ASSESSING THE EFFICIENCY OF THE BRAZILIAN ANTI-MONEY LAUNDERING REGULATION: A GAME THEORETIC APPROACH

UMA AVALIAÇÃO DA EFICIÊNCIA DA LEI DE COMBATE À LAVAGEM DE DINHEIRO NO BRASIL: UMA ABORDAGEM DE TEORIA DOS JOGOS

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Resumo

Neste artigo, a eficiência da legislação de combate à lavagem de dinheiro no Brasil é analisada usando-se uma abordagem de teoria dos jogos. A análise mostra que, apesar dos esforços das autoridades brasileiras em combater a lavagem de dinheiro, a eficiência de aplicação da legislação tem sido prejudicada devido à prática rígida do princípio de sigilo bancário e por uma baixa probabilidade de punir as instituições financeiras que não comunicam atividades suspeitas.

Palavras-chave: Lei de combate à lavagem de dinheiro; Sigilo bancário; Teoria dos jogos.

Abstract

In this paper the efficiency of the Brazilian anti-money laundering regulation is assessed by using a game theoretic approach. The analysis shows that, despite the efforts of the Brazilian authorities to combat money laundering, the efficiency of the Brazilian regulation has been damaged by a rigid practice of bank secrecy and a low probability of punishment of financial institutions that do not report suspicious activities.

Keywords: Anti-money laundering regulation; Bank secrecy; Game theory.

1

INTRODUCTION

As a signer of Vienna Convention (1988), Brazil has established in 1998 its anti-money laundering regulation through Federal Law n. 9613. This law has also created the Council for Financial Activities Control – hereafter COAF – to examine and identify any activity that raise suspicious of criminal offenses related to money laundering. The actual version of the Brazilian anti-money laundering regulation has broadened the group of predicate offences to consider drug offences, terrorism and kidnapping. But in 2005 a law project was sent to the Brazilian congress in order to amend it to consider the criminalization of money laundering to proceeds of all offences.

Besides after the terrorist attacks on September 11th 2001, the Brazilian government has adopted the eight complementary recommendations approved by Financial Action Task Force (FATF) to avoid financing terrorism through money laundering and a national strategy, called ENCLA (National Strategy to Combat Money Laundering), which establishes deadlines to a number of measures to improve the efficiency of the Brazilian regulation has been implemented. These measures show clearly the commitment of the Brazilian authorities to combat money laundering but in spite of these efforts the efficiency of the Brazilian regulation has been questioned due to a low number of prosecutions of offenders and confiscations of proceeds from crime.

The Brazilian regulation requires that the financial institutions provide information on suspect activities in 24 hours and establishes heavy penalties if it is not made accordingly. However, Romantini (2005) has reported that a low number of communications has been made since 1998. This evidence raises the suspicious that the struggle faced by the Brazilian scheme to combat money laundering is rooted not in its regulation but in the barriers faced to its application. The coordination and communication among the competent authorities as well as an efficient report system are required to a proper working of the legislation.

In this paper, we intend to show that the rigid application of the bank secrecy principle is the main reason behind the difficulties faced by the Brazilian authorities to combat money laundering and issues such as the lack of coordination and communication among competent authorities working as task forces may arise as a consequence of a rigid application of the bank secrecy principle.

In order to carry on this analysis it is adopted a game theoretic approach in which a game between the competent authorities and a representative financial institution is simulated. The Nash equilibrium obtained show that the probability of lifting the bank secrecy and punishing the financial institution for not

reporting suspicious activity play an important role in creating a proper environment to combat money laundering. From this standpoint it is possible to highlight the fragile connections in the application of the Brazilian anti-money laundering regulation. A rigid application of bank secrecy is then shown to be the Achilles' heel of the Brazilian framework against money laundering.

The use of game theory to approach law issues has been widespread in the literature and according to Parisi (2000, p. 400) "[t]he present generation of legal scholars has witnessed an irreversible process of transformation in contemporary legal science, and it is hard to imagine legal science growing apart of the rigorous methodology of law and economics". In the field of regulatory economics for instance, the mechanism design approach assumes that a central agency – the regulator or the principal – is entrusted with the power of regulating the concessionaries of public services – agents – in order to make them to follow the contract established to provide the public good. The aim of these studies is to assess the efficiency of the legislation and to establish mechanisms that made the concessionaries of public services to follow the contracts. (See Crew and Kleindorfer, 2002.)

By comparing this set up with the scheme of combating money laundering, it is possible to make an analogy in which the authorities are the principal or the regulator and the financial institutions are the agent, that is, the concessionary of bank services. In this vein the regulator has to design a mechanism by establishing rewards and penalties in order to make the agent, that is, the financial institution, to provide the information on any suspicious activity. By adopting this approach to assess the effectiveness of the anti-money laundering regulations and the characteristics of the compliance costs involved for banks Masciandaro and Filotto (2001) have concluded that the 'incentive approach' based on the principal-agent approach allows us to conclude that if the conduct of a certain economic actor is not as expected or hoped for, the reason must be sought by analyzing the game rules, formal and informal. In their analysis, the game rules are represented primarily by the anti-money laundering laws.

This view is stressed by Masciandaro (1999, p. 238) who states that:

> [...] we wish to highlight how anti-money laundering regulation, due to a well designed system of incentives and costs for financial intermediaries, may evolve towards the achievement of higher effectiveness goals while improving its efficiency standards as well. The optimal solution is therefore to orient policy efforts in the direction of an effective-efficient regulation.

This reasoning is also supported by Stessens (2000, p. 424) who states that "[t]he 'carrot and stick' approach which has been practiced towards banks, which consists of combining the threat of criminal sanctions with the capacity for banks to obtain exonerations by co-operating with the government, seems to work". In the framework of fighting money laundering the goal of the competent authorities – the principal – is to make financial institutions – agents – to report promptly their suspicious on financial transactions connected to criminal activity.

In the present paper it is explored this similarity between the approaches. In order to investigate this issue, this paper proposes an incentive based approach to the Brazilian legislation in the lines suggested by Stessens (see above). The equilibrium found in the game shows that a low probability of lifting the bank secrecy and punishment of financial institutions can induce the interruption of the process of carrying on the information on suspicious activity. This phenomenon may explain the lack of coordination and effort of the authorities to combat money laundering as a consequence of the rigidity of the application of the bank secrecy principle. In the same vein the investment the federal government decides to make in order to combat money laundering may be low if the bank secrecy is rigidly applied.

This paper is structured as follows. The next section presents an overview of the Brazilian anti-money laundering legislation. In section 3, the Brazilian framework to combat money laundering is approached by using game theory. Section 4 concludes.

2

AN OVERVIEW ON THE BRAZILIAN ANTI-MONEY LAUNDERING REGULATION

Brazil has the eleventh gross national product in the world and there are estimates that 5% of these resources, amounting to US$ 17 billions, have illicit origins. Besides the number of banking accounts in Brazil is about 85 millions and the information technology utilization is intensive in the bank sector, making the "Know your customer" recommendation of the Basle Convention a challenging task.

In order to meet the international standards of combating money launder-ing Brazil follows strictly Recommendation 16 of FAFT which states that "[i]f financial institutions suspect that funds are connected to criminal activity, they should be permitted or required to report promptly their suspicious to the competent authorities". According to the Federal Law 9.613, if a financial institution suspects that an operation is illicit it has the obligation to report it to the COAF in 24 hours. In spite of this COAF has registered a low number of reports since its creation in 1998. According to Romantini (2005), only 34 of the 50 largest financial institutions in Brazil have reported some suspicious activity to COAF since then.

A number of explanations have been raised to explain this phenome-non. The first, one rests on the lack of an adequate scheme of fiscaliza-tion, exchange of information and coordination between the competent authorities. Due to this situation some financial institutions would rather to take the risk of not reporting suspect activities than to face the costs of making the report.

Masciandaro (1999, p. 237), by approaching the effectiveness of the Italian regulation, has concluded that

> the main reason for such a serious failure can be found in the missed chan-ce to really involve banks in the fight against money laundering, that is to say in the impossibility of putting the concept of active cooperation into real practice.

This evidence is according to Ping's findings about financial institutions in the world. He states that

> "[a]lthough banks are the most vulnerable institutions to money laundering activities, according to the complex schemes of money laundering; it is not enough only to impose the obligation of reporting suspicious transactions on them" (PING, 2005, p. 253).

It is also necessary to create an incentive based approach in which a finan-cial institution discloses promptly information on any suspicious transactions. This view is according to Stessens (2000, p. 172) which states that

> [...] [i]n order to obtain co-operation from financial institutions that they will not be held responsible, either civilly or criminally, if they inform the authorities responsible for combating money laundering of facts which are covered by banking secrecy.

In this vein the creation of a proper environment of cooperation between financial institutions and authorities depends on finding a satisfactory solution to the risk of criminal liability for financial institutions that carry out a suspicious transaction. It is worthy to mention this risk is higher in societies such as the Brazilian one in which the concept of bank secrecy is rigidly applied. This is a matter of legal culture and the process for lifting banking secrecy is cumbersome.

In order to understand the barriers to the effectiveness of the Brazilian regulation, it is useful to shed light on this process. Once a financial institution reports the suspicious activity to COAF this council makes a first evaluation in order to confirm the existence of money laundering. The quality of this evaluation depends on the availability of bank information of the suspect. This information is not available to COAF due to bank secrecy. Then COAF has to inform the Brazilian Public Prosecution Service – hereafter PPS – the evidence of money laundering. If the PPS agrees that there exists sufficient evidence that money laundering has happened then they must require that the Central Bank or the Security and Exchange Commission of Brazil – hereafter CVM – to ask the Federal Justice the lift of bank secrecy of suspects. If the Federal Justice does not agree lifting the bank secrecy then PPS may lack evidence to prosecute the offenders.

Following recommendations 26 and 27 of FAFT, there is another route in which the evidence of money laundering may be reported to the PPS. If Central Bank or the Security and Exchange Commission of Brazil, which are supervisory authorities, find evidence of money laundering trough a regular investigation, they must inform COAF and require the lift of bank secrecy to the Federal Justice in order to send the information to the PPS. As pointed out by Stessens (2000), this reporting duty can be a very interesting source of information when the financial institutions fail to provide information on suspicious transactions.

It is important to note that the effort of cooperation between authorities to work as a task force plays an important role in the combat against money laundering. The isolated evaluation made for each entity raises the chance that

the process be halted. The work of authorities as a task force could improve substantially the efficiency of the Brazilian framework since each authority has only a parcel of the required knowledge to the formation of the conviction that money laundering has happened. Once again this articulated effort may be damaged by the rigid application of bank secrecy. This point will be clearer in the next section when it will be approached by using game theory.

3
THE GAME

In order to approach the Brazilian framework to combat money laundering by using game theory we have chosen a dynamic game with perfect information. The bank or financial institution is assumed to be the first player in the game. Let us assume that it has two possible actions: report or not report the suspicious activity to COAF. According to the Brazilian regulation the financial institution must report, but in practice the number of reports has been low. This means that some financial institutions may decide to take the risk of not reporting. In this vein the game assumes that there is only one representative agent, which is the financial institution, which is eligible for being involved in legal and illegal activities concomitantly. This view is based on an adapted concept of "legal-criminal economy" developed by Masciandaro (1999) and used by Araujo and Moreira (2005)[1].

If the financial institution decides to report the suspicious operation to COAF it has two possible actions: it can inform or not the PPS. In this vein COAF is the second player in the game. After the PPS has received the information it has to pass it to the CVM. By working as a task force, PPS and CVM then have to decide if they ask or not to lift the bank secrecy. In the game let us consider that PPS and CVM as a unique player, that is the third player. It is also assumed that nature plays twice in this game. The first one occurs if the financial institution decides not to report. In this case the nature, which is represented by Central Bank may punish or not the financial institution. The second instance in which the nature plays is when the PPS and CVM decide to require the lift of bank secrecy to Justice.

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1   In the "legal-criminal economy", an agent of the legal sector may choose for being occasionally involved in an illegal activity.

The game in its extensive form is depicted in the Appendix. In the first decision node, the financial institution may play "r", which means "report", or "nr", which means "not report". If it chooses "not report" then the nature plays trough Central Bank which is entrusted with the task of punishing the lack of reporting. The Central Bank is assumed not to be a player in this game, but it conveys the probability of carrying on the nature decisions. If the decision is "p", that is "punish", then the financial institution has a pay-off of –2, which may be interpreted as a loss of 2. Let us assume that the probability of punishing is represented by α, $0 \leq \alpha \geq 1$.

If the decision is "np", that is "not punish", then the financial institution has a pay-off of 1 since it did not make the report and was not punished. It is also assumed that COAF and PPS/CVM pay-offs in the case of outcome not punish are both –1. If the punish outcome is chosen then the outcome for both is 1, which express the fact the commitment of these authorities to combat of money laundering.

If the decision of the financial institution is to report, then COAF has to decide between "i", which means "inform", or "ni", that is "not inform". If it chooses not inform, the game ends and the financial institution has a pay-off of 1, which express the cost of informing the suspicious transaction. In this case, COAF has a pay-off of –3, which express the fact that besides the crime remains unpunished the council losses reputation due to the interruption of the process. In this vein PPS/CVM has a pay-off of –1, which conveys the fact that the process was interrupted but not because of its action.

If COAF chooses inform, then the third player which is the PPS/CVM has to decide between "a", which means "ask" the lift of bank secrecy and "not ask". If it chooses not ask, then the game ends and the financial institution has as before –1 as its pay-off. COAF has a pay-off –3 expressing the fact that it has the work of analyzing the information and passing it to the PPS/CVM but the latter has chosen to not carry on the process by choosing not ask. In this case, the PPS/CVM has a pay-off of –3 which conveys the fact that they loose reputation due to the fact that they are the competent authority responsible for the interruption of the process.

The second instance in which nature plays is in the node following the decision of ask from the PPS/CVM. It is assumed that there exists a probability μ of the federal justice to lift the bank secrecy. If justice decides to lift the process then the financial institution has a pay-off of –2 since it has to send further information on the suspect and may loose its client. If the decision is not lift then it receives –1, as in the previous nodes. COAF and PPS/CVM both have a pay-off of –3 in case of choosing not lift and 3 in case of lift.

By solving the game by backward induction, it is possible to conclude that there are six Nash equilibriums. If $\mu \geq \frac{1}{6}$ then the PPS chooses to ask for lifting bank secrecy. COAF always chooses to inform and the decision of the financial institution of reporting depends not only on the probability of lifting the bank secrecy but also on the probability of punishment. If $\alpha \geq \frac{13}{18}$ then the bank chooses for reporting. This is the first Nash equilibrium of the game that is: (i) {r,i,a, $\mu \geq \frac{1}{6}, \alpha \geq \frac{13}{18}$}. This is the desirable outcome of the anti-money laundering scheme and it depends heavily on the probability of lifting the bank secrecy. If $\alpha < \frac{13}{18}$ then the bank decides not to report. In this case the Equilibrium is: (ii) {nr,i,a, $\mu \geq \frac{1}{6}, \alpha < \frac{13}{18}$}.

If $\mu < \frac{1}{6}$ then the PPS chooses not to ask for lifting bank secrecy. COAF is indifferent between informing or not since the PPS has chosen not to ask for lifting the bank secrecy. If $\alpha \geq \frac{2}{3}$ then the bank chooses to report and, if $\alpha < \frac{2}{3}$, it chooses not to report. Then we have four Nash equilibrium associated to a small probability of lifting the bank secrecy: (iii) {r,i, na, $\mu < \frac{1}{6}, \alpha \geq \frac{2}{3}$}, (iv) {nr,i, na, $\mu < \frac{1}{6}, \alpha < \frac{2}{3}$}, (v) {r,ni, na, $\mu < \frac{1}{6}, \alpha \geq \frac{2}{3}$} and (vi) {nr,i, na, $\mu < \frac{1}{6}, \alpha < \frac{2}{3}$}. It is possible to conclude from these four equilibriums that the probabilities of lifting the bank secrecy and punishing the financial institution play a key role in this model.

But the probability of lifting the bank secrecy still plays the main role here: if it is low, that is below $\frac{1}{6}$ then the four Nash equilibrium obtained imply that the process will not be carried out until the end and the offenders will not be punished. If the probability of punishing the financial institution in this case is below $\frac{2}{3}$ it decides not even to inform COAF about the suspicious transaction. If this probability is equal or above $\frac{2}{3}$ then the financial institution decides to report, but, due to the small probability of lifting the bank secrecy, PPS/CVM decides to interrupt the process. This later outcome deserves a further notice. In fact the decision of the PPS will always be to pass the information to CVM in order to ask for the lift of bank secrecy. What the result shows is that due to a small probability of lifting the bank secrecy by the federal justice the incentive given to CVM and PPS to work as a task force is small and the evidence that money laundering has happened may be lost. This fact shows that the lack of coordination/exchange of information among authorities as an optimal outcome in face of a small probability of lifting the bank

secrecy. However, the reality shows that PPS/CVM has made a strong effort to investigate all suspicious activities of money laundering in Brazil.

In spite of the efforts of the Brazilian competent authorities the evidence shows that the prevailing equilibrium in the Brazilian framework against money laundering is not the desired one. This result shows that a rigid application of the bank secrecy principle and a small probability of punishment of financial institutions are the main barriers to an efficient application of the Brazilian scheme to combat money laundering.

Such a result is a similar to the one found by Masciandaro (1999, p. 237) approaching the efficiency of the Italian regulation. He points out that:

> [...] we can conclude that law 197 turned out to be a relatively ineffective-inefficient form of regulation. Ever since the failure of law 197, Banca d'Italia has regarded the need of a more balanced regulation in terms of effectiveness of regulation while minimizing its costs, as well as to avoid that banks might behave as free riders concerning the real application of anti-money laundering rules.

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CONCLUSION

In this paper the effectiveness of the Brazilian anti-money laundering regulation was assessed by using a game theoretic approach. By simulating a game played among the Brazilian competent authorities and a representative financial institution it was possible to identify that the outcome of the game depends heavily on the probability of lifting the bank secrecy and on the probability of punishment of the financial institution for not reporting suspicious activities.

A low probability of lifting the bank secrecy associated to a low probability of punishing, the financial institution gives rise to an equilibrium in each suspicious activities are not reported. This outcome may also arise as a consequence of a low probability of punishment for not reporting suspicious activity. The paper also shows that problems such as the lack of coordination among the authorities and notification of suspicious activities may arise as a

consequence of a rigid application of the concept of bank secrecy. In Brazil, the rigid application of bank secrecy is a matter of legal culture and a significant contribution to an increase in the effectiveness of the Brazilian regulation would consist in a flexible application of this principle.

The light shed on the Brazilian anti-money laundering regulation by using a game theoretic game approach shows that the lack of coordination/communication of competent authorities to combat money laundering is not the root of the difficulties faced by an efficient application of the Brazilian legislation, but may arise as an optimal strategy in a game where the probability of lifting the bank secrecy is small. This result points out to the necessity of changing the Brazilian legal culture with respect to the rigid application of the bank secrecy principle.

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APPENDIX THE GAME IN EXTENSIVE FORM
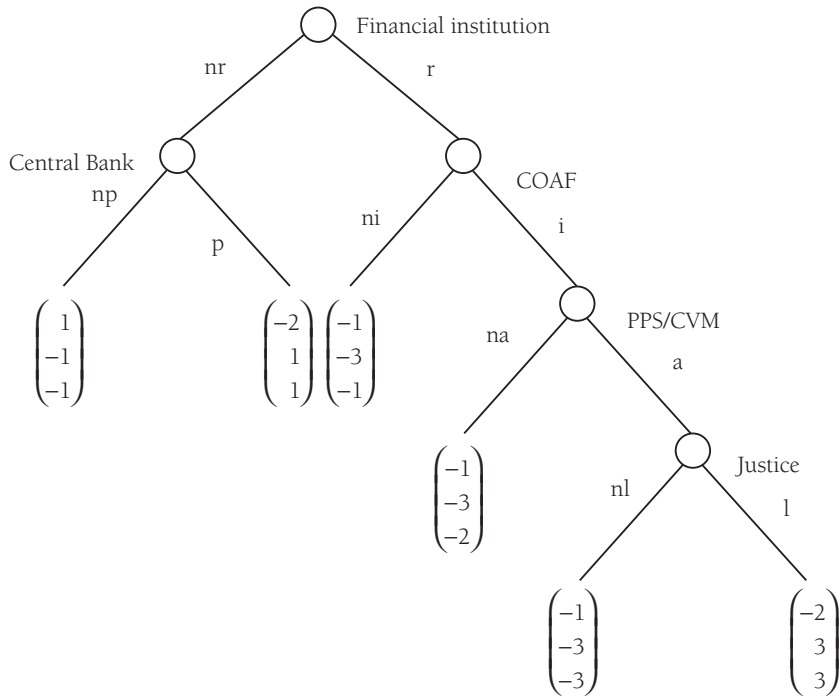
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