

**THE THEORY OF TRANSACTION COSTS APPLIED TO THE CUSTOMS RISK
ANALYSIS APPROACH : PERFORMANCE LESSONS : CASE OF MOROCCO
CUSTOMS.**

**LA THEORIE DES COUTS DE TRANSACTION APPLIQUEE A L'APPROCHE
D'ANALYSE DES RISQUES EN DOUANE : LES ENSEIGNEMENTS DE
PERFORMANCE : CAS DE LA DOUANE DU MAROC.**

Boutabratine Omar
Doctorant
Université Ibn Tofail
Faculté d'Economie et de Gestion
Laboratoire des Sciences Economiques et Politiques Publiques
Maroc.
o.boutabratine@gmail.com

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Abstract :

The objective of this article is to examine the risk analysis approach on the basis of the theory of transaction costs in order to draw conclusions relating to its limits and its performance. To achieve this objective, the methodology consists of bringing together the theory and this approach to dismantle their different points of convergence, identify the shortcomings and propose solutions to make this approach more efficient. Despite the positive effects of this approach, it is concluded that, this approach suffers from several shortcomings : information asymmetry field acting on the completeness of the transactions and existence of situations of risk of opportunism. Also, there is a high probability for Customs to bear high costs that reduce its performance. In order to complete this analysis, this article will be structured in three parts. The first and the second part will be devoted to the presentation of the main foundations of the theory of transaction costs and the customs risk analysis approach. A third part is to analyze the connection between this theory and the risk analysis approach practiced by my customs and highlight the performance points deduced from this analysis.

Key words : transaction costs ; information asymmetry ; bounded rationality ; opportunism ; customs risk analysis.

Résumé :

L'objectif de cet article est d'examiner l'approche d'analyse appliquée par la douane sur la base de la théorie des coûts de transaction afin dégager les conclusions se rapportant à ses limites et à sa performance. Pour atteindre cet objectif la méthodologie consiste à procéder à un rapprochement entre la théorie et cette approche afin de dégager les insuffisances et proposer les solutions pour plus de performance. Malgré les retombées positives de cette approche, il est conclu que cette approche souffre de plusieurs insuffisances : un champ d'asymétrie d'information important agissant sur la complétude des transactions et existence des situations de risque d'opportunisme. Aussi qu'il y a probabilité pour la douane de subir des coûts élevés affectants sa performance. En vue d'aboutir cette analyse, cet article sera structuré en trois volets. Le premier et le second volet présenteront les principaux fondements de la théorie des coûts de transaction et l'approche d'analyse des risques en douane. Un troisième volet est amené à analyser le rapprochement entre cette théorie et l'approche d'analyse des risques pratiquée par ma douane et mettre en valeur les points de performance déduits de cette analyse.

Mots clés : coûts de transaction ; asymétrie de l'information ; rationalité limitée ; opportunisme ; analyse des risques en douane.

INTRODUCTION

For several decades, Moroccan customs had introduced changes in its action ranging from manual processing to computer processing of the customs declaration. However, this step in computerization was of a very limited scale insofar as it was limited only to the computer entry of the declaration as to its borrowed circuit, it always remained manual. In practice, it is a computerization more related to the computer entry of the customs declaration than the computerization of the customs clearance process insofar as the other stages of the circuit have remained all manual since the filing of the declaration. Until the removal of the goods through the quotation, control, scheduling and payment of duties and taxes.

At that time and until the eve of 1998, customs did not yet have a risk analysis system, which is why all goods were systematically subjected to physical checks, which would take several days immobilization of goods at borders with penalizing consequences in terms of costs and competitiveness for the economy (Hummel, 2001 ; Anderson and Van Wincoop, 2004). Concomitantly with this negatively competitive customs context, there was a new customs environment which began to take hold at the end of the 1990s, marked by a growth in the movement of international trade due in particular to the accession of several economies, including Morocco, to the liberal doctrine of the WTO (GATT at the time), which resulted in the signing of multiple free trade agreements (T.Yasui; 2012)

In order to adapt to this new constraining environment (K.Ghazouani; 2005) the customs undertook facilitations of the exchanges manifested by reforms staggered in time among which we note the introduction since 1998 of a system of analysis of the risks in order to reduce the proportion of physical control of the goods. This approach aims to establish a balance between facilitating the exchange of goods flows and optimizing control (Geourjon, A. M., Laporte, B., Coundoul, O., & Gadiaga, M ; 2012).

It should be noted that the risk analysis approach practiced by Morocco Customs is the systematic application of procedures and management practices that provide Customs with the information necessary to process movements or consignments that present a risk(ADII; 2014). The term “risk” is defined as the possibility of non-compliance with customs laws and/or other relevant laws, regulations or procedures relating to the import, export or transit of goods. Customs will focus controls on high-risk consignments and expedite the release of low-risk consignments (Moïsé, E. and S. Sorescu ; 2014),

At the theoretical level, several theories explain the different motivations and different advantages related to the application of this approach. In this article we will analyze, in particular, this approach to risk on the basis of the theory of transaction costs (Coase 1937; Williamson 1981, 1994).

In this context, a set of questions arise: What is the level of efficiency of this approach conducted by customs analyzed in the light of this theory? What are the gaps to be filled? and are there solutions available to Customs that remain untapped?

In order to answer these questions, the methodology adopted consists in first presenting the foundations of the theory and then presenting the customs risk analysis approach and its connection to the theory of costs. So, this article will be structured in three parts. The first and the second part will be devoted to the presentation of the main foundations of the theory of transaction costs and the customs risk analysis approach. A third part is to analyze the connection between this theory and the risk analysis approach practiced by my customs and highlight the performance points deduced from this analysis.

1. THE FOUNDATIONS OF THE THEORY OF TRANSACTION COSTS.

Unlike the neo-classics, transaction cost theory emphasizes the existence and importance of transactions in the relationships between different economic agents. According to Coase (1937), the operation of the market involves a number of costs that should be reduced.

Transaction cost theory is formulated on the basis of a number of assumptions about the behavior of agents carrying out transactions. Williamson (1981) introduced in transaction costs, the concept of the bounded rationality of agents and opportunism due to a situation where information asymmetry reigns. This situation causes contracts to be incomplete and generates costs. The author also cites the notion of transaction frequency as a cost-amplifying factor in both directions (ex ante or ex post). According to the author, these factors can generally affect transaction costs.

1.1. Transaction costs.

According to this theory, each transaction creates costs which can be divided into two types : ex-ante costs which are incurred before and during the signing of the contract and ex-post costs which are generated after the signing of the contract.

Ex-ante costs :

Ex-ante costs are associated with drafting, negotiating and securing an agreement. They correspond to the phases of information research, establishment of specifications, research of future partners, analysis of offers, and finally to the costs associated with drawing up the

contract with the chosen supplier (Williamson, 1994). For some authors, this generally refers to information costs (Daudin, 2003).

Ex-post costs :

Ex-post costs are costs that occur after the conclusion of the contract. These are ex post contracting costs” (Williamson, 1994). These costs are also defined as “trust costs” (Daudin, 2003).

It should be noted that the more the contracting parties have maximum information during the phase located before and during the conclusion of the transaction, the higher the ex ante costs and the lower the ex post costs. Conversely, the more the information search phase is poor in essential data the lower the cost but the ex post costs become high because there is a risk of occurrence of future events due to the absence of crucial information which was not available during the phase before or in progress of the conclusion of the transaction. According to the theory, whatever the degree of information search, the transaction decision remains only a good decision and it will never be perfect and this taking into account the concept of limited rationality borrowed from H. Simon (1957), it -even linked to an environment marked by information asymmetry.

1.2. Limited rationality.

The bounded rationality of agents translates into their inability to make totally rational decisions when they are in a situation of imperfect information. The limited rationality of the agents results in the incompleteness of the contracts even before the realization of the transactions because the contracting party cannot foresee in advance the consequences of all the possible actions as well as the outcomes of the contract.

1.3. Opportunism.

Williamson (1981) underlines that within the framework of transactional relations, certain agents can be opportunistic. It is a behavior that is mostly implicit and therefore hidden, sometimes observed in cooperative or transactional relationships. It is for an opportunistic agent to seek mainly his personal interest rather than that of others or the group, by deceiving him voluntarily. Opportunistic behavior is also defined as deceptive, conscious actions taken by one party to the exchange and which are intended to reinforce its own position or its results to the detriment of the other party (Ybarra and Turk, 2009).

1.4. The complexity of the environment.

The environment remains uncertain and complex and constantly changing. A decision made today in a given environment will appear less perfect when changes have occurred that influence the previous decision.

1.5. Transaction frequency.

The more frequent the transactions, the more the contracting parties know each other well, the lower the transaction costs become. The better the parties know each other, the lower the costs of seeking information before the transaction and the higher the costs of trust. However, it should be noted that regardless of the transaction frequency, the decision-making can only be good instead of being perfect insofar as the situation of trust entailed by the frequency of transactions can lead to situations of opportunism.

1.6. The incompleteness of the contract.

The incompleteness of the contracts is a consequence of the bounded rationality even before the realization of the transactions because the contracting party cannot foresee in advance the consequences of all the possible actions as well as the outcomes of the contract. This information asymmetry creates an incomplete and unfavorable environment for predicting all transaction clauses.

In summary, Williamson frames the idea of transaction costs from two considerations : one on the economic behavior of agents and the other on the environment of the transaction. Concerning first of all the economic behavior of the agents, he postulates two elements : the first is the fact that the agents have a limited rationality (an idea that he takes up from Herbert Simon), that is to say that they do not do not optimize as the traditional economic doctrine maintains, but that they stop once a solution seems satisfactory to them. The second is due to the adoption by contractors of opportunistic behavior, that is to say, they seek their personal interest with a certain cunning. Concerning the environment of the transaction, he also postulates two elements : the first is the fact that the environment is a complex and uncertain datum, which leads the agents to move in a context where they must take risks and where they can't know everything. The second relates to taking into account the characteristics of the transaction, in particular the characteristics linked to the frequency of transactions.

Consequently, the notion of transaction cost, borrowed from Coase and developed by Williamson, allowed this theory to explain the types of decisions to be made in the face of transactions between economic actors in order to minimize costs.

2. CUSTOMS RISK ANALYSIS APPROACH.

The customs risk analysis approach is defined as the process of diagnosing customs operations with a view to identifying the risks inherent therein. These risks are identified on the basis of a pre-established risk profile. This diagnosis is initiated as soon as the transaction is concluded via the BADR customs system (Automated Network Customs Database).

Indeed, after the conclusion of the transaction manifested by the electronic signature of the detailed declaration and its acceptance by customs (admissibility), the risk analysis approach is triggered in order to evaluate and automatically select the operations import and export on the basis of specific criteria while prioritizing these operations according to the level of risk incurred, with the aim of improving efficiency and speed of control. Each operation evaluated is led to follow a well-defined circuit according to this evaluation (ADII ; 2014) (*).

2.1. IMPRINT CIRCUITS.

The circuits used by the customs declaration have long been dualistic : admitted for conformity (AC) and physical inspection (VP) and this since 1998 until 2021. Indeed, since the introduction of automatic selectivity in 1998, the customs clearance circuits used are divided into two categories: a circuit admitted for compliance (equivalent to international standards to the "orange" circuit) and a circuit for the physical inspection of the goods (equivalent to the "red" circuit).

- documentary check (accepted as compliant) :

(*) Contrôle des Opérations Commerciales : Instruction de l'Administration des douanes et impôts indirects (Maroc) ; 2014 ;
In this mode, the control of the customs operation is limited, in principle, only to the documentary study. 90% of operations that cross borders benefit from this circuit. However, in case of well-founded doubt, the control could evolve towards physical control. This evolution can originate from the agent in charge of controlling the operation or from the hierarchy. This approach compromises the effectiveness of the architecture of the risk analysis system implemented

in place and qualifies this approach as interventionist. After the documentary study and the payment of the duties and taxes due and if necessary and subject to the other formalities to be carried out for the benefit of the other control bodies present at the borders (agriculture, health, trade and industry... etc.) collection of the goods is permitted. We can therefore deduce that this approach remains dependent on human intervention. However, and in order to limit this intervention, the regulatory system that manages this part has set up an intervention threshold set at 2% per month (ADII ; 2014).

- physical control (physical visit) :

In this mode, the control of the operation concerns both the documentary control and the physical control of the goods. Only 10% of flows are subject to this customs clearance circuit. This rate remains theoretical as long as it is affected by the re-selection rate. At this level, it should be noted that at the stage of the physical visit, the selectivity system decides whether it would be a partial or total physical visit. In the first case, the check covers a representative sample of the goods. In the second case, the check covers all the goods without exception.

-Green circuit (no human intervention) :

It should be noted that in the context of its compliance with international standards in terms of risk analysis, the customs innovation introduced in the trade facilitation channel consisted in designing a new circuit called "green circuit" to be taken by the declaration in customs instead of the dualistic approach previously discussed. In this new customs clearance circuit, beneficiary operations are exempt from both documentary and physical checks. After obtaining the decision of the "green" circuit granted by the risk analysis system, the "BADR" system proceeds to the treatment of all the usual formalities inherent in customs clearance and authorizes the removal of the goods in a automatique. Given the high degree of confidence required and the growing level of information asymmetry, this new circuit is initially interested in operations initiated by authorized economic operators who are certified by customs and benefit from privileged treatment. Now, this approach is based on a triple circuit (green, orange and red).

2.2. Adjustments to the approach : Automatic integration of the litigation aspect.

In 2016, Moroccan customs put into production the third level of the BADR system relating to the dematerialization of all the functionalities relating to the handling and monitoring of disputed cases from the observation of anomalies to the final settlement of disputes (drafting of minutes, amicable settlements, legal proceedings, recovery proceedings, execution and administrative litigation).

The dematerialization of the field of disputes (litigation) at the level of the BADR customs system (ADII ; 2016) (*) has given the risk analysis approach a boon to operate in an improved customs ecosystem. Indeed, before the dematerialization of this aspect, the processing of customs offenses was carried out according to a manual process and this from the establishment of the reports to the payment. This procedure implied that the capitalization and management of control results in the risk analysis system was also done manually. With this practice in use since the implementation of the automatic risk analysis approach, several risks could arise that

could compromise the perfection of this system put in place and cause a situation of broader information asymmetry. We can mention in particular the risk of omission of integration or injection with latency of new operating modes and previously observed risk profiles or new maneuvers in the risk analysis system. Such a situation can only cause a gap in the asymmetry of information which affects the imperfection of the risk analysis system. With the dematerialization of the field of disputes and the integration of their results automatically, the dematerialization of this field offers the opportunity to correct the aforementioned hazards of imperfections. It should be noted that this improvement is more a correction to an archaic situation of the capitalization of fraud on the risk analysis approach than an improvement of the approach itself.

2.3. THE TECHNIQUE USED.

For Customs, it is an automatic targeting of operations which is based on the decisional statistics system by developing a decision support system to effectively select the operations to be checked. (A. Geourjon et al ; 2012)

(*) Mise en Production Informatique du Palier de Règlement des Litiges : Instruction de l'Administration des douanes et impôts indirects (Maroc) ; 2016.

Risk assessment consists of selecting operations to be checked on the basis of the most significant elements of an international trade operation, which are : the origin of the goods and the commercial channels, the goods covered by the transaction, and the operators involved in the transaction. To better explain the approach (Geourjon et al; 2004), it is a question of combining the risk profiles as well as possible to make a good decision to direct the declaration towards one of the customs clearance circuits. The objective is to assign a score to each new declaration, obtained by combining the fraud frequencies of the different criteria. This score must best reflect the risk of fraud (or the probability of fraud occurring). Orientation towards one of the customs clearance circuits is based on this score and thresholds previously determined by statistical analysis. With the simplest systems, the declaration score can be obtained by taking a simple or weighted average of the frequencies of fraud (the risk profiles) of the various criteria used, or even by taking only the value of the highest frequency. High among the selected criteria (other combinations can be imagined). The most common criteria are the importer, the freight forwarder, the tariff heading of the harmonized system (species or nature of the product), the customs regime, the country of provenance and the country of origin. Combined criteria are also possible.

These systems rely on the properties of statistical laws to effectively combine customs information. Econometric models thus make it possible to determine the relevant risk criteria to explain the occurrence of fraud and to calculate the probability of fraud for each new declaration. This probability constitutes the calculated score of the declaration according to the following equation :

$$\text{Pr (Fraud =1)} = \alpha + \beta f q_ \text{criteria1} + \beta f q_ \text{criteria2} + \dots + \beta f q_ \text{criteriaN} + \varepsilon$$

With Pr, the probability; Fraud ij , the binary variable 0/1 for declaration i , product j (1 if fraud and 0 if no fraud for declaration j for product i); $f q_ ij$, the fraud frequencies for each risk criteria associated with statement i and product j , ε , the random deviation (which is not explained by the criteria retained in the equation) and α and β the parameters of the equation to be estimated. (Geourjon et al; 2004)

In conclusion, it must be said that any efficient selectivity system makes it possible to determine the probability of fraud of any new operation once the share of operations to be controlled has been determined by the competent authority, to automatically select (Geourjon, A. M. ; 2018) and “rationally” (in a non-subjective way) (the control circuit used by the operation. The minimization or even the elimination of human intervention in this system reflects its performance and its maturity.

2.4. THE LIMITS : INDICES OF INFORMATION ASYMMETRY.

The risk analysis system has two essential limitations. One remains linked to the lack of effectiveness and the second is linked to the absence of orientation towards the weighting risk factor. The two limits denote the lack of rationality incurred by this approach.

As such, it is important to note that the cargoes targeted by the system in order to be subjected to physical inspection lead to positive results below expectations. Paradoxically, the shipments targeted by the person in charge of reconsidering the operations, previously admitted as compliant by the system (human intervention), lead to conclusive results. This paradox which marks the lack of performance in the analysis can be explained by a situation of asymmetry of information due to two essential factors :

The first corresponds to the lack of management in this analysis of all the risk factors. We can cite as an example the link of carriers or transport consignees whose risk remains excluded from this system. Such a gap could not be filled since the start of this system in the 90s. Unfortunately, there is still one parameter that deviates in the risk analysis carried out by the system and remains away from the structure of the customs declaration. This risk can escalate to a level where it becomes a common modus operandi for rogue carriers.

The second factor linked to this paradox corresponds to the lack of reliability in the continuous and real-time supply of feedback from operations previously crowned with positive results in order to capitalize on cases of fraud on the system. Indeed, the support phase on the analysis system of the positive results previously obtained, always remains manual where it is confronted with risks of loss of information or their support by accusing delays or downright in the absence of their supported. This limit has recently been corrected by dematerializing the litigation component in the risk analysis approach.

The other limitation with which the risk analysis system is confronted is linked to its inability to orient the control towards the weighting risk of the cargo to be controlled. In fact, this system is limited only to giving the goods declaration the channel it must follow (green, orange or red) without any specification of the possible risk. This practice of risk analysis which affects the adaptation of customs to its environment (Yasui, T. (2012) shows that this system is still lagging behind in the identification and display of the weighting risks capable of forging control towards the party concerned by the doubt of fraud. This limit makes it an approach that reduces the potential of customs in the field of trade facilitation and the reduction of trade costs, thus causing prolonged immobilization of goods at borders. This affecting their delivery times (Anderson, J. E., & Van Wincoop, E. (2004).

This being so, and after having exposed the basic concepts and foundations of the theory of transaction costs as well as the essence of the risk analysis approach practiced by Moroccan customs, it is appropriate to ask the question of knowing in which extent this approach converges towards this theory and to what extent and at what level it can bring added value and upgrade its performance. Which will be the subject of the following section.

3. THEORY OF TRANSACTION COSTS APPLIED TO THE CUSTOMS RISK APPROACH.

Our objective in this part is to analyze the risk approach based on the foundations of transaction cost theory in order to identify lessons to make it more efficient. We begin this analysis by first showing the existence of a transactional relationship that binds customs to its contractor, which may be either the economic operator or its agent, in this case its customs declarant. Based on the basis of this theory which qualifies the relationship between economic actors, whatever their positions in the value chain, as a purely transactional relationship, we can say that the risk analysis approach applied by Customs converges towards the bases of this theory.

3.1. COMBINING THE FOUNDATIONS OF THE THEORY TO THE CUSTOMS RISK ANALYSIS APPROACH.

3.1.1. The notion of transaction :

The concept of transaction in the relationship woven between customs and the economic actor is concretized by the subscription of a customs declaration signed by the agent. According to the provisions of the Customs and Indirect Tax Code (CDII), the customs declaration is the act by which a natural or legal person manifests, in the prescribed forms and methods, the will to assign to goods, a customs regime determined (article 74 of the CDII). The signing of this declaration and its submission to electronic customs filing (ADII; 2018)(*) constitutes a unilateral transactional act. It is following the acceptance of this declaration by the customs that the act becomes a bilateral transaction which commits each of the parties each as far as it is concerned. Once the transaction is concluded each party assumes its responsibility.

(*)Dématérialisation du Circuit de Dédouanement : Instruction de l'Administration des douanes et impôts indirects(Maroc) ; 2018.

The operator assumes the regularity of the elements he declares and the customs assumes the responsibility for acceptance of the declared elements, the risk incurred and the consequences of the declaration. Therefore, once accepted, the transaction is concluded pending the results of the control it is required to undergo.

After the conclusion of the transaction, the risk analysis approach is triggered to decide which circuit would be taken by the transaction : green, orange or red. This decision is made in an infinitesimal period of time depending on the result of the risk analysis function applied. It should be noted that this decision is only the result of combining the data available to the system. Consequently, the decision reflects the image of the quality of approach implemented and the level of rationality applied.

In terms of costs, the theory teaches us that when a transaction is concluded, it means the existence of ex ante costs and ex post costs that we must seek to identify them in order to reduce them as much as possible (Coase; 1937 and Williamson 1981 and 1994) after the conclusion of the transaction the costs incurred must be shown.

3.1.2. Ex ante customs costs.

Ex ante costs are associated with drafting, negotiating and securing an agreement. They correspond to the phases of information research, establishment of specifications, research of future partners, analysis of offers, and finally to the costs associated with drawing up the

contract with the chosen supplier (Williamson, 1994). For some authors, this generally refers to information costs (Daudin, 2003).

In customs, the information search phase is based on the use of data held by the customs system in order to make the right decision. This collection of information is based on the capitalization of all the information held by customs, both integrated information and that received by customs through surveys and information received from third parties (external informants). The information on which the risk analysis approach is based is essentially based on the data held by the system. The other information can be reintroduced at the time of receipt of the information or when the information is not integrated, it is used by the customs when making the right decision by making the correction to the decision taken by the system. Last-minute information can be crucial and influence the decision taken by the system.

At the practical level, the phase of researching information on the risk incurred by the transaction remains the essential phase in the establishment of the transaction and decision-making. It is certain that the search for information has an ex ante cost both for customs and for the operator. For customs, these are the costs of using data and updating them either following investigations or external informants who provide customs with useful information to make the right decision when signing the transaction. For the trader, these are the costs of collecting all possible information in order to make the right decision before signing the customs declaration. In practice, this data concerns several aspects of the declaration : the value, the origin, the application of free trade agreements, the designation of the product (Product Nomenclature), etc. The cost of this research is even higher when it comes to operations involving specific issues in tax matters or foreign trade control (quota policy). When the stakes are high, and in order to avoid falling into an offense with heavy financial consequences, the search becomes more extensive and requires ensuring the reliability of the information to make the right decision at the time of the transaction.

Given the multiplicity of transactions and the complexity of the data on the one hand and the need for their interactions in such a way as to identify possible inconsistencies on the other hand, Customs relies on the risk analysis approach to try to reduce the costs associated with this phase as much as possible.

3.1.3. Ex post customs costs.

It is worth recalling that ex post costs are costs that occur after the conclusion of the contract. These are ex post contracting costs” (Williamson, 1994). These costs are also cited as “trust costs” (Daudin, 2003).

In customs, after the acceptance of the transaction manifested by the decision in particular of the orange or green circuit, the risk of the appearance of ex post costs may submerge on the surface originating from the unavailability of crucial information at the time of taking the decision (operating mode, fraud not supported by the system at the appropriate time before making the decision). These costs may have tax issues such as fraud in the designation of the product, origin, value or quantity. As they may be non-fiscal in nature such as circumvention of foreign trade restrictions or prohibitions, these costs may be in the form of crowding out of quality standards enforced by the Department of Industry. The risk is fiscal, parafiscal (additional duties) and restrictive.

A failure in the reliability of the information could have serious consequences for the operator in terms of financial and logistical costs following the carrying out of the investigations and the subsequent control which may lead to the recovery of the tax loss and huge penalties . In customs, the detection of fraud after obtaining the removal is very expensive and sometimes it can lead to financial difficulties for companies, especially for SMEs / SMIs. The ex post costs incurred by customs are recoverable but sometimes they are deadweight losses for the company whose fraud remains unintentional. This loss is due to the sale of the product according to the cost price already calculated. When the fraud is detected, the company finds itself obliged to draw on its savings or contract long-term debts in order to be able to finance the penalty or draw on the provisions for risks and charges when it keeps regular accounts.

The repercussions therefore affect state revenues, consumer protection and the anti-dumping policy applied by the government to fight against unfair competition from third countries.

These costs can take all these forms with multiplier effect in the case of the green channel. Indeed, this circuit even exempts the customs from checking the documents. It is a matter of trust in the extreme. We agree with the idea of Daudin (2003) when he qualifies these costs as costs of trust granted to the transaction.

It should be noted that to minimize ex post costs, the risk analysis approach applied should invest more in the development of informational capital during the first phase of the transaction. This development will exploit the maximum of the data in order to make the right decision. This exploitation requires the use, development and integration of the Customs information system so as to operate in a linked and synchronized ecosystem.

3.1.4. Limited rationality in customs.

The notion of rationality introduced by H.Simon (1957) taken up and integrated by Williamson in the theory of transaction costs is manifested in customs by different cases. The decision-

making of the risk analysis system applied by customs finds its rationality limited by the lack of management of cases of fraud at the appropriate time or the lack of information on the possible *modus operandi* of fraud. This rationality is also limited by the applied technique of decision analysis. It should be noted in this sense that several techniques are applied by risk analysis systems. We note by the occasion the technique *Datamining* and scoring in the combination and the coefficient of errors are not the same. In this context, the risk analysis approach cannot make the perfect decision but one that seems satisfactory based on the elements available at the time of making this decision.

In addition, it should be noted that fraud is evolving therefore if there is no adaptation of the system as well as the availability of data at the right time the rationality can only be limited and the decision can only be satisfactory.

3.1.5. Customs opportunism.

The relationship of trust maintained by customs with regard to certain economic operators who benefit from privileged treatment (approved economic operator), or those with high frequencies, can lead to abuse of trust and consequently this transactional relationship could be affected by the opportunism of certain operators to carry out intentional fraud, which leads to an increase in *ex post* costs. These costs are even higher when the operator benefits from the green circuit.

Customs opportunism is manifest in circumstances where the operator withholds information at the time of the transaction in order to take advantage of certain advantages by exploiting the information asymmetry of which he holds the strings. This concealed information can take several forms : reduction in value, a false declaration of origin, a false declaration of weight, etc. Far from the forms penalizing the tax part, there are other types of form of connotation of restrictions such as quality standards and prohibitions. This situation where the operator alone holds the information tries to exploit it for his own benefit to obtain personal interests by exploiting the confidence of customs in him.

By concealing crucial information, the risk analysis approach cannot fully dispose of the reliable data that allows it to appropriately assess the risk incurred and therefore the decision cannot be perfect.

3.1.6. The incompleteness of the customs contract.

In customs, the incompleteness of the transaction can be linked to the lack of entry of important information for a given operation. These are information to be used but whose operation the system does not block when these types of information are not entered. Sometimes this

information is essential to make the right decision. We can cite in this respect the information relating to the means of transport (registration), the identification of which may prove to be of capital importance in assessing the risk. This information, which is important in decision-making, can be entered in the "miscellaneous" information part of the declaration to outline the management of this information in the risk analysis approach. It should be noted that the "miscellaneous" part remains unparameterized in the risk analysis approach. The incompleteness of the transaction can also come from the lack of entry of the boxes relating to the application of the particular regulations delegated to the customs by other ministerial departments (technical control (industry), health control (agriculture), control of drugs (health)...etc.) in order to guide the decision taken by the system. This incompleteness also contains the lack of information that the model in current use of the declaration cannot support. We can mention the data relating to the charterers and co-signatories of the means of transport, the existence or not of transshipment in other countries before arrival, change of the means of transport (commonly referred to as transfer) etc. all these situations act on the incompleteness of contracts and add to the lack of information to make the right decision.

3.1.7. The frequency of customs operations.

The more the operations which relate to the same type of product not tainted with the risk incurred, the analysis system adopts a decision in accordance with the operations and consequently the costs of searching for information become lower. That is, the more transactions belonging to the same known risk-free trader and the same product with high frequency, the system adopts a compliant decision with reduced ex ante costs. Therefore, the frequency of transactions positively influences the decision making with reduced ex ante costs. However, this trust can lead to opportunistic behavior on the part of known operators and we will be in a situation of high ex post costs (trust costs) (Daudin, 2003).

3.2. APPLICATION OF THE THEORY OF TRANSACTION COST TO THE RISK ANALYSIS APPROACH.

The theory of transaction costs encourages economic actors in their transactional relationship to choose the types of transaction that minimize their ex ante and ex post costs and reduce situations of insufficient rationality, opportunism, incompleteness of contracts due to a situation marked by information asymmetry.

Therefore and in order to obtain an efficient risk analysis approach based on a good decision, the theory of transaction costs teaches us to reduce the ex ante costs, the ex post costs, the difference in the asymmetry of information and not to leave the opportunity for malicious third

parties to exploit opportunities for opportunism. This theory also encourages us to fill the incompleteness of transactions by further developing the terms of the transaction so as not to leave out important lessons that can create added value in decision-making and increase the probability of rationality.

The attempt to bring customs risk analysis closer to the theory of transaction costs makes it possible to deduce a panoply of lessons in order to make the approach more efficient and more competitive through a reduction in transaction costs and a adaptation to the environment aiming for a minimum of control and more efficiency (P.Moati, 2001) and (K.Ghazouani, 2005).

Indeed, and in the light of this theory and with a view to minimizing the transaction costs relating to the risk analysis approach, it is appropriate to consider measures aimed at combating the behavioral and environmental hazards relating to the transaction concluded between Customs and the economic operator or his agent.

As such, and in a global way, customs through risk analysis is led to reinforce rationality, inhibit all opportunities for opportunism, improve the environment and the characteristics of the transaction.

3.2.1. At the level of the fight against behavioral hazards.

In order to consolidate rationality and avoid opportunism, the risk analysis approach must develop the information and intelligence system and computerize all the niches that can bring added value to make the right decision.

3.2.1.1. Reinforcement of rationality.

Need for an integrated information system :

The current information system suffers from certain limitations, including the lack of integration of certain key databases into the risk analysis approach. This is primarily the database for tariff classification decisions. Indeed, these decisions, which are taken either following classification disputes at nomenclature level or following a request for tariff classification formulated by economic operators, require a remarkable effort in terms of research and reflection to achieve the decision making. However, we can see that despite the efforts made and the resources committed to bring them to a successful conclusion, these decisions remain excluded from the field of risk analysis and reduce the opportunity for rationality. Consequently, through this marginalization, Customs creates its own asymmetry of information which affects the decision to be taken. It should be noted that these types of decisions have a very significant cost in terms of resources and in terms of opportunity costs which remain untapped by the lack of their integration in their database reserved for them. The

lack of integration of this database in the risk analysis system increases the lack of rationality in the sense of transaction cost theory.

In this order of ideas, another database that deserves to be integrated into the risk analysis system in order to extend the probability of rationality, we cite the value base which summarizes the trend in terms of product prices. The integration of this database makes it possible to target risky operations by countering the risk of understatement and fraud in terms of the tax base. This way of proceeding will focus control on the said operations and free up the others, which would minimize transaction costs and facilitate the fluidity of border flows.

The theory teaches us not to stop at the only existing bases but also to develop the maximum number of databases, in particular those which synthesize all the links of the international value chain and this to reduce situations of asymmetry of information.

The exploitation of untapped information niches :

Capitalization and exchange of experience

The capitalization and exchange of experience, particularly in the ranks of operational services, whether at regional or national level, constitute a point rich in potential which can bring added value to the principle of rationality. The planning of experience sharing workshops (brainstorming type) can lead to the identification of fraud channels or maneuvers that have not been exploited until now by the system.

Database of indicators and standards by sector of activity.

The design and integration of a database relating to a repository of indicators and standards that make it possible to direct the approach towards suspicious transactions. These indicators and these standards would be based on a comparative valuation between at least two parameters in order to deduce the normal trend of the indicators. For example : weight/yardage indicator for the case of the textile sector and weight/cubage indicator for the case of the wood sector and weight/product/container indicator. Container means the means of transport used : truck, trailer, container (20, 40.45 feet). Support for this repository only increases the decision-making rationality of the risk analysis approach.

3.2.1.2. Eviction of opportunism : need for a diversified intelligence system.

Customs intelligence consists of developing the various internal and external intelligence channels. Internally the intelligence channels come from the entire Customs community which holds reliable intelligence which can increase the opportunities for rationality and decrease possible opportunism. As such, Customs has set up a dedicated application to collect all fraud

notices and any actual or potential *modus operandi* that can provide Customs guidance to fill the field of asymmetry.

Some information. However, the problem lies in the culture of intelligence to feed this database. This channel despite its importance, it remains little fed by internal intelligence. In order to overcome this problem, Customs should work through seminars or workshops to develop the idea of intelligence sharing. This database would be a boon to increase the opportunity for rationality and good decision-making.

Along with internal intelligence, external intelligence involves opening channels of communication with third parties who may hold valuable information given their positioning or power. Weaving this type of relationship is not always obvious and easy because it can depend on knowing how to be and how to do people who are at the center of decision-making. Therefore, rationality turns out to be affected by the ability to weave these very important types of channels.

3.2.2 At the level of the environment and characteristics of the transaction.

In order to cope with the complex and uncertain environment and remedy the incompleteness of the contract, Customs must plan to review the current model of the declaration which constitutes the basis of the transaction and also the foundation of the analysis approach risks. The declaration must to be restructured in order to include all the elements necessary to make the right decision. It should be noted that the current model dates back to 1992 and since then it has not been able to undergo any modification in order to adapt to the new customs environment marked by the growth of flows and the development of transnational fraud (strategic adaptation).

The revision of this model in the sense that it is faithful to the value chain in such a way that no link in the chain should be discarded without being present in the new model. It is important to note that failure in one part of the chain penalizes the entire value chain (M.Kremer ; 1993). This restructuring of the declaration would make risk analysis more rational and more detailed. Risky operations will be targeted without harming other operations. This way of proceeding would make it possible to adapt to the complexity of the environment and reduce the uncertainty of targeting risky operations. With an overhaul of this model under the aforementioned conditions, customs would help to facilitate passage and reduce transaction costs.

Consequently, by revising this model of the declaration Customs would simultaneously help to adapt to the complexity and uncertainty of the environment and to complete the transaction in order to make the right decision and reduce transaction costs. It should be noted that the

completeness of the declaration offers the risk analysis approach the opportunity to increase the fields of rationality and reduce situations of opportunism. This overhaul of the declaration constitutes in itself an investment whose results make it possible to reduce the transaction costs during the information search phase (ex ante cost) and also it would make it possible to reduce the ex post transaction costs as soon as it helps to inhibit possible opportunism.

CONCLUSION

The analysis of the customs risk approach based on the theory of transaction costs has led to the conclusion that this approach suffers from inadequacies which affect its effectiveness and performance. This insufficiency is manifested first of all by the human intervention which is always preponderant in order to reconsider the decision taken by the system and then by the negative results resulting from the operations subject to physical control. The theory teaches us that this major insufficiency remains linked to the lack of rationality in the extension of the fields of information and its exploitation and to the opportunistic behavior that certain contractors denote. These shortcomings result in incomplete transaction clauses and high ex ante and ex post costs.

With a view to remedying these shortcomings, it is also concluded that Customs should revise the risk analysis approach in the sense of developing the information search phase to increase the fields of rationality and simultaneously reduce the gap in information asymmetry and opportunistic situations. In order to achieve this objective, Customs must integrate existing databases that are still untapped into the risk analysis approach and work on designing other databases and integrating them into this approach.

However, it is important to note that in order to successfully develop this rationality, customs must first reform the basis of risk analysis, namely the customs declaration, the model of which dates back to 1992. This model remains unsuitable and unfaithful to the international value chain insofar as certain crucial information in rational decision-making does not appear there. This is particularly the case of the carrier, the consignee, the existence or not of transshipment, the foreign freight forwarder, etc. In the end, it is deduced that the practice of the risk analysis approach in an automatic customs ecosystem can only develop rationality at a lower cost both ex ante and ex post and reduces human intervention in the approach risk analysis.

In the end, it is important to deduce that an effective risk analysis approach tends towards giving Customs the opportunity to create a competitive advantage in the sense of M. Porter for the benefit of the State relating both to the costs only on the differentiation of customs clearance

time (delivery time) at the level of the borders capable of reinforcing the factors encouraging foreign direct investments in particular those which work in tense flows.

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