QUANTIFYING AND MEASURING TRANSACTION COSTS IN THE BANKING SYSTEM

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Abstract

The concept of transaction costs takes a pivotal seat in the institutions' economic analysis. I'll begin the analysis by presenting this concept and some attempts at quantification. After, I'll be presenting the characteristics of the banking system in quantifying and measuring transaction costs, in the context in which the economic activity of financial-banking institutions is rather complex, from the economic governance perspective as well as that of the transaction costs. In the case study executed based on the BCR Group data, I have tried to quantify transaction costs by means of their two components: interest and non-interest expenses.

Keywords: *transaction costs; interest expenses; non-interest expenses.*

JEL classification: *G32, D23.*

1. Introduction

The approached issues are addressed a context where the financial-banking institutions' activity is rather complex, from the economic governance perspective, as well as that of transaction costs. While some banking institutions have a strictly private nature, the banking service is a quasi-public good, being included in a regulating structure that may affect the economy of transactions costs. Banking services operate in a system where banks create coin and act as financial intermediaries, priming the depositors' (lenders) risks and allocating loans in the economy. Commercial banks and other financial institutions are the main financing source or companies in most

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industrialized nations. Furthermore, banks are the largest sources for international capital flow (Berger, DeYoung, Genay and Udell, 2000).

The public nature of banking institutions implies the fact that the economy of transaction costs may either be approached on a macro-economic level, or a micro-economical level. The macro-economic analysis of transaction costs economy raises a series of interesting queries concerning the control of regulations in the banking sector, which do not arise within standard theoretical assumptions. From a micro-economical point of view, banks may be regarded as an alternative governance structure for the deposit of various types of funds and granting several types of loans. Both economical approaches on the economy of transaction costs are susceptible to producing interesting perspectives regarding the alignment of governance structures with transaction costs in the banking sector. Nevertheless, they ma not be simultaneously approached.

This paper takes a micro-economical viewpoint and, according to the claims of Wallis and North (1986), treats the majority of expenses, in the accounting of loan institutions, as transaction costs.

2. Transaction and the transaction costs

2.1. Transaction – main unit of economic analysis

The transaction costs economy starts from the idea that at the core of production of exchange activities lay transactions, namely the transfers of goods and services, or to be more precise, the ownership rights over those goods and services.

John Commons, one of the representatives of the old institutionalism, had anticipated, what later became the focal point of the new institutionalism, respectively, *the transaction and a main unit of analysis in the economy (*Commons, 1931, pp.648-657*)*.

In between organizations, as well as within them, there is a continuous flow of transactions being developed. No matter if we are talking about intercompany or intracompany transactions there is always a cost occurrence, either in relation to obtaining the information, the stakeholders' behavior, or honoring the contracts. This cost (later declared as *transaction cost*) is the basis for explaining the alternative means of economical organization / market, firm or hybrid frame.

2.2. The concept of transaction costs

In the new institutional economy, the concept of "transaction costs" takes a pivotal seat in the institutions' economic analysis. It is most likely that none of the "fresh" concepts of economical science has, so vigorously, attracted scientists' attention and was predisposed to so many puzzlements and controversies.

Studies referring to the transaction costs – institutions – economic performance relationship concentrate on a certain operational connection of these categories and economic realities. The logical pathway of these approaches is that according to which transaction costs affect the institutions their evolution and, further still, the economic performance, resulting in the fact that the most suitable means for control and reduction of transaction costs' must be found in the approach of development strategies, which would fully harness the economic potential.

The paternity of "transaction costs" was attributed to Ronald Coase, who built an argument regarding the company's existence, in his famous article *The Nature of the Firm*, in 1937, without having specifically used the "transaction costs" concept, but rather that of the "costs of using the price mechanism" (Coase, 1997a, p.28). The costs involved in the use of the price mechanisms refer to the costs of discovering and identifying relevant costs, the costs of negotiation, of signing separate contracts for each transaction made by the firm on the market and of taxation etc.

The delayed introduction of transaction costs in the economic theory is due to the fact that most economic theories have hypothesized the completeness of the information and transaction costs are, in a way, associated with the expenses for obtaining exchange related information. Information costs and transaction costs are not, however, mirrored concepts. Information and contracting costs, as well as other transaction costs are costs incurred for the execution of exchanges within institutionalized frameworks, with in-depth implications on the allocation of resources and the structure of the economic organization (the company).

Transaction costs are the costs a company incurs when applying to the market, determining the circumstances in which it is to choose for a vertical integration, rather than for carrying out the transaction on the market.

Arrow, Wallis and Nord supplied general definitions of this concept in their papers. Arrow (1969) defines transaction costs as beings the operating costs of the economic system. Wallis and North (1986) lay out the differences between the transformation costs and transaction costs. In their outlook, transaction costs are information processing and transfer costs, coordination, procurement, marketing, advertising, sales, legal settlement as well as management and supervision costs.

Other researchers have defined this concept based on certain transaction aspects. Williamson (1985), who focuses on contracting activities, defines transaction costs based on its two components: *ex ante* costs, for a contract's elaboration, negotiation and guarantee, and *ex-post* costs, for commitment follow-up and monitoring.

Even if researchers seem to agree that this transaction costs concept is important, seeing as how progress has been made in its operationalization and implementation, the concept has still been the subject of wide debates. Some researchers claim that these costs are difficult to define and even more so difficult to measure. One of the reflections cast is that by which this concept is rather generic and does not lend itself to a meaningful operationalization. Another rave is that transformation and transaction activities are frequently overlapping, making it difficult to see a distinction between the two types of costs.

This type of debate is, however, not exclusive to the economy of transaction costs. Such as other concepts pertaining to social sciences, its conceptual development depends as much on its contents as it does to the context in which it is tackled. North (1990, 1997), Wallis and North (1986), and Williamson (1985) have advocated that this transaction costs concept must be analyzed in relation to governance structures. Their arguments suggest that, we must, particularly, operationalize the transaction costs concept in the context of specific political economic environments.

3. The characteristics of financial-banking institutions in quantifying and measuring transaction costs

Banks play a key role within the financial system, for maintaining economical stability. The stability of this system is a public concern, seeing as how the bankruptcy of one bank may cause other banks within the system to become bankrupt. Thus, simultaneous bankruptcies in the banking system may cause panic, which in turn leads to severe macro-economic disturbances. A careful monitoring is needed due to the fact that banks might not take into consideration the externalization of risks or capital sizing.

In fewer words, banks only exist because the market cannot efficiently assign loans, due to deficits and information dangers within crediting and risk management. Banks may lower the high value of transaction costs caused by assigning the loan in the economy, by collecting and processing information and by taking loan, interest and exchange rate risks. This unique perspective on banks, has determined Wallis and North (1986) to see the banking system as a genuine transaction cost industry.

A first attempt of quantifying transaction costs per the entire economy was made by Wallis and North (1986) with the publication of their article, *Measuring the transaction sector in the American Economy, 1870-1970*. In this study, the two economists measure the dimension of what they call the „transaction sector", starting with the division of the entire economy in two segments: transformation (or production) and transaction. By measuring the total value of the resources used in the transaction sector, they obtained the aggregate value of transaction costs in the economy.

As a first attempt at quantifying a hard to define concept, such as the transaction costs, Wallis and North's article prompted many controversies. On the one hand, the positive relation between an economy's dimensions and those of the transaction sector within said economy presents itself as inherent. Because the division of labor lies at the basis of economic development, as economy develops the division of labor heightens, more economical exchanges occur and, hence, more resources are assigned for transactions.

On the other hand, on a micro-economic level, transaction costs are seen as something wasted, ill-spent within the economy. That is why it is preferable that these costs be as low as possible. The growth of the transaction sector serves this purpose, in particular. This seeming contradiction between the transaction sector (as an aggregate) and transaction costs on a microeconomic level, puts a question mark over the validity of the transaction sector as a transaction cost measurement instrument.

Another attempt at quantifying transaction costs in the financial-banking sector was made by Polski (2001), in his article *Measuring transaction costs and institutional change in the US commercial banking industry*. By following the course of Wallis and North, the author proposes the quantification of transaction costs in the commercial banking sector of the United States, in the period starting with 1934 until 1998. In her view, transaction costs have two components. The first is interest expenses, meaning the total paid interest, registered to interest carrying liabilities. The second component refers to expenses other than interests, including salaries and employee benefits, allocation expenses and other various expenses (commissions paid to principals, members of the consulting committee, audit committees, charity contributions etc.) the study proves that the total of transaction costs went up from 69% of the total income in 1934 to 85% in 1989 and dropped to 77% in 1998.

Although there is a vast array of literary works in the field of neo-institutional economy and there have been many an attempt at quantifying transaction costs, the latter still remain a hard to identify, and even harder to measure, category. This is because no theoretical consensus was reached on this concept or even on its meaning, in a world where transaction costs are zero.

4. The analysis of transaction costs within the BCR-Group

4.1. Presentation of the BCR-Group

The Romanian Commercial Bank (BCR) is a member of the Erste Group, the most important financial group in Romania, including universal bank operations (retail, corporate and investment banking, treasury and capital markets), as well as leasing market companies, asset management companies, private pension companies, housing banks and mobile banking services.

Based on the value of its assets, 17 billion Euros, the number of clients and the savings and loans segments, BCR occupies first place among Romanian banks. BCR is the most valuable financial brand in Romania, by token of customer trust and the number of people for whom BCR is the main banking institution.

As member of Erste Group, for BCR, corporate governance is a key element of success for its business. BCR answers to its shareholders' expectations by means of an integrated value, principle and regulation system, which ensures its responsible, transparent and distinctive operation.

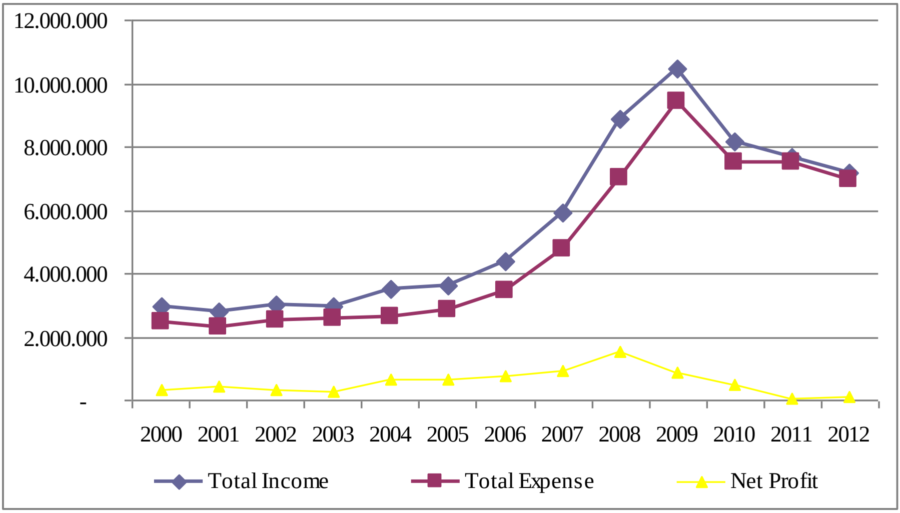
4.2. The analysis of transaction costs

The consolidated financial statements of the BCR Group for the period 2000-2012, are the main source of information for the analysis of transaction costs in this paper.

In the ***Consolidated global result statement*** loan institutions present: the yearly incomes and expenses, grouped by nature, as well as the results of the financial year. Romanian loan institutions progressively record income and expenses into accounting as they are engaged, on the basis of the matching principle, which is why income and expenses accounting is a commitment accounting. The main categories of expenses are: interest expenses and other assimilated expenses, charges and commission expenses, loan related losses expenses, personnel expenses, tangible and intangible assets amortization and depreciation expenses, other operating expenses and corporate tax expenses.

The following chart shows the evolution of income, expenses and net profit for the BCR-Group during the 2000-2012 period.

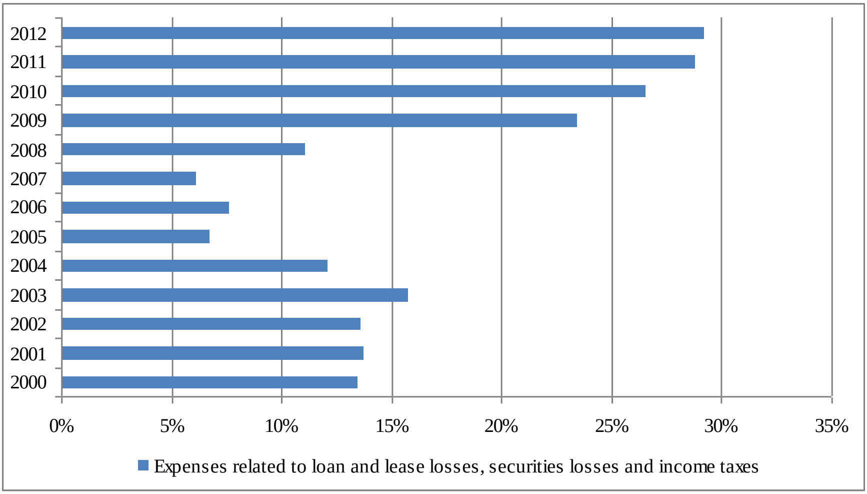
Figure 1: The evolution of total income, total expense and net profit for the BCR-Group



Source: http://bcr.ro/en/investors/financial-reports

Expenses from losses related to loans and corporate tax expenses reflect the organization costs in the banking system; they are less predictable and, hence, less open to management control or regulations. During 200-2012, the percentage of these expenses in the total income varied from 6% to 29%. In order to simplify things, I have excluded the two categories of expenses (loan related and corporate tax expenses) from this analysis. From the analysis of the data highlighting the percentages of loan related and corporate tax expenses in the total income, we see their evolution during 2000-2012:

Figure 2: The evolution of expenses related to loan and lease losses, securities losses and income taxes for the BCR-Group



Source: http://bcr.ro/en/investors/financial-reports

4.3. Quantification and the behavior of transaction costs throughout time within the BCR-Group

In the case study performed on the BCR-Group data base, I have set out to quantify transaction costs through their two components: interest expenses and non-interest expenses for the second category I have considered general and commission expenses, personnel expenses, tangible and intangible asset amortization and depreciation expenses and other operating expenses.

For the estimation of transaction costs changes, I have used the percentages of these two types of expenses in the total income as indicators, in the following analysis.

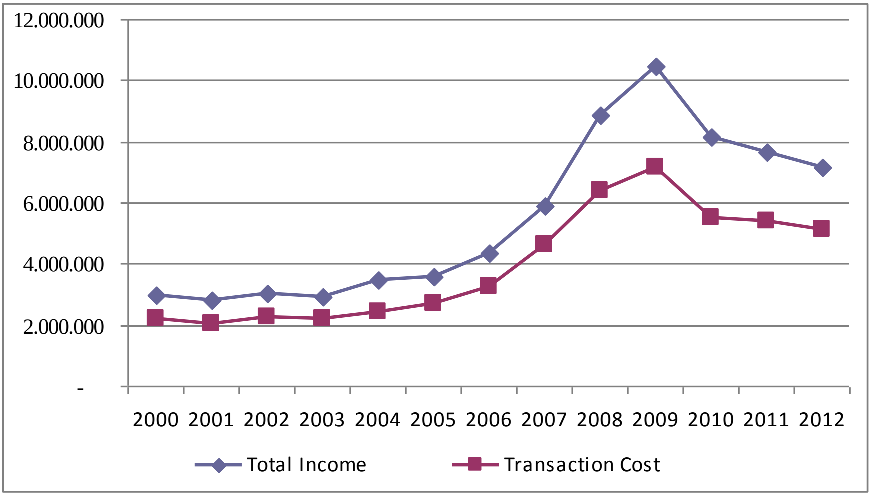
Interest expenses reflect the cost of banking funds and are a direct indicator of external costs that reflect the means by which banking institutions organize their activities, being determined by the specific economic environment. These expenses include the interest to be paid and the assimilated expenses for all interest carrying liabilities and are influenced by monetary policy, price regulations and fund management internal practices.

The non-interest expenses directly determine internal costs and reflect the means by which banking institutions organize their activities. These expenses are influenced by technology, business and work force regulation, banking regulations and internal management policies.

Romanian loan institutions register four types of expenses in the „Non-interest expenses" category: (1) general and commission expenses, (2) personnel expenses, (3) tangible and intangible asset amortization and depreciation and (4) other operating expenses.

The data regarding the evolution of the total income and transaction costs for the BCR-Group, in the period 2000-2012 is shown in the table below:

Figure 3: The evolution of total income and transaction cost for the BCR-Group

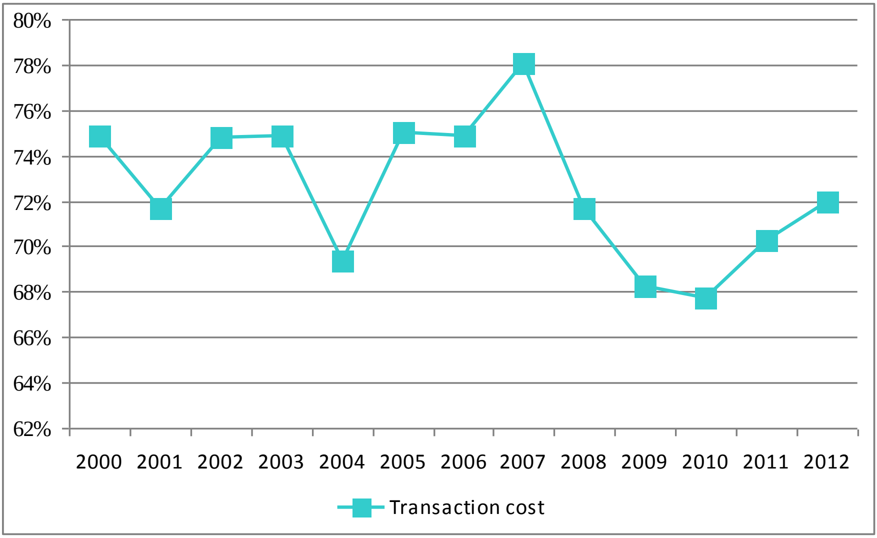


Source: http://bcr.ro/en/investors/financial-reports

Generally, interest expenses, as a total percentage of income varied somewhere between 31% and 51% of total income, while other non-interest expenses varies between 20% and 44% of total expenses. Total transaction costs, total interest expenses and non-interest expenses were recorded between a minimum of 68% and a top level of 78% of total income, during the analyzed period.

The annual changes of transaction costs between 2000 and 2012 show an interesting evolution to be had.

Figure 4: The evolution of total transaction cost of total income for the BCR-Group



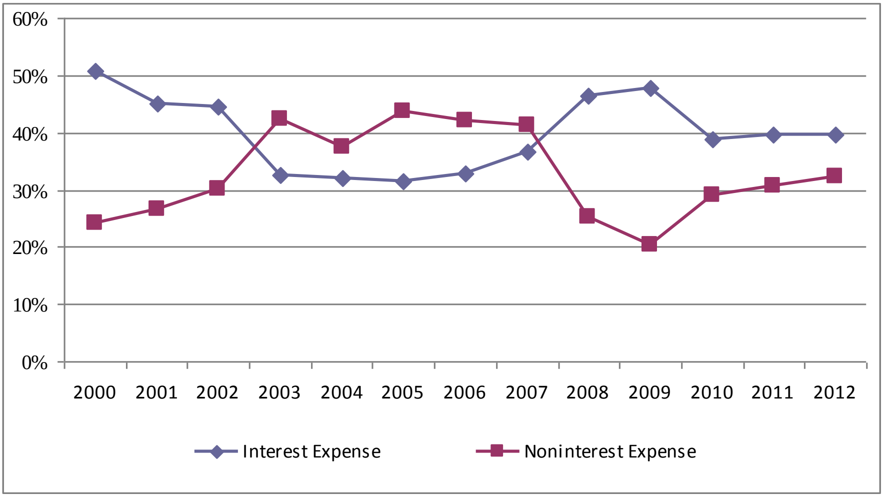
Source: http://bcr.ro/en/investors/financial-reports

As percentage of the total income, interest expenses reach a maximum value of 51%at the beginning of the analyzed period, in 2000. Between 2001 and 2005 this percentage drops from 45% to 31%. In the next interval the percentage of interest expenses in the total income begins to grow from 33% in 2006, to 48% in 2009 and then stabilizes around approximately 40% as of 2010.

Non-interest expenses grew from 24% of the total income in 2000, to 42% in 2003 and remained relatively steady until 2007, when they begin to drop, reaching 20% in 2009. As of 2010 the percentage of these non-interest expenses in the total income begins to grow, to 29% and reaching 32% in 2012.

If we were to perform a comparative analysis of the evolution of the weight factor pertaining to the total transaction costs' two components, interest expenses and other non-interest expenses, for the entire time interval in the total income, we will see a proportional inverse relation. These have evolved differently, more precisely, while the percentage of interest drops from 51% (in 2000) to 31% (in 2005), the percentage of other non-interest expenses grew from 24% (in 2000) to 44% (in 2005). Both types of transaction costs were stable in between 2003 and 2006.

Figure 5: The evolution of interest expense and non-interest expense for the BCR-Group



Source: http://bcr.ro/en/investors/financial-reports

The greatest gap between the two could be observed in 2009, when the percentage of interest expenses reached 48% and that of non-interest expenses is 20%.

5. Conclusion

From the study made we can observe that when the two components of transaction costs, interest expenses, as well as non-interest expenses, are compared over a longer period of time, an inversely proportional relation occurs, implying the fact that banks adapt their internal governance structures, in reply to external changes.

This infers that when the cost of the funds goes up, banking institutions look to reduce the information and coordination activities cost.

The **main conclusion** related to the quantification and measurement of transaction costs that may be drawn from the analysis realized in this paper is that transaction costs can be measured within financial-banking institutions, but not accurately.

Therefore, based on the analysis of the transaction costs concept and its defining elements, I can express my ***personal opinion***: these costs are hard to identify and their impact on real profit growth is difficult to intercept.

In this context, dismantling transaction costs from a company's accounting cost might be a trick of economic realities.

6. References

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