

STUDY OF EXPLANATORY FACTORS OF AUDIT QUALITY ASSURANCE: COMPARISON OF CANADA, FRANCE, JAPAN AND DENMARK CASES

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Abstract

The objective of this paper is on the one hand, to examine the differences of legal audit of four countries especially Canada, France, Japan and Denmark pertaining to four different judicial systems. In addition, to wonder about the factors which can influence audit quality assurance, particularly, those relating to judicial system of country, growth opportunities and ownership structure. The empirical results show, initially, that specificities of judicial system are positively associated with audit quality assurance appreciated by the size of audit firms. Then, growth opportunities influences partially the size of audit firms. Lastly, ownership structure does not seem to have a significant impact on the search for a high audit quality.

Keywords: Audit quality, judicial systems, growth opportunities, ownership structure

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Introduction

The bankruptcy of a great number of organization at the time of the last decade led the authorities to various reflexions on the whole of the bodies and rules of decision, information and monitoring allowing having the right and partners of an institution to see their respected interests and their voices heard in the operation of the company. Similar scandals seem to generate a situation of mistrust with respect the accounting information and the various bodies of regulations. It is undoubtedly in the United States linked that the reaction was strongest, not only because the first businesses burst in this country, but especially because the problem had become a problem of a social nature, economic and financial. With the wave of these scandals, the financial topicality impelled new regulations which thus were born in order to attenuate the major sources which made burst these scandals and to improve the process of governance making it possible to protect the interests from the various fascinating parts. The Law of Sarbanes-Oxley (2002) in the United States and the Law on Financial Safety (2003) in France, to quote only these two reforms, allocated with the improvement of the audit quality a capital share. Accordingly, the lawful framework of the legal audit made many changes. A reflexion on the installation of radical reforms thus began and a leads in particular to legislative evolutions that it is at the national or international level. The idea is thus to reinforce the statute of the auditor like his role as a professional

called to check the financial information revealed by the companies with the investors in order to have their confidence. The problem which was thus felt is to have within the companies an allowing qualified auditor, to give a reasonable insurance, which the financial statements are sincere and regular and to really reduce the conflicts of agency which can emerge in particular between the fascinating parts of the company. Thus and in a situation of agency, the audit quality assurance constitutes a societal response to the mistrust of the agents.

The notion of audit quality was defined in the countable literature like "the joined probability, evaluated by the market, that the auditor discovers an anomaly present in the financial statements and reveals it that is to say the product of two probabilities, in particular the discovery of the anomaly (competence) and the revelation of this anomaly knowing that it was discovered (independence)" (DeAngelo, 1981). In the same way, a report/ratio of audit is considered of quality if it is the result of a process of technically qualified and independent audit (Lemon & Taffler, 1992). Many researchers adopted this double approach to define the audit quality by distinguishing the technical skill (quality of detection) from the independence (quality of revelation) of the auditor (Knapp, 1991; Flint, 1988; Moizer, 1997). The concept of competence of the auditors relates to the fact of having knowledge, a formation, a qualification and sufficient experience to conclude one legal audit (Flint, 1988). As for independence, it constitutes a significant component

of audit quality, since it guarantees that work and the conclusions formulated by the auditors are not sullied with subjectivity, handling or voluntary omissions following complicities with one of the contracting parts within the company (Manita & Chemangui, 2007).

Focusing on the notion of audit quality assurance caused the researchers with the identification of the factors being able to influence this quality. Taking into account the importance of the debate concerning these problems and the installation of radical reforms which have leads to legislative evolutions, we seek to study which are the explanatory factors which can influence audit quality assurance?

Our research is organized as follows. The first section makes it possible to examine the legal and lawful executives in particular the organisms implied in the regulation of audit for Canada, France, Japan and Denmark. The second section consists in studying the significant differences of the regulation of audit in the four countries. The third section relates to the theoretical developments devoted to the observation of audit quality assurance and states the assumptions relating to the impact study of judicial system, growth opportunities and ownership structure on audit quality assurance. The fourth section presents the methodological aspects and the last section has the empirical results and their interpretations.

1. Compared study of organizations implied in the regulation of legal audit: case of Canada, France, Japan and Denmark

In Canada, legal audit takes the name of checking. The company law in this country is governed by laws and payments taken at the federal and provincial level. The professionals of accountancy include/understand the *Chartered Accountants*, the *Certified General Accountants* and the *Certified Management Accountants*. The first type of professional can exert the checking in all the entities on the territory of Canada and the second type must obey law and the payment taken in the provinces. As for the last type of professional, it does not have the right to exert the checking (Lefebvre, 2006).

In the same way, in Canada, legislative powers relating to the exercise of the professions and the regulation of the transferable securities are, according to the Canadian Constitution, within the competence of the responsibility for the province. They are the principal governments of the ten Canadian provinces which, in collaboration with provincial countable associations and main road, regulate audit in Canada mainly.

All the members of the orders and the provincial institutes of approved accountants are also gathered in Canadian Institute of the Approved Accountants (ICCA). The principal responsibility for the ICCA is the development of the countable standards and the standards of audit. It shares also responsibilities with

the orders and institutes provincial for certain functions of which it determined that they related to the whole of Canadian profession, in particular strategic planning and process of admission to profession and code of ethics. The ICCA is controlled by a corporate board of 12 members including two representatives of the public. It is financed by the members of orders and provincial institutes. Among the committees which have an impact on the regulation of audit, we find the Committee of the standards of certification (CONCER) which is responsible for standards of audit and Commission of the transferable securities which regulates the companies calling public upon the saving including the companies whose titles are with dimensions.

In the same way, ICCA and the regulators of transferable securities set up an authority of supervision entitled 'Canadian Public Accountability Board', CPAB, which is charged to work out the new obligations and reinforced rule quality control of independence.

In France, legal audit is regulated by French government with assistance of government agencies and professional legatees by government. In this country, auditors are gathered at the regional level in regional companies' auditors (CRCC) and at the national level in a national Company of auditors (CNCC).

The CNCC instituted near, the Minister of Justice, gathers all auditors like all companies of auditors registered on the list (Article 25). It has the role of ensuring the correct operation of profession, its monitoring as well as the defence of honour and independence of its members. It was created to represent the profession and to defend its moral and material interests (decree of August 12, 1969, art.1). It is responsible for the conditions of inscription on the list of auditors, of the establishment of professional standards and discipline. It is managed by a national council made up auditors elected by their fellow-members in exercise and delegated by the regional companies at a rate of a delegate for two hundred members (art.51).

The CRCC also gather at the regional level auditors and companies of auditors being reproduced on the list drawn up by the regional commission. They are managed by regional councils composed of 6 to 26 elected police chiefs with secret bulletin (art.30 & 31). The CRCC have the role of representing the profession, of defending its moral and material interests, of establishing and of holding up to date a file of the members, to supervise the exercise of the occupation of auditors, to fix and recover the amount of contributions of its members.

In France, we also find auditors who have for first mission of establishing the annual statements of companies. These independent liberal professional accountants are gathered in the order of auditors which, was charged to regulate the occupation of auditor. The two trades of auditor are exerted by the large majority of liberal countable professionals in

condition however which they do not exert the two missions for the same company.

In Japan, the statutory legal audit was introduced by the 'Securities and Exchange Law' into 1951 which set up a system of control of the accounts of the companies with dimensions whose field of application was voluntarily limited at the beginning. The law, reprimanded in 1957 then in 1961, obliges the companies which fill one of the following conditions to subject their semi-annual accounts, annual or consolidated with the control of auditor. On the one hand, the companies dimensioned with the purse of Japan and those with the JASDAQ, and on the other hand those whose titles are offered to the public for an amount at least equal to 500 million yen and having more than 500 shareholders, must subject their accounts to the control of auditor (Lefebvre, 2006).

In Japan, the professional standards were deeply revised in 1991, and a reform of importance was planned in order to alleviate concerns of the foreign investors on audit quality. The Japanese Institute of Public Certified Accountants, or JICPA, covers the two types of activities. The JICPA was created in 1949 and reorganized in 1966. He was founder member of the IASC and the IFAC. In Japan, the practices of audit are framed by laws and regulation, by standards emitted by the Business Accounting Deliberation Council of Agency of financial services of the ministry for Finances, and by the recommendations of JICPA.

In Denmark, external control does not form part of organisational structure of institutions to be checked. The higher Institutions of control of finance public are thus external supervising authorities. As an external controller, higher Institution of control of finance public has as a task to examine the effectiveness of internal audit (International Standards of Supreme Institutions N°1, p.6).

Traditionally, higher Institutions of control of finance public have as a task to control conformity with laws and regularity of financial management and accountancy. The objectives of control of higher Institutions of control of finance public - conformity with laws, regularity, preoccupation with an economy, efficiency, and effectiveness in financial management - have all, basically, the same importance. However, it rests with higher Institution of control of finance public to establish the importance relating to each one.

From study of the organizations of legal audit of four countries, the preceding examination suggests several similarities as for the organizations in place in these countries. Thus, in these countries, we find government agencies and trade associations. Their number, capacities, responsibilities and constraints legal vary from one country to another. Moreover, depend on the Constitution of the country; the number of organizations and the degree of devolution vary. Thus, with regard to transferable securities, these countries have created national or provincial public

agencies which are charged by the law with protecting the savers. These commissions are placed under the control of government. For example, in France and in Canada, we find trade associations established by government by legislative way. This is explained by the fact why the government integrated these trade associations into its system of control in their trustful certain responsibilities and capacities but also in their imposing certain constraints relating to their behaviour.

2. Comparative study of regulation of audit: cases of Canada, France, Japan and Denmark

In Canada, each province conferred by law the exclusive right to carry out missions of audit to approved accountants and in certain cases with other professional accountants. The profession has control on continuous vocational training. So the provincial institutes require that the members devote a certain number of hours to the continuous vocational training. For example, in Quebec the approved accountants must devote a 100 hours to it minimum over one three years period. In parallel, CONCER is responsible for development of standards of audit. The capacity of establishment of standards was not deputy directly with the profession by legislative way. However, the members of provincial institutes are held to be confirmed there under the terms of their code of ethics. As they are usually the only ones to carry out one to that, these standards constitute standards in force in Canada. Moreover, their authority is recognized by the regulations on laws provincial and federal on joint stock companies or the transferable securities.

As regards quality standards, currently, in Canada, there is not overall complete of quality control standards of codified for the missions of certification which is in the technical standards of Handbook of ICCA or in standards deontology stated in deontology rules of provincial institutes.

In accordance with division of the legislative powers in Canada, professional inspection is provincial spring. All Canadian provinces have an obligatory program of inspection. The procedure of this program varies from one province to another, but their mandate is to make sure that all members who exert countable missions respect standards of profession with an aim of protecting public.

In Canada, inspectors are subjected to three types of responsibilities, which raise from law or payments of provincial institutes, in particular disciplinary, penal and civil responsibility (Lefebvre, 2006). Let us note that from Canadian Constitution, we find two modes of liabilities civil in Canada: the "Civil Code" in Quebec and "Common Law" in the remainder of Canada.

In France, Commercial law stipulates that the statutory audit of accounts is exerted by one or more auditors (art.L225-218) and that no one cannot exert

the functions of auditors if it is not registered beforehand on a list drawn up for this purpose. There are two ways to be registered auditor. By the first way, the person must be titular one of diplomas of higher education whose list is stopped and have undergone successfully the tests of the examination of operating requirement of auditors, after the achievement of a three years training course (art.3). By the second way, the person must be titular diploma of accountancy, to have achieved at least two thirds of her training course of accountancy at a person registered on the list of auditors and entitled to receive trainees.

With regard to the formation continues article 23 of professional Code of ethics stipulates that any auditor has the obligation to annually devote a sufficient number of hours to his continuing education and must take care of that of his collaborators in order to maintain the high level of proficiency which the mission requires.

In parallel, standards of audit, in France, are adopted by national Council of auditors in consultation with governmental authorities. In fact, CNCC is instituted to ensure correct operation of profession and its monitoring (Article 1, 28 and 88 of the decree of August 12, 1969) and it has an occupational code of ethics which defines and specifies rules of behaviour of the professionals in exercise. Moreover, Commercial law defines the missions entrusted to auditors such as the certification of annual statements, alarm procedure, revelation of criminal acts, etc.

As regards quality control, law of financial safety of the 1^{er} August 2003 requires that auditors be subjected to periodic and occasional controls. The responsibility to define periodic methods of assessment was entrusted to the High Council for Audit Office, the CNCC and the CRCC continuing to ensure the execution of controls.

Parallel to Canada, France is subjected to three types of responsibilities which rise from laws, payments and professional rules in particular disciplinary, penal and civil.

In Japan, Commercial law imposes legal audit on limited companies having an authorized capital of at least 500 million yen, or an amount of debts of 20 billion yens or more. Securities and Exchange Law, for its part, imposes legal audit on the companies dimensioned out of Stock Exchange, to those which offer to public titles for 500 million yen or more, and on those which have more than 500 shareholders.

The only professional organization existing in Japan it is Japanese Institute of Certified Public Accountants (JICPA) which constitutes a trade association independent gathering the equivalent of the Order of countable experts and the national Company of auditors. This organization has as a principal activity the audit quality control of work of its members. It is one of significant prerogatives of JICPA which published instructions relating to standards of quality control for CPA and audit firms.

Concerning standards of audit, they are prepared and emitted by Business accounting deliberation council of the FAS, organization of council and standardization of accountancy and audit near ministry for Finances, like by the committee of audit of JICPA. These standards of audit include/understand general standards, of work and report/ratio.

As regards rules of behaviour, they are codified in Code of ethics which is in harmony with those of Code of IFAC. So any member of JICPA has the duty to follow his occupation in public interest, with professional competence, integrity and objectivity and to contribute by his activity of auditor to development of a healthy company.

To Japan, as in France and to Canada, legal auditor is subjected to the three types of responsibilities. Initially, a disciplinary responsibility, for any infringement with professional laws, payments and rules, any serious negligence and done everything contrary with probity or honour even not being attached to the exercise of profession. Then, a penal responsibility, for direct attacks with sincerity of information, for attacks with rules relating to diffusion of information and for offences associating them criminality leaders. Lastly, a civil responsibility, because of detrimental consequences of faults and negligence which they could make in achievement of their missions.

In Denmark, auditor must program the checking in order to obtain a quality control carried out in an economic, profitable, effective way and within the allowed time. Indeed, work of personnel of audit must be continuously supervised on all the levels and each stage of control. By carrying out controls of regularity, it is advisable to check conformity with laws and payments in force. Thus, auditor must work out measurements and check procedures which offer a reasonable guarantee of detection of errors, irregularities and illegalities being able to influence directly and largely the amounts appearing in financial statements or the results of control of regularity. One of significant objectives that this control assigns with International Committee Standard is to take care that budget and accounts cover all financial reality of State. This way, Parliament or authority recipient of the results of control is able to easily note total evolution of engagements with load of Treasury and to evaluate financial expenses which will result from it (International Standards of Supreme to that Institutions N°300, Norms of application of control of finance public, p.3).

Concerning professional responsibilities, Danish authorities indicate that auditor is held to notify any violation of countable law or rules concerning the conservation of supporting documents. Although the auditor is not held by law to notify with legal authorities a penal infringement discovered by carrying out his audit, his report/ratio forms integral part of annual financial statements

and it is made public by the Agency on trade and companies.

3. Study of theoretical framework of audit quality assurance

Taking the importance of explanatory factors which can influence audit quality assurance, we are based primarily on two theoretical currents in particular "new financial theory" based on judicial approach or called "Law & Finance" approach and "agency theory".

3.1 Relationship between judicial system and audit quality assurance

The examination of work of LLSV (1998) based on "Law & Finance" approach reveal that legal degree of protection of outside investors of the expropriation of insiders granted by the regulations in the country depends on origin of judicial systems, contents of rules and their conditions for application. Indeed, their empirical results show that the countries of Common Law protect better minority shareholders and creditors than the countries from Civil Law. In the same way, these authors reveal that judicial system of country, in particular Common Law is not built from beginning to end but rather it depends on borrowed ideas of legal traditions. These legal traditions are deducted in Civil Law and Common Law and Civil Law are deducted in German, French and Scandinavian. Also, LLSV (1997, 1998, 1999, 2000 a, 2000 b) show that legal protection systems of investors are generally of strong systems in the countries of Common Law, which affect ownership structure and lead to more dispersed property, to have more minority shareholders, with an increased use of external financing and at more developed financial markets. All these elements result in amongst other things creating potential problems of agencies, which are born in the countries with strong legal protection system from investors and they are solved through a strong government of company, a better audit quality which provides a credible base in order to reduce asymmetry of information between the company and the outside investors.

In parallel, Francis & al. (2003) show that the country of Common Law offer a better protection of investors, they have more developed financial markets, more dispersed property of capital, a more transparent accountancy, a high audit quality and stockholders' equity more significant than the countries of Civil Law. These authors also reveal that a high quality of national (see endnote 1) countable standards and application of these standards by means of one to that 'credible' constitute the principal resultant of protection systems of investors who lead to development of a high audit quality and accountancy. Particularly, a high audit quality and accountancy plays a paramount role in the

government of company when it has a significant property of outsiders. The latter is in the countries with strong legal protection systems of investors, leading more to problems of asymmetries of information between outsiders and insiders.

Since accountancy becomes fundamental in the government of company, the need for audit is also fundamental like a mechanism of application in checking of information countable (Watts & Zimmerman, 1986; Hung, 2000). Thus, the need to resort an audit quality also emerges owing to the fact that accountancy of engagement allows a considerable discretion managerial which can lead to opportunist handling of countable figures. Therefore, the first role of audit is to delimit such opportunist behaviours and to make accountancy reliable for conclusion of contracts with outsiders (Francis & al. 1999; Hung, 2000).

In the same direction, a recent study of Kim & al. (2003) shows that audit firms pertaining to 'Big Five' are different from other cabinets by their 'prudent' attitude with respect to the countable choices, and probably because of pressure which exerts on them the American legal apparatus. In other words, audit firms pertaining to 'Big Five' would tolerate less handling aiming at overestimating the result because, in such a context, they extremely risk to be prosecuted by groups of investors and to be condemned to payment significant damages. This differentiation in the international wide-area networks is however less probable in France because legal environment remains definitely less risky than in United States for civil liability for auditor. The French civil code imposes, indeed, formalism heavier than the principles of Common Law and strongly reduces the capacity of interpretation of judges.

Francis (2004) also studied how judicial system of a country affects the behaviour of auditor through the care of auditor to satisfy his responsibility for audit juridical. In other term, the incentives of auditors are affected by potential legal responsibility and any other sanction relates to the negligence and the bad conduct. In the same way, Francis & Wang (2004) show that audit firms pertaining to 'Big Four' treat their customer in a way more preserving in the countries having a judicial system which gives to investors a great protection, in particular the countries of Common Law including capacity to continue auditors. This leads us to pose the first assumption:

Assumption 1: Companies belonging to countries with strong legal protection system of outsiders tend to seek a higher audit quality than companies belonging to countries with weak legal protection system.

3.2 Relationship between growth opportunities and audit quality assurance

Myers (1977) defines the value of firm as the sum of the value of his credits in place and his growth opportunities. He is the first to compare these last to

true bearing options to buy on reel credits, and to qualify them like options of growth.

The positive theory of countable choices, initially, is interested little in growth opportunities. It is only in the search for development prospects of this theory that Watts and Zimmerman (1990) propose to integrate this variable in the models to improve explanatory capacity of it. Consequently, many empirical studies (Skinner, 1993; Gaver and Gaver, 1993) attempt to specify the bonds between countable policy of leaders and range of growth opportunities in Anglo-Saxon literature. This research falls under a paradigm of contractual balance on the level of the relations between the stakeholders of firm. Their common postulate is to regard the policy of investment specific to each firm and as factor influencing directly growth opportunities. Consequently, the differences between growth opportunities from one firm to another are likely to involve distinct optima as regards contractual balance and functional efficiency. Leaders then maintain balance contractual by adapting alternative policies of management, and in particular of financing, dividend, remuneration. The alternative policy of control and monitoring is also likely to undergo modifications according to growth opportunities of the firm.

Kester (1984), then Gaver and Gaver (1993) militate in favour of a wide design of growth opportunities, and insist on the fact that they exceed strict framework of the growth of investments and the activities of point on which officiate famous the start-up. For the authors, the growth of options include also projects of extension of outputs, possibilities of launching of new products, external growth, consolidation of marks (by publicity), and even of replacement of the existing credits. Thus, the firms in phase of maturity are not inevitably deprived of growth opportunities. Consequently, the potential of innovation and the implication in the process of innovation do not constitute the single axis of characterization of the growth opportunities. The possibility of carrying out differentiated investments, to install barriers at the entry of certain sectors in order to maintain there a dominant position and to benefit from secure incomes, the capacity to carry out economies of scale, are as many characters sources of a durable performance than the market must, if it is efficient, appreciate at time present.

In a firm with strong growth opportunities, legal auditor can be solicited for his knowledge of branch of industry, but will be it particularly for its independence in the arbitration of countable choices of the direction. For example, choices of spreading out countable of some expenditure (like expenses of qualification of new lines of production), of inscription in active of expenses of research and development, can bring conflict situations that auditor must arbitrate in all independence to put forth an objective judgement on the treatment considered, in comparison with principles of regularity, sincerity and faithful image of financial statements. In addition, if

growth opportunities represent a high share of the value of the firm, then the latter presents more risks and uncertainties which an entity of which the value is exclusively made up by its credits in place. Consequently, the need to reassure shareholders in place and investors' potential can appear by the choice of a legal auditor with strong reputation, whose certification constitutes a signal of quality of information published. In short, of strong growth opportunities can influence policy of control of the company. As regards legal audit, that should appear by the will to present audited financial statements by international wide-area networks, mainly for better controlling asymmetry of information which weighs on the situation (objectifies) firm, and to convey a signal of quality of the financial information disseminated with investors. From where our second assumption is:

Assumption 2: Companies having strong growth opportunities tend to seek a higher audit quality than companies having weak growth opportunities.

3.3 Relationship between ownership structure and audit quality assurance

The agency theory recognizes audit like one of principal mechanisms of management of conflicts and reduction of the costs of agency. Consequently, a modification in the intensity of conflicts of agency should influence, in the same direction, the acceptable audit quality level. The relations between external and leader shareholders are marked by problems of moral risk and opportunism, which depend on level of asymmetry of information. The two parts may find it beneficial to minimize asymmetry of information: the owners develop their investment by a better control of the richness of the firm, by accepting a more effective controlling authority considered, the leaders can announce the quality of their management and increase their remuneration. In both cases, a reinforcement of the audit quality can reduce asymmetry of information.

According to Jensen and Meckling (1976), divergences of interests and opportunists behaviours are conversely related to ownership structure, therefore with the degree of separation of property - management. Moreover, asymmetry of information is overall reduced if people having one access to privileged information - leaders, administrators, paid - hold a significant share of capital. In addition, Francis and Wilson (1988) specify that dispersed ownership structure increases, for external shareholders, the cost and efforts necessary to influence the decisions of leaders, and in particular to impose a change of the brains trust. The pressure of shareholders on leaders is thus less if ownership structure is dispersed.

Fama and Jensen (1983a, 1983b) explain the survival and the performance of large companies, exposed to agency problems by the diffusion of their shareholding, nature of rights of ownership and hierarchical organization of the decision-making

process. Initially, limited responsibility and free transferability of the actions make that a minority shareholder does not may find it beneficial any to invest himself directly in control of decisions of leaders. In the second time, Fama and Jensen explain why separation of decisions of management and control constitutes a condition necessary to efficient operation of open companies. Thus, corporate boards play a role in the system of control to ratify strategic decisions, then to evaluate the results of them. Shareholders preserve prerogative to designate legal auditor in general assembly, and this last has widest capacities as regards access to information to achieve its mission and to protect interests from its mandates. Consequently, an audit quality can be regarded as one of components of a system of control complexes charged to compensate for relative incapacity of a dispersed ownership structure, to supervise and to control countable policy of leaders. At the reverse, in the companies known as controlled, majority shareholder reaches directly privileged information and replaces corporate board to appreciate the decisions of leaders (Pochet, 1998). In this case, the role of legal auditor consists to defend interests of minority shareholders.

In this way, the role of audit consists in defending, initially, the interests of minority shareholders and in the second place to reduce agency conflicts which exist between majority shareholders and leaders. Indeed, audit quality can be regarded as one of the components of a system of control complexes charged to compensate for the relative incapacity of diffusion of ownership structure to supervise and control countable decisions of leaders. In this direction, audit quality seems to be more significant in companies having a dispersed ownership structure. From where our third assumption is:

Assumption 3: Companies having a dispersed ownership structure tend to seek a higher audit quality than companies having a concentrated ownership structure.

4. Methodology of research

4.1. Definitions of variables

In what follows, we propose to define variables apprehending the assumptions which relate to explanatory factors of audit quality assurance.

4.1.1. Measure of audit quality

In this paper, audit quality is measured by the membership of the group of the ten (*see endnote 2*) international wide-area networks in term of sales turnover (*see endnote 3*). This dichotomy allows us to make a homogeneous international comparison, while remaining most widespread and the least debatable according to authors and experts'. International wide-area networks, indeed, are recognized for their capital of specific reputation (forts investments in recruitment, internal formation, methods and

techniques of work). Thus, audit quality is subject of a binary variable: IWN is coded 1 if companies make recourse to the ten international wide-area networks of audit in term of sales turnovers and 0 if not.

4.1.2. Measure of judicial system

The judicial system is measured starting from three variables and this with the manner of LLSV (1997, 1998 and 2004) and Deffains & al. (2005).

1/ **Legal origin:** it is a dichotomy variable which takes value of 1 if the company belongs to a country from Civil Law and 0 if the company belongs to a country from Common Law;

2/ **Contents of legal rules:** measured starting from two indicators in particular protection of the rights of minority shareholders and protection of the rights of creditors.

✓ **Protection of the rights of minority shareholders** is measured by indices estimating the quality of protection of minority shareholders:

- The indicator "*One shares one vote*" **SharVote:** takes value of 1 so initially, commercial law or company law envisages principle of allotting to an action voting rights and only one. In the second place, if it prohibits the issue of shares without voting rights or with a multiple vote. Lastly, if it does not make it possible company to fix a maximum number of vote per shareholder without taking account of the number of actions which this shareholder holds and takes value of 0 if not.

- The index "*anti-directors rights*" **AntDRight** takes the value from 0 to 6 according to whether the country grants or not a point by answer to the following questions:

1/ If the vote by proxy authorized or not? (Yes in France, therefore 1 point)

2/ Does exist an obligation of deposit of the titles before the vote? (In France, the deposit is obligatory three days before general assembly, therefore 0 points)

3/ The percentage of capital necessary to obtaining the organization of an extraordinary general assembly is it higher than 10% (it is equal to 5% in France, therefore 1 point)

4/ Is the cumulated vote authorized in the election of members of administration? (It is not authorized in France, thus 0 points)

5/ Is shareholders were obliged to consult before removing their preferential application right? (Yes in France, 1 point)

6/ Do exist an obligation of representation of minorities to the corporate board? Is it possible to dispute certain decisions in front of the courts? Can we oblige repurchase on behalf of minority shareholders to their requests? [LLSV (1998) do not grant a point to France].

✓ **Protection of the rights of creditors** is estimated using an index "*creditor rights*" **CreRight** which takes the value from 0 to 4 according to whether the country grants or not a point by answer to the following questions:

1/ Can creditors refuse the reorganization of the insolvent company? (1 point if the answer is yes)

2/ Is titular creditor of a safety assigned to a given good of the company authorized to carry out this good and to disengage? (1 point if the answer is yes)

3/ Is the absolute property what is respected? (1 point if the answer is yes)

4/ Can leader keep the control of company during legal rectification? (1 point if the answer is not)

This indicator whose value lies between 0 and 4 reached the value of 0 for France, against 2 for Japan.

3/ Quality of application of legal rules: is estimated via 5 measurements extracted from LLSV (1998, 2004):

1/ "Efficiency of judicial system" **EJS:** The lowest value indicates the lowest level of effectiveness. Let us note that this index varies from 1 to 10.

2/ "Rule of law" **RL:** They correspond to an estimate of law and order or "assessment of law and order tradition in the country". These rules of law have a value which varies from 0 to 6 and the low value envisages a weakness of law.

3/ "Corruption" **C:** A weak score reflects a high degree of corruption. This score also varies from 0 to 10.

4/ "Risk of expropriation" **RE:** The higher risk is more when the index is weak. This score takes also the value from 1 to 10.

5/ "Likelihood of contract repudiation by government" **RCR:** The higher risk is more when the index is weak. This index takes the value from 1 to 10.

Thus, let us note that these five measurements correspond to indices having values from 0 to 10 or values from 1 to 6 and are provided by "International Country Risk Guide".

4.1.3. Measure of growth opportunities

This variable can be measured by two ratios:

- **MBVE:** indicate the ratio of capitalization of own capital stocks, calculated by the value of the market of stockholders' equity on the book value of stockholders' equity, in accordance with Gaver & Gaver (1993), Bah & Dumontier (1998).

- **MBVA:** indicate the ratio of capitalization of assets, calculated by commercial value of credits on the book value of assets. This measurement is used by Gaver & Gaver (1993).

4.1.4. Measure of ownership structure

This variable is a dichotomy measurement taking the value of 1 if the percentage of capital held by the first three shareholders is equal to or higher than 30% and 0 if not. This measurement is used with the manner of Dhaliwal & al. (1981) and Chopard (2003).

4.1.5. Measure of control variables

1/ **Size of audited company:** It is certain that a cabinet of regional audit does not have the scale, in particular in human means, to accept legal audit of a multinational. Thus for obvious constraints related to the function of offer of the service (availability of average materials and human), only the cabinets of a certain size are in measure to audited these companies.

In this paper, we chose to study the nature of audit quality in 25 larger companies of each country, in term of sales turnover. Thus, we attempt a positive correlation between the size of audit firms and the size of audited company. This variable is usually measured by natural logarithm of total assets following the study of Godfrey & Hamilton (2005).

2/ International Presence of company: A company strongly committed with international, having many operational centers out of borders, will be more effectively audited by a large audit firm integrated in a solid international network and this for two reasons. On the one hand, a more extended recognition of signature of audit. In addition, a better control of constraints of geographical dispersion, with in particular presence of correspondents specialized in the legislations local and able to pay visits on site at lower cost (Piot & al. 2006). We consider, thus, measurement 'EXPORT' to appreciate international presence which represents the proportion of sales turnover realized out of country of origin. This measurement was used by Piot & al. (2004, 2006).

3/ Debt: The conflicts between shareholders and creditors are in general easily controllable from the contractual character of financing by debt (Jensen & Meckling, 1976). Moreover, French companies privilege, culturally, banking debt with issues of bonds. In United States, issues of bonds are often matched restrictive clauses in order to control conflicts between bond-holders and shareholders. The respect of these clauses, frequently centred on countable figures, is attested each year by legal auditor. The debt thus constitutes an explicit mechanism of control of agency costs of 'free cash-flow', and more generally of conflicts between owners and managers (Piot, 2003). Consequently, if debt makes it possible to discipline leaders, and thus to control conflicts with shareholders, the requirements of latter towards legal auditor could prove less significant. For this reason, we rather consider debt as a parameter of control of agency costs between shareholders and leaders, through the measurement of long-term debts compared to total assets (LTD/TA). This ratio is used following the example work of Chen & Al. (2005) and Godfrey & Hamilton (2005).

Sample

In order to conserve a perfect homogeneity of the sample, we chose to study the 25 larger dimensioned companies, spread out over one period going from 2000 to 2005, of four countries and for making an international comparison starting from legal origin of each country. These companies were selected according to their sales turnovers. Let us note that these countries belong to four different legal systems referring to Common law (Canada), French Civil Law (France), German Civil Law (Japan) and Scandinavian Civil Law (Scandinavian).

The countable and financial data were extracted from database titles "Orbis 2006" and legal data were extracted from appendices of studies of LLSV (1997, 1998, 2004) and of Deffains & al. (2005).

Statistical method

Often, researchers work on problems whose variable answer is not a quantitative variable, but rather qualitative and binary. Although the dependent variable is binary, the objective is to build a predictive model. The method which applies in these situations is logistic regression. The latter makes it possible to estimate parameters of model by using method of "maximum of probability" which seeks to maximize "log likelihood". This test reflects the manner with which actual values of dependent variable can be envisaged actual values of independent variables (Gourrieraux, 1989).

In this paper, empirical validation of assumptions of research is carried out by means of three logistic regressions since the variable of judicial system is apprehended via three measurements. Our model arises then as follows:

$$AQ_{kt} = \beta_0 + \beta_1 \text{Origin}_{kt} + \beta_2 \text{Struc} + \beta_3 \text{GO} + \varepsilon_{kt}$$

$$AQ_{kt} = \beta_0 + \beta_1 \text{CreRight}_{kt} + \beta_2 \text{AntDight}_{kt} + \beta_3$$

$$\text{SharVote}_{kt} + \beta_4 \text{Struc} + \beta_5 \text{GO} + \varepsilon_{kt}$$

$$AQ_{kt} = \beta_0 + \beta_1 \text{EJS}_{kt} + \beta_2 \text{RL}_{kt} + \beta_3 \text{C}_{kt} + \beta_4 \text{RE}_{kt} + \beta_4 \text{RCR}_{kt} + \beta_5 \text{Struc} + \beta_6 \text{GO} + \varepsilon_{kt}$$

With:

- AQ = audit quality
- Struc = ownership structure
- GO = growth opportunities
- Origin = origin of judicial system
- CreRight = "Creditor Rights", this index measures the rights of creditors
- AntDRight = "Anti director Rights", this index measures the rights of minority shareholders

- ShareVote = this index measures the rights of minority shareholders
- EJS = efficiency of judicial system
- RL = rules of law
- C = degree of corruption
- RE = risk of expropriation
- RCR = likelihood of contract repudiation by the government

5. Empirical results

5.1. Test of sensitivity

The predictive capacity of logistic model makes it possible to test determinants of audit quality assurance by using 198 observations for first and third model and 200 observations for second model. The results of this test are satisfactory. Indeed, total rate of correct classification rises of 88,89% for first model up to 94,95% for third model and, consequently, error rate rises from 11,11% to 5,05%. Thus, in a respective way, models predict 161 correctly; 164 and 167 companies using audit firms pertaining to the ten international wide-area networks.

5.2. Multivariate analysis

The multivariate analysis makes it possible to appreciate marginal contribution of various variables, in particular the interactive variables, on audit quality assurance. Table N° 1 summarizes statistical results obtained for four countries.

Table 1. Logistic regressions. Dependent variable "Size of audit firms"

Variables (estimated correlation)	Model 1	Model 2	Model 3
Constant	23,3078 *** (0,002)	15,401 (0,314)	-137,899 *** (0,000)
Legal origin (+)	-1,3564 (0,118)		
MBVE (+)	-0,2015 (0,293)	0,307 (0,521)	-0,161 (0,737)
MBVA (+)	-0,8120 (0,225)	-1,181 (0,257)	0,269 (0,741)
Struc. (-)	238,9759 ** (0,025)	454,477 ** (0,019)	300,572 * (0,061)
Log TA (+)	3,9143 *** (0,000)	3,317 * (0,058)	0,439 (0,600)
Export (+)	3,1835 ** (0,025)	-18,660 *** (0,000)	-22,661 *** (0,000)
LTD/TA (-)	-5,5358 ** (0,024)	-10,306 ** (0,017)	-7,010 * (0,051)
Creditor right (+)		7,389 *** (0,000)	
Anti director right (+)		4,927 *** (0,000)	
Share votes (+)		-4,922 ** (0,014)	
Efficiency of JS (+)			-5,862 ** (0,006)

Rules of Law (+)			75,510 ^{***} (0,000)
Corruption (+)			-54,510 ^{***} (0,000)
Risk expropriation (-)			-599,377 ^{***} (0,000)
RCR (-)			0,939 (0,543)
- 2 Log Likelihood	157,729	169,083	161,378
Chi-deux	79,921 ^{***}	105,729 ^{***}	101,816 ^{***}
R ² of Nagelkerke (%)	57,3	72	72,1
Good classifications (%)	88,89	92	94,5
Initial sample	213	213	213
Final sample	198	200	198

* Coefficient significant at $p \leq 0.1$; ** Coefficient significant at $p \leq 0.05$; *** Coefficient significant at $p \leq 0.01$

The first model takes again the first measurement of judicial system relating to legal origin of the country. The second is interested in the contents of application of rules of law and the last model relates to quality of application of rules of law.

The test of khi deux for adjustment of empirical models to a value of 79,921; 105,729 and 101,816 respectively for the three models (6 degrees of freedom) and is significant to 0,000 making it possible to reject null assumption stipulating that all coefficients are equal to zero. This resulted in retaining H1 assumption according to which at least one of explanatory variables is significant. The checking of force of association of these models also makes it possible to have respectively an R² of Nagelkerke which amounts to 0,573; 0,72 and 0,721, which is considered to be satisfactory taking into account the exploratory character of model. Thus, model explains 57,3% respectively; 72% and 72,1% of variance of the variable to be explained size of audit firm.

The H1 assumption, revealing that the undertaken pertaining to countries with strong legal protection system of outsiders choose audit firms pertaining to the ten international wide-area networks, proves partially checked. Moreover, the two models relating to quality and contents of application of rules of law prove statistically significant. On the other hand, the third model relating to legal origin is not conforms to the theoretical predictions. Indeed, the results inherent in this model reveal a minus coefficient (-1,356) and statistically no significant. This supposes that there is not a significant relation between choice of audit firms and legal origin of the country. This result corroborates Deffains & al.'s (2005) research, revealing that protection of the rights of investors (minority shareholders and creditors) is independent of legal tradition. However, these noted contradict the remarks of LLSV (1998) announcing that there is a strong relation between legal level of protection of investors, in particular in the choice of audit firms and legal tradition of the country.

The assumption H2, stipulating that companies having strong growth opportunities tend to resort to an audit firms pertaining to the ten international wide-

area networks, proves inconformity with theoretical predictions for the three models. Indeed, the results of growth opportunities (MBVE & MBVA) present a non significant relation concerning choice of audit firms. This result can be explained primarily by the opportunist behaviour of leaders within the company (moreover, growth opportunities are evaluated on the basis of discretionary decision of investments future of leaders). Moreover, these leaders will privilege their interest with the detriment of policy of control and monitoring in particular in the choice of audit firms, which makes it possible to cancel the relation which exists between choice of audit firms and growth opportunities. However, the found results contradict Piot (2004), Wah (2002) and Hutchinson's (2001) research, announcing that companies having a strong growth opportunities can influence their policy of control.

Contrary to H3 assumption, it appears that companies having a dispersed ownership structure do not tend to seek a high audit quality while resorting to audit firms not belonging to the ten international wide-area networks. Indeed, statistical results reveal a positive sign and a statistically significant coefficient with the threshold of 5%, 5% and 10% respectively for the three models. Though this assumption is not in conformity with theoretical predictions, this result can be aligned with empirical results of Piot (2001). This author explains this relation by inadequacy of agency theory, initially founded in Anglo-Saxon context, with French context of his study characterized by a strong concentration of ownership structure. With this argumentation, it appears logical that this relation is not also checked in an international context being given that the distinction between countries of Common Law and those of Civil Law do not influence the choice of audit firms (result of model 1 relating to assumption 1).

Concerning the control variables, empirical results show that the effect of size of audited company is significant with a threshold of 1% and 10% only for the first two models, after transformation logarithmic curve of the total assets, operation making it possible to correct strong asymmetry in the initial distribution of this variable. For international presence, it proves

that audited companies by audit firms belonging to the ten international wide-area networks appear more turned much towards international one with the level of sales actual abroad for the three studied models. This result consolidates international recognition of international wide-area networks and their extents in the world. This result is probably explained by strategy of internationalization adopted by these companies implying the establishment of various subsidiary companies throughout the world. Indeed, the majority of companies composing the sample have several subsidiary companies abroad. In the same way, the importance of sales turnover realized out of the country of origin can explain the recourse of companies to the ten wide-area networks international. In fact, sales turnover to export of companies belonging to various countries varies between 40 and 60%. Lastly, and in accordance with our predictions, it proves that debt constitutes a parameter of control of agency costs between shareholders and leaders. Indeed, this variable of control is statistically significant for the three models.

Conclusion

In this paper, logistic regression analyses give interesting results when audit quality assurance is appreciated by the size of audit firms, in particular the membership pertaining to the ten international wide-area networks. The principal results show that specificities of judicial system in particular, origin, contents and quality of application of rules of law are positively associated with audit quality assurance. This result comes in support thesis of LLSV (1998 to 2004) putting forward the importance from the impact of judicial system on the mechanisms from government of company. The legal audit constitutes, in fact, one of these external mechanisms.

Concerning the level of growth opportunities, this variable seems to influence partially audit quality assurance, appreciated by the size of audit firms. This impartiality is due probably to the measurement of growth opportunities adopted within the framework of this research (stock exchange capitalization of stockholders' equity v.s stock exchange capitalization of credits). Thus and since that this result could be sensitive to measurements chosen, it would be can be more judicious to resort to other measurements envisaged by countable literature (e.g financial risk or Q of Tobin) to ensure itself of the validity of results apart from measurements used.

In addition, a dispersed ownership structure, observed in companies of various countries chosen, does not explain the recourse of these companies in the search of a high audit quality. This situation contradicts theoretical predictions perfectly though it comes in support of some note empirical following the example of Piot (2001).

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Endnotes

¹ The standards of quality relate to relevant and reliable information which should be collected, checked and diffused in accordance with standards of quality recognized at the international level publication checks of countable data and financial and non-financial data.

² Following the financial scandals having struck audit firms, classification "big/not big" was the subject of several criticisms, what pushed us to be interested in the ten international wide-area networks, as proposed by Barszcz (2004).

³ The four most significant groups of audit on a world level are: PricewaterhouseCoopers (Sales turnover in 2005 is 20,3 billion \$), Deloitte (Sales turnover in 2005 is 18,2 billion \$), Ernst & Young (Sales turnover in 2005 is 16,9 billion \$) and KPMG (Sales turnover in 2005 is 15,7 billion \$). After these four groups of audit are classified another series of cabinets of audit such as the Mazars cabinet (Sales turnover in 2005 is 0,75 billion \$), Constantin (Sales turnover in 2004 is 144 € thousands), Grant Thornton (Sales turnover in 2004 is 76 € thousands), RSM Salustro Reydel, BDO Gendrot (Sales turnover in 2004 is 73 € thousands). Let us note that the data for 2005 are extracted from: *The countable profession of March 2006*. Concerning data of 2004, they are extracted from: *Economy & Accounts Department, September 2004*.