of services and exploration of the transport infrastructure, carried out by third parties, with a view to: a) guarantee the movement of people and goods, in compliance with the standards of efficiency, safety, comfort, regularity, punctuality and *affordability in freight and tariffs*; b) harmonizing, preserving the public interest, the objectives of users, concessionaires, permissionaires, authorized and lessees, and delegated entities, arbitrating conflicts of interest and preventing situations that constitute imperfect competition or violation of the economic order. (...). Article 23 ANTAQ's sphere of action comprises I—river, lake, ferry, maritime support, port support, cabotage and long-distance navigation; II—the organized ports and the port facilities located therein; III—the port facilities referred to in Article 8 of the Law into which Provisional Measure no. 595 of December 6, 2012 was converted; IV—the waterway transport of special and dangerous cargo. V—the exploitation of the federal waterway infrastructure.” Lei No. 10.233, de 5 de Junho de 2001, Diário Oficial da União [D.O.U.] de 6.6.2001 (Braz.).

with the principles that guide the provisions of the aforementioned law, such as the “*freedom as a guarantee in the exercise of economic activities*” (item I), and the “*subsidiary and exceptional intervention of the State in the exercise of economic activities*” (item III), on the one hand, also makes it possible for the State to intervene to limit the price of services and products in regulated markets, under the terms of Article 3, item III, of the aforementioned law. On the other hand,

Article 3 It is the right of every person, whether natural or legal, essential for the economic development and growth of the country, subject to the provisions of the sole paragraph of Article 170 of the Federal Constitution: (...) III—freely define, in *unregulated markets*, the price of products and services as a result of changes in supply and demand (...).

The need to create technical criteria in the prices of services regulated by ANTAQ, when these are manifestly abusive, such as in the charging of demurrage for containers, with a value higher than the value of the transported cargo, or in port storage, with a higher price to the stored load, requires a prior discussion via Regulatory Impact Analysis through the contribution of EAL, to avoid abuse by the regulator, the service provider and the user. After all, what is an affordable service when it comes to container demurrage or port storage? EAL can help answer this question.

3.2. Possibilities of Using EAL in Maritime Transport: Container Demurrage

First of all, it is relevant to conceptualize the affordability of prices and tariffs in the maritime transport and port services sector. That is a criterion of adequate service, in terms of the following regulations.

Normative Resolution no. 62/2021, from ANTAQ, approves the rule that provides for the rights and duties of users, intermediary agents and companies operating in maritime support navigation, port support, cabotage and long distance, and establishes administrative infractions, as provided in item VII, of Article 3, which deals with *affordability* as a criterion of *adequate service*:

Article 3 Long-distance and cabotage maritime carriers and intermediary agents must permanently observe, where applicable, the following conditions for the provision of adequate service:

(...)

VII—*affordability*, characterized by the adoption of prices, freights, fees and surcharges on a fair, transparent and non-discriminatory basis and that reflect the balance between the costs of providing services and the benefits offered to users, allowing for the improvement and expansion of services, in addition to adequate remuneration (...).

In turn, item I, of Article 8, of the aforementioned Regulation, is crystal clear regarding the criterion of affordability as a basic right of the maritime transport

user:

Article 8. The user's basic rights, without prejudice to others established in specific legislation and in the contract: I—receive adequate service in compliance with the standards of regularity, continuity, efficiency, safety, topicality, generality, punctuality and affordability (...).

And it could not be different, when typifying non-compliance with the criteria of adequate service as an administrative infraction, according to item II, of Article 27 of the aforementioned Resolution:

Article 27. The following constitute administrative infractions of a moderate nature: (...) II—not complying with the criteria for adequate service described in this Norm, except when the infraction falls into a specific type contemplated in this Norm: fine of up to R\$100,000.00 [one hundred thousand Brazilian Reais].

In addition, ANTAQ's Normative Resolution no. 62/2021 defines container demurrage in item XX, of Article 2, as follows:

Article 2. For the purposes of this Norm, the following definitions are established: (...) XXII—demurrage of container: amount due to the maritime carrier, to the owner of the container or to the forwarding agent for the days that exceed the agreed period of free stay of the container for the shipment or for its return.

The fight against abusiveness in the value of the demurrage of a container, whether on loading (detention) or on unloading (demurrage), has been one of the most controversial, in view of the delay in loading or unloading for reasons beyond the control of the user, which makes the charge much higher than the used container or even the cargo.

This negative externality is verified by Prof. [Norman Augusto Martínez Gutiérrez \(2018: p. 14\)](#), Ph.D., from the Master's and Doctorate in International Maritime Law, from the International Maritime Law Institute of the International Maritime Organization, in his preface to a book on the topic

The authors' objective was to identify that affect especially in Brazil and propose pragmatic solutions to the problems exposed. This is of paramount importance, as it is one of the countries with the highest number of judicial charges for demurrage of containers in the world and where the convictions are of the highest price.

Empirical evidence shows the amount charged by the intermediary agent or by the maritime carrier is much higher than the possible loss of revenue resulting from the non-availability of the container by the user, harming those, especially when the demurrage is not charged by the effective maritime carrier, generating an unjust enrichment on the part of the one who charges, due to the asymmetry of information, with revenue higher than that of the actual carrier.

Regarding the problem of limiting the price of demurrage⁷, it should be noted that ANTAQ promoted Public Hearing no. 13/2021—Theme 2.2 of the 2020-2021 Regulatory Agenda, whose objective is to develop a methodology to determine abusiveness in charging for demurrage of containers, having submitted for contributions a Regulatory Impact Analysis (RIA) report (ANTAQ. RIA Report of Process nº 50300.010899/2020-14), which concluded:

307. In view of the foregoing, it is concluded that:

a) The regulatory problem analyzed is limited to the demurrage charge made by the carrier before the consignee;

(...)

d) In terms of the legal nature of demurrage, it is understood that it adheres to the Civil Code and consists of a moratorium penalty clause;

e) It is lawful to cumulate the demurrage with the indemnity for lost profits, provided that it is agreed between the parties, under the terms of Article 416, sole paragraph, of the Civil Code, being necessary to prove the extent of the damage;

f) International experience shows that: 1) the legal interpretation of demurrage as a moratorium penalty clause is feasible; 2) the regulatory proposals suggested to the Board of Directors through this RIA report are in line with the practices of the FMC; 3) the exploratory price survey does not make it possible to definitively state whether the demurrage prices charged in Brazilian ports are abusive or not, but, given the methodological reservations, it is seen that the demurrage prices surveyed in the ports of Santos, Buenos Aires, Antwerp, Rotterdam, Singapore and Shanghai, generally point to Brazilian values in line with foreign values;

g) After a cost-benefit-risk analysis, it is suggested that ANTAQ adopt the following actions: 1) definition of the legal nature; 2) periodic research on the amounts charged as demurrage; 3) procedure for analyzing concrete cases.

h) In terms of regulatory instruments, the edition of two Resolutions is suggested to: 1) define the legal nature of demurrage; 2) certify that new internal procedures will be adopted in the assessment of specific cases—Pedro Henrique Soares—Specialist in Regulation of Waterway Transport Services—Pedro Celso Rodrigues Fonseca—Specialist in Regulation of Waterway Transport Services.

As seen, the importance of EAL is verified as a tool that can contribute to the

⁷It is noteworthy that the maritime carrier not only of containers but of all types of products, as well as passengers, handles the risk management through the institute of limitation of civil liability, so that, by the principle of isonomy, it is reasonable that the user should be entitled to a limitation on the price of the demurrage. On the topic, see Castro Junior, O. A.; Martínez Gutiérrez, N. A. (2016). *Limitação da Responsabilidade Civil no Transporte Marítimo*. [Limitation of Civil Liability in Maritime Transport]. Rio de Janeiro: Renovar. This book is the final report of a project of international research cooperation between the Master's and Doctorate in Legal Science (PPCJ) at the University of Vale do Itajaí and the International Maritime Law Institute, IMO, Malta, intitled *Programa Professor Visitante do Exterior* (PVE), sponsored by CAPES, Brazilian Federal Government.

identification of criteria to avoid the abuse of container demurrage.

3.3. Possibilities of Using EAL in Port Services: Storage and Non-Invasive Inspection (NII)

ANTAQ's economic regulation covers waterway transport and port services. In the port service sector, the regulation model implemented is the same as the waterway transport, that is, freedom of prices, without limits, but with the guarantee of the user, if harmed by any abusive price, to solicit the agency, so that it analyzes the concrete case, and apply the price cap. Although provided for in Resolution no. 75/2022, the methodology to define the criterion to be adopted is unknown.

Article 1 of the mentioned resolution provides:

Article 1. This Norm is intended to establish obligations for the provision of adequate service as well as to define the respective administrative infractions for the administration of organized ports, lessees of port areas and facilities, port operators and port facility licensees, in under Law no. 10.233, of June 5, 2001, and Law No. 12.815, of June 5, 2013. (Wording provided by Normative Resolution no. 02-ANTAQ, of February 13, 2015). ANTAQ Resolution No. 75, de 2 de Junho de 2022, Diário Oficial da União [D.O.U.] de 6.6.2022 (Braz.).

As in ANTAQ's Normative Resolution no. 62/2021, adequate service through the criterion of affordability is a user's right, as is compliance with the price cap, provided that they are established by ANTAQ, under the terms of item I, of Article 2, and item VII, of Article 4, of Resolution no. 75/2022, *in verbis*:

Article 2. The User's basic rights and duties, without prejudice to others established in specific legislation and contractually: I—receive adequate service: a) with compliance with the standards of regularity, continuity, efficiency, security, topicality, generality, courtesy, affordability, respect for the environment and other requirements defined by ANTAQ;

Article 4. The Port Authority, the lessee, the authorization holder and the port operator must permanently observe, without loss to other obligations contained in the applicable regulations and the respective contracts, the following minimum conditions: (...)

VII—affordability, adopting tariffs or prices on a fair, transparent and non-discriminatory basis to users and that reflect the complexity and costs of the activities, observing the tariffs or *price caps*, as long as they are established by ANTAQ;

It is worth mentioning that the observance of the price cap has nothing to do with price fixing, as it is a tool used by the infrastructure regulator in other countries to avoid abuses. It was developed in the United Kingdom in the 1980s and, since then, private companies providing infrastructure services must adhere to this model, including in the United States. This tool basically has four objec-

tives:

1) The regulator establishes a set of price caps for the regulated service, and the regulated service may offer its services at any price as long as it is equal to or lower than the price cap. The regulator may also establish a minimum price to avoid unfair competition.

2) The regulator can create groups of services in service baskets and stipulate a price cap for all or a price cap for each service.

3) The regulator may adjust a price cap based on changing industry prices or productivity. The strategy is to reflect a price that provides competition.

4) The regulator may periodically revise the price cap as well as the formula or revise the regulated company's profit margins.

Price regulation in concentrated and horizontal sectors, such as maritime transport and port services, is not an easy task, especially given the asymmetry of information, so it must be done with caution and through the use of EAL. To Alfred Kahn, "price regulation is the heart of public utility regulation" (Kahn, 1988: ch. 2, 20-1).

4. Conclusion

As seen, the objective of this article was to present EAL, albeit in brief notes, as well as the possibilities of its use in the sector regulated by ANTAQ, that is, maritime container transport and port services. It should be noted ANTAQ's learning curve over the last ten years, and the effort to give effect to the regulatory framework in the sector, which is complex, with great asymmetries of information and competition, in addition to being transnational.

The choice of the theme and the institutes of demurrage of container and port storage was made only with the purpose of presenting the problem, demanding from the regulator a more sophisticated tool for the regulation of prices and tariffs in regulated markets that, although allowing freedom of price, they, when abusive, require technical criteria for their limitation.

The limitation of container demurrage has been discussed within the scope of ANTAQ, and the price cap, although existing in Resolution no. 75/2022, still lacks a methodology that can balance the interests of the port operator, on the one hand, and the user, on the other hand. Given this scenario, the use of Economic Analysis of Law can contribute to the effectiveness of adequate service, through the definition of criteria that can balance interests and reduce negative externalities, resulting from the economic regulation model (*ex post*) currently adopted in the sector, despite ANTAQ's efforts to provide effective service.

Due to market failure, prices in maritime transport and in port activity should be monitored, as in the Chinese model of regulation, in order to provide data to improve regulation. At the same time, the regulator's search for efficiency in justice, in this case, providing affordability in the prices regulated, is compatible with the justice in economy, since the regulator has many tools to reduce negative externalities in case of price's intervention, among them, the regulatory

impact assessment (RIA), database and the EAL.

There is an interdependence between law and economics that may contribute to the regulator's decision when dealing with prices, thus increasing the efficiency in the regulated market.

The study of the relevance of EAL in the Brazilian case may contribute to the debate on the application of this relevant discipline in other countries, improving the relationship among shippers, carriers and port operators, through the EAL and the incentives that regulators may provide to increase the competition and improve the services on the shipping and port sectors worldwide.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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