WHAT DO WE KNOW ABOUT MANDATORY AUDIT FIRM ROTATION?

Corinna Ewelt-Knauer
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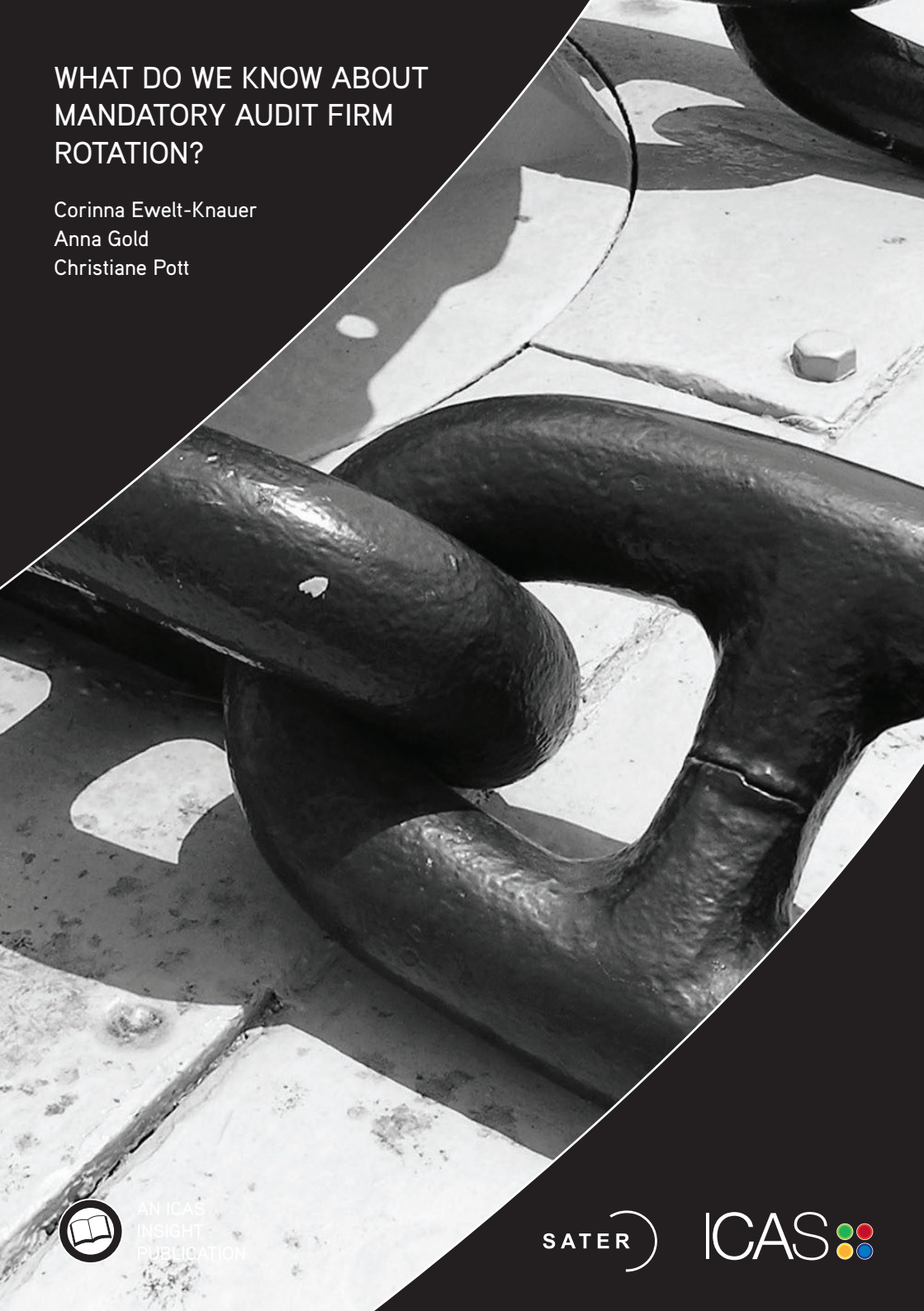

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FOREWORD

The global banking crisis brought to the fore questions surrounding the scope and quality of the external audit, market concentration and auditor independence. One of the issues currently being considered by the European Commission and European Parliament is mandatory audit firm rotation. ICAS believes that policy decisions should be based on independent evidence and therefore commissioned this literature review on audit firm rotation to serve as a sound platform for policy making and future research.

The aim of this review is to identify, consider and evaluate the existing evidence on mandatory audit firm rotation to inform future policy making, highlight any deficiencies in the existing literature, identify opportunities for further research and make recommendations for policy makers.

The review was undertaken by a team of independent European academics with an objective of covering research from the major international markets and jurisdictions with experience of mandatory audit firm rotation. Issues considered include the impact, if any, of mandatory audit firm rotation on: audit quality, auditor independence, audit costs and audit market concentration. The study also includes a summary of the experiences of countries that have previously adopted a policy of mandatory audit firm rotation.

This study finds that the existing evidence on the impact that mandatory audit firm rotation has had on audit quality and auditor independence is inconclusive. Whilst there is some evidence that rotation may have a positive impact on 'independence in appearance'; most research fails to extend these findings to various measures of audit quality associated with 'independence in fact' and there is evidence of potentially adverse effects of rotation. Given the lack of evidence linking mandatory audit firm rotation with an improvement on audit quality, the authors recommend that regulators need to determine carefully the long-term objectives of a mandatory rotation requirement before implementing a costly measure.

The review highlights the need for more research looking at the implications of measures designed to improve audit quality and market concentration and importantly, a need to consider how audit quality can be measured by means other than the use of, somewhat artificial, proxies.

This project was funded by the Scottish Accountancy Trust for Education and Research (SATER – see page 49). The Research Committee of ICAS has also been happy to support this project. The Committee recognises that the views expressed do not necessarily represent those of ICAS itself, but hopes that the report will contribute to the current policy debate on mandatory audit firm rotation.

Allister Wilson
Convener of ICAS Research Committee
December 2012

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EXECUTIVE SUMMARY

Introduction

Following up on the 2010 Green Paper, *Audit Policy: Lessons from a Crisis*, the European Commission (EC) issued a set of legislative proposals regarding the role of the auditor, auditor independence and the structure of the audit market in Europe in 2011. Mandatory audit firm rotation every six to nine years was one of several measures proposed by the EC to enhance auditor independence.

In September 2012, the European Parliament debated a watered-down proposal of 25 years; this was however met with opposition from Germany and Spain. Subsequently the European Parliament discussed a rotation period of 21, however at the time of publication of this report no final decision has been reached on this issue.

Internationally there have been mixed approaches to and experiences with mandatory audit firm rotation; below are a few examples of how countries are currently handling the issue:

- Several countries (for example, Brazil, India and Italy) have introduced mandatory rotation in the past. By contrast other countries have abolished formerly issued regulations on audit firm rotation (for example, Spain and Canada).
- Australia is currently debating a pilot program to obtain sufficient empirical data to arrive at a satisfactory conclusion.
- India requires a compulsory rotation of the audit partner and 50% of the audit team.
- Portugal recommends an eight to nine-year rotation on a 'comply or explain' basis for listed companies.
- Slovenia gives public companies a choice to either conduct a five-year partner or firm rotation.
- In Bosnia Herzegovina rotation is required after five years, although mandatory firm rotation can be postponed for two years if a new engagement partner is appointed.
- Countries such as the UK, Germany and the Netherlands mandate audit partner rotation instead of firm rotation.
- In Belgium, an auditor is appointed for a term of three years and cannot be dismissed within this period. The mandate can be renewed after three years.
- Regulators in the UK, the US, and Germany have discussed the topic in the past, but conclude that the potential benefits of mandatory rotation do not outweigh the risks and costs.

Purpose of this report

The purpose of this report is to examine the expected and observed effects of mandatory audit firm rotation and to bring together the existing evidence to inform the current policy debate.

In the following sections, the main arguments for and against mandatory audit firm rotation are noted, together with a brief discussion on the extent to which each argument is substantiated by academic research.

Arguments supporting mandatory audit firm rotation

- First, the main argument in favour of mandatory audit firm rotation is an increase in auditor 'independence in fact', ultimately leading to higher audit quality. In other words, long tenure of the auditor might lead to excessive familiarity between auditor and client, potentially resulting in insufficient audit procedures and excessive reliance on static audit programs and prior year results. By minimising the maximum length of tenure, it is argued that auditors will be forced to pay closer attention to the details and be more sceptical in their audit approach.
    - This argument is largely supported by experimental research evidence with auditors behaving more independently in regimes that require rotation.
    - Most analytical research also confirms a positive effect of rotation on independence, especially in cases of high market concentration and given a need for very specialised audit services, although other analytical studies suggest that short-term audit engagements may also create adverse effects on auditor independence, particularly in the last years of engagement.
    - Relevant archival research typically examines the relationship between auditor-client tenure and some measure of audit quality, but not auditor independence directly. This line of research predominantly finds that tenure is either positively or not at all associated with audit quality, and that audit quality is particularly low in the early years of auditor engagement, suggesting that mandatory audit firm rotation could have adverse effects. However, this review also identifies studies where the opposite applies. For example, the likelihood of issuing a qualified audit opinion decreases over the length of the auditor-client relationship, providing some support to the stated argument. Also, some studies observe a reduction of audit quality with excessive tenure.
- Second, and related to the first argument, is an expected positive effect of mandatory audit firm rotation on auditor 'independence in appearance'. In other words, according to this argument, financial statement users will perceive the auditor to be more

independent after mandatory rotation, which will benefit perceptions of the financial statement and market reactions as a whole.

  - Experimental and survey evidence among investors, judges, and directors largely supports this relationship; however, authors of these studies also caution against the high perceived costs of implementing mandatory audit firm rotation.

- A third argument in favour of mandatory rotation is that it might provide smaller audit firms the opportunity to participate due to increasing market competition.

  - The Italian mandatory audit firm rotation environment shows that rotations are often used for negotiating lower average costs per hour of audit work, supporting the argument of a potential for increasing market competition.

Arguments against mandatory audit firm rotation

- The first argument against mandatory rotation is that the relatively short engagement period might inhibit the development of an effective working relationship between auditor and management. Since auditors constantly need to recoup start-up costs, they might be more lenient toward management and less critical of practices of the client, as compared to a longer auditor-client relationship.

  - At least one survey-based study confirms that clients with short auditor tenures feel that they can more easily persuade their position in case of a disagreement. However, as noted earlier, several experimental and survey studies suggest that, in contrast, auditor independence is particularly high in the presence of mandatory rotation.

  - Some archival research supports this argument. For example, auditors are less likely to issue a going-concern opinion during the initial years of engagement than they are in later years. This might be due to a willingness to please the client, but could also be an illustration of the following argument.

- Second, there is a fear that mandatory rotation might heighten the risk of audit failure since auditors are unable to develop in-depth client-specific knowledge, for which they would require longer tenure.

  - A substantial portion of the reviewed archival studies supports this notion. For example, audit failures most likely occur in the early years of engagement, which could be explained by a lack of expertise on the side of the auditor. Also, research suggests that familiarity with the client seems to result in higher earnings quality.

- Third, there is wide agreement that mandatory audit firm rotation would result in an increase in costs, such as set-up costs of the new auditors to understand the client's business model and organisational structure, as well as costs of client management to support the new auditors in these learning procedures. Furthermore, should

mandatory rotation be introduced, this could lead to a situation where the market can no longer distinguish a voluntary change of the audit firm (due to, for example, opinion shopping of management) from a compulsory rotation, ultimately increasing uncertainty and hence increasing the cost of information. The exact costs caused by mandatory audit firm rotation are hard to determine, however, increases of 20% of audit costs have been discussed.

Given the complexity of this issue, limited empirical research is available to support or refute this cost argument. However, some academics have argued that, assuming for a moment that rotation has overall positive effects on audit quality (by, for example, reducing the number of audit failures and increasing the reliability of financial information), the cost of capital should decrease in the long run. Furthermore, archival research generally suggests that audit firm tenure increases the cost of companies' capital. As a result, one could argue that these research findings contradict the notion that rotation increases overall costs, since mandatory rotation interrupts tenure and hence might prevent those increases to costs of capital due to tenure. Finally, from anecdotal evidence as well as research in related fields, it is known that investors might be willing to bear some added costs if the result is a better audit.

- Fourth, while mandatory rotation might provide smaller audit firms the opportunity to more easily enter the market, it is also possible that mandatory rotation will lead to higher market concentration because large corporations tend to choose one of the Big 4 auditors when switching their audit firm. In addition, mandatory audit firm rotations might be restricted to Big 4 and second tier audit firms, because audit committees could perceive that smaller audit firms lack the necessary resources and expertise to deal with frequent rotations and hence a great variety in complexity of clients. In conclusion, smaller audit firms might in fact suffer from mandatory firm regulation.
- Experiences from Italy and South Korea suggest that rotation might indeed decrease rather than increase market competition.

Conclusions and recommendations

- Regulators, professional bodies and academics should continue to learn from the experiences of those countries that have attempted the implementation of mandatory rotation (for example, Canada). So far, these experiences and reasons for why the requirement was abolished are not well documented, even though regulators in the countries of interest might be able to provide valuable input to the on-going debate. From a research perspective, a case study approach might be a valuable contribution to the literature.
- Further empirical research to directly investigate the (potential) effects of mandatory audit firm rotation is required. Given that most prior archival research is concerned with auditor tenure and/or voluntary switches, it is in many cases difficult to generalise the

findings and apply to mandatory audit rotation. Further, future research should consider how audit quality can be measured by means other than the proxies used thus far.

- Alternative proposals to solve the problem of auditor independence, currently discussed at a national level, should be discussed on an international platform, including all relevant parties. For instance, India requires rotation of 50% of the audit team, alongside the audit partner. Portugal recommends an eight to nine-year rotation on a 'comply or explain' basis for listed companies.
- If mandatory audit firm rotation is implemented, the rotation period needs to be determined with great care given the delicate trade-off between client-specific knowledge on the one hand and independence-related issues on the other hand. From an international (or at least EU) perspective, the rotation periods should be coordinated to avoid adding more complexity for foreign subsidiaries.
- Finally, while experimental, survey-based and analytical research largely confirms positive effects of rotation on 'independence in appearance', most archival research fails to extend such findings to various measures of audit quality associated with 'independence in fact'. Rather, most of the archival research suggests potentially adverse effects of rotation, at least for the first years after a switch. Meanwhile, some research suggests that excessive tenure can in some cases lead to reduction in audit quality, suggesting potential for rotation to alleviate tenure-related problems.

Concluding, taken as a whole, research results on the effects of mandatory audit firm rotation on auditor independence and audit quality suggest that while rotation might improve auditor independence, especially in appearance, one should not ignore the negative consequences rotation might have for the client-specific expertise of the auditor. Given the lack of evidence linking mandatory rotation with an improvement in audit quality, regulators need to carefully determine the long-term objectives of a mandatory rotation requirement before implementing a costly measure.

1. INTRODUCTION

In 2011 the European Commission (EC) published proposals to amend Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts, and a draft for a regulation on specific requirements regarding statutory audit of public-interest entities (COM(2011) 779/3), which would bring major changes to the audit market if adopted. Among other issues, mandatory audit firm rotation every six to nine years was proposed. In September 2012, the European Parliament debated a watered-down proposal of 25 years, which was however met with opposition from Germany and Spain (CFO Insight, 2012).

Proponents of mandatory rotation claim that an increase in the length of audit firm engagement could result in auditors being more likely to agree with management on critical reporting issues (Ryan *et al*., 2001; Farmer *et al*., 1987) and therefore, rotation would have beneficial effects on audit quality, because independence is warranted. On the other hand, opponents argue that the potential costs of mandatory rotation exceed its benefits (for example, Hussey & Lan, 2001), and several research studies find that audit firm tenure is positively associated with audit quality (for example, Chen *et al*., 2008; Chung, 2004; Myers *et al*., 2003).

From a global perspective, this debate is not new. For instance, the European Commission, in a proposal which finally resulted in the revised EU 8th Directive in 2004, considered the introduction of mandatory rotation, but eventually decided against it at the time. Meanwhile, whilst a number of countries (for example, Brazil, India, and Italy) have introduced mandatory rotation in the past, other countries (for example, Spain and Canada) have abolished formerly issued regulations on audit firm rotation. Regulators in the UK, the US, and Germany have discussed the topic in the past, but concluded that no substantial benefits derive from mandatory firm rotation.

The current debate lacks a systematic and critical composition of arguments, practitioner experiences and opinions and research evidence regarding audit firm rotation effects. This report addresses this gap by focusing on the effects of mandatory audit firm rotation both from a stakeholder perspective and a research perspective.

The report proceeds as follows:

- Chapter two and Table 1 provide a comprehensive overview of countries that have adopted, discussed or abolished mandatory rotation.
- Chapter three discusses the influence of mandatory rotation on audit quality, costs and benefits as well as market concentration, from a stakeholder perspective, which incorporates the opinions of audit firms, regulators, investors, shareholders and executives of audited companies located around the world.

- The research overview in chapters four and five distinguishes between different research methods (analytical, experimental, survey/interview-based and archival) to examine rotation effects, and highlights limitations of various audit quality/independence proxies as well as the methods used. In addition, Tables 2-5 summarise research studies using different measures for audit quality and Table 6 shows proxies used to capture costs and benefits.
- Chapter six concludes the report. It summarises the main findings, discusses the limitations of the reviewed research, suggests areas for future research, and provides recommendations for standard-setters and regulators.

2. AUDIT FIRM ROTATION IN PRACTICE

Audit firm rotation is treated differently in different countries. Some countries (for example, Pakistan, Italy and Oman) have implemented requirements of mandatory rotation for all listed companies in the past. Pakistan subsequently changed this to apply to only financial institutions and insurance companies. Other countries have mandated audit firm rotation only for specific clients, such as the banking and insurance industry (for example, Poland, Serbia and Slovenia), or governmental companies (for example, Peru). Conversely, Saudi Arabia relaxes the rotation requirement for the financial industry, assuming that audit quality will increase with client-specific experience since the business models of financial institutions are very complex. Countries also differ with respect to the allowed audit firm tenure period. For instance, whereas Peru has a relatively short two-year rotation period for governmental entities, Brazil requires a five-year rotation for listed companies (except banks) extended to a rotation period of ten years if the company has a statutory audit committee (Martinez & Reis, 2010).

Numerous countries have abolished mandatory rotation, such as Canada, South Korea, Greece, Latvia and the Czech Republic. Austria repealed the regulation in 2004, before it was even implemented. Significant uncertainty about mandatory rotation also exists in Costa Rica, where it was introduced 2005, appealed and rejected in 2006-2007 and finally re-implemented in 2010.

Whereas only a few countries discussed mandatory rotation before the fall of Enron[1], most countries have put the discussion on their regulatory agenda in the post-Enron-period. For instance, in 1998 France considered mandatory rotation with a six-year rotation period but dropped the provision in the final stages. In Germany in 1995, two years after the near collapse of the Metallgesellschaft Group, the German Central Bank promoted a five-year auditor rotation period, with little success. Instead, these countries adopted audit partner rotation as an alternative measure to enhance audit quality. Interestingly, in the case of Ireland, the Review Group on Auditing even concluded that 'the introduction of mandatory auditor rotation could undermine the effectiveness of audits' (Department of Enterprise, Trade and Employment, Ireland 2000, p. 188). Finally, there are countries that adopted mandatory rotation but implemented no enforcement mechanism, such as Israel (Catanach & Walker, 1999).

Table 1 provides a comprehensive overview of the different regulations for both mandatory audit firm rotation and mandatory audit partner rotation.

Table 1 Rotation requirement status per country

Country	Requirements on audit firm rotation	Requirements on audit partner rotation
Australia	No	Yes, since 2001
Austria	No, repealed in 2004 before even implemented	No
Bahrain	No	For financial institutions: 5 years
Bangladesh	For listed companies: 3 years	No
Bolivia	For financial institutions and listed companies	No
Belgium	Appointment for three years, which can be renewed without limitation for additional three-year periods	For listed companies, credit institutions and insurance companies: 6 years
Bosnia Herzegovina	Yes, required after five years, even though mandatory firm rotation can be postponed for two years if a new engagement partner is appointed	No
Brazil	For non-bank listed companies: 5 years For companies with statutory audit committee: 10 years	No
Bulgaria	No	Yes
Costa Rica	Required in 2005, appealed and rejected in 2006 and 2007, re-implemented in 2010	No
Canada	Abandoned in favour of lead partner rotation	Yes
China	For state-owned entities and financial institutions: 5 years	Yes
Croatia	For banks: 7 years For insurance and leasing companies: 4 years	No
Cyprus	No	Yes, 7 years
Czech Republic	Adopted between 1992 and 1995, then abandoned	Yes, 7 years
Denmark	No	Yes, 7 years
Ecuador	For financial institutions: 5 years For insurance companies: 6 years	No
Estonia	No	Yes
Finland	No	Yes, 7 years

Table 1 Rotation requirement status per country (Cont.)

Country	Requirements on audit firm rotation	Requirements on audit partner rotation
France	No	For listed companies, credit institutions and insurance companies: 6 years
Germany	No	Yes, 7 years
Greece	No, abandoned since 1994	Yes, 7 years
Hungary	No	For public interest entities: 5 years
Iceland	For financial institutions and insurance companies: 5 years	No
India	For banks and insurance companies: 4 years For provident trusts: 2 years For public sector entities: 4 or 5 years	Compulsory audit partner rotation and 50% of the audit team
Indonesia	For central bank: 5 years For public and private companies: 6 years	No
Ireland	No	Yes, 7 years Rotation for selected other personnel in addition to the key partners
Israel	Adopted in the 1970s, two three-year rotation periods for government companies, however not strictly enforced	No
Italy	For listed companies and public interest entities: 9 years	No
Japan	No	No
Latvia	Required for banks in 1998, 1999 and 2000, repealed in 2002	Yes, 7 years
Lithuania	No	For public interest entities: 5 years For other entities: 7 years
Luxemburg	No	Yes, 7 years Rotation for selected other personnel in addition to the key partners.
Macedonia	For banks and insurance companies: 5 year	No
Malaysia	No	No
Malta	No	Mandatory audit partner rotation: 7 years.
Morocco	No	For banks: 6 years For listed companies: 12 years

Table 1 Rotation requirement status per country (Cont.)

Country	Requirements on audit firm rotation	Requirements on audit partner rotation
Nepal	No	No
Netherlands	No	Yes, 7 years
New Zeeland	No	No
Oman	For listed companies, government controlled companies and private joint stock companies: 4 years	No
Pakistan	For listed companies in 2002, but was reversed in 2003-4 Currently for financial institutions and insurance companies: 5 years	No
Paraguay	For financial institutions, insurance and reinsurance companies and listed companies: 3 years	No
Peru	For government entities: 2 years	No
Philippines	Yes	No
Poland	For insurance companies: 5 years	For public interest entities: 5 years
Portugal	For listed companies: 8-9 year rotation recommended on a 'comply or explain' basis	For public interest entities: 7 years
Qatar	For banks and Qatar shareholding companies, whether listed or not: 5 years (3 years is recommended)	No
Romania	No	For public interest entities: 7 years
Saudi Arabia	For all joint stock listed companies, except for banks, and for public interest entities: 5 years For banks: upon request from the central bank	Yes
Serbia	For banks and insurance companies: 5 years 10 years allowed when combined with partner rotation	Yes
Singapore	For domestic banks in 2002. Temporarily suspended in 2008, suspension has not been lifted (2012)	For listed companies: 5 years
Slovakia	Required for banks in 1996, repealed in 2000	Yes, 5 years
Slovenia	For insurance and investment management companies: 5 years required For public companies: 5 years recommended	Yes, 7 years
South Africa	No	No

Table 1 Rotation requirement status per country (Cont).

Country	Requirements on audit firm rotation	Requirements on audit partner rotation
South Korea	Adopted in 2003 and effective for listed companies beginning in 2006, repealed in 2009	No
Spain	No, abandoned in 1995	Yes, 7 years
Sri Lanka	No	For listed companies: 5 years
Sweden	No	For listed companies, credit institutions and insurance companies: 7 years
Taiwan	No	Yes
Thailand	For banks	For listed companies: 5 years
Tunisia	For financial sector companies: two 3-year rotation periods For all listed and non-listed companies: three 3-year rotation periods for firms with fewer than three partners and five 3-year rotation periods for firms with more than three partners if audit firms have partner rotation installed	Yes
Turkey	No, abandoned in 2011 2009-2011: for banks: 8 years; for insurance companies: 7 years; for energy companies and all listed companies: 5 years, unless the company and audit firm meet certain criteria, in which case partner rotation is sufficient	Yes
Uganda	No, abolished	No
Ukraine	For banks: 7 years For national bank: 5 years	Yes
UK	No	For listed companies: 5 years
US	No	Yes
Uzbekistan	For all companies that require an audit: 6 years	No
Venezuela	For banks: 3 years beginning in 2014	No

Notes:

Table 1 provides an overview of regulations on mandatory audit firm rotation and mandatory partner rotation in different countries. Overall, the information presented is based on a best-effort research initiative. The information is not thought to be exhaustive and has not been independently verified.

Main sources:

- Vourc'h and Morand (2011)
- Deloitte (2012)
- Additional references are available from the authors upon request.

3. STAKEHOLDER PERSPECTIVES ON MANDATORY AUDIT FIRM ROTATION

A common assumption is that rotation of audit firms increases audit quality. Audit quality is defined as the auditor's ability to discover a breach in the client's accounting system combined with the auditor's willingness to report such a breach (DeAngelo, 1981; Watts & Zimmerman, 1981). Whereas the ability to discover a breach relates to the technical competence and expertise of the auditor as well as to the audit procedures and the extent of sampling, the willingness to report is determined by the auditor's independence, objectivity and professional scepticism. Independence requires 'independence in fact', defined as a state of mind that is:

- unaffected by influences that might compromise professional judgement; and
- allows an individual to act with integrity and to exercise objectivity and professional scepticism (International Federation of Accountants, 2004: 17).[2]

Hence, it is concluded that audit quality and auditor independence are closely intertwined, particularly when examined with respect to the auditor-client relationship (i.e. tenure and rotation).

Regulators

Regulators typically fear a decrease in audit quality with an increase in audit firm tenure. This decrease in quality is supposedly caused by excessive familiarity with the client's management, an eagerness to please the client and a lack of attention to detail due to staleness and redundancy (Arel *et al*., 2005), leading in turn to a decrease in independence and scepticism. As a result, mandatory rotation is frequently suggested to increase independence and professional scepticism (European Commission, 2011b; Jackson *et al*., 2008; Turner, 2002; Brody & Moscove, 1998; SEC, 1994; AICPA, 1978; U.S. Senate, 1977; Mautz & Sharaf, 1961). Further, it is argued that mandatory rotation might prevent auditors' excessive reliance on prior years' working papers (Lu & Sivaramakrishnan, 2010; Brody & Moscove, 1998). Such a fresh perspective to audit and the key judgements involved should increase audit quality (FRC, 2010). Finally, mandatory rotation might help to avoid a 'familiarity threat'. Such a familiarity threat could result in financial report assertions not being tested, since results are anticipated instead of being alert to anomalies. This could result in less rigorous audit procedures or an excessive reliance on static audit programs (Hoyle, 1978; Shockley, 1981; AICPA, 1992; Arruñada & Paz-Ares, 1997; Johnson *et al*., 2002; GAO, 2003; McLaren, 1958).

Auditors

Auditors themselves (both Big 4 and non-Big 4)[3] generally oppose mandatory audit firm rotation. For instance, PwC (2007) argues that mandatory firm rotation prevents an effective working relationship with management, audit committees and boards of directors. Furthermore, auditors fear that mandatory firm rotation heightens the risk of audit failure in the period before auditors are able to build company-specific knowledge (Grant Thornton, 2009; German Chamber of Public Accountants, 2004; FRC, 2010; Capitol Federal Financial Inc., 2011).[4] With an increase in audit tenure, the company-specific expertise allows auditors to rely even less on management and therefore become more, rather than less, independent (Solomon *et al.*, 1999).

Other negative consequences of audit firm rotation are a possible loss in attractiveness of the audit profession (KPMG LLP, 2010). For instance, auditors are afraid of an increase in uncertainty regarding audit capacity needs and where to best locate talented employees with particular skill sets. Hence, mandatory firm rotation might introduce additional problems, such as how to attract new employees as well as retaining professionals. In addition, important longer-term investments in the development of specialised knowledge will potentially be avoided. BDO Seidman (2003) even takes this a step further by arguing that mandatory firm rotation might create a disincentive for audit firms to acquire specialisation because they will not be able to target specific client segments anymore (see also Lu & Sivaramakrishnan, 2010; Catanach & Walker, 1999). Finally, PwC and Ernst & Young argue that mandatory firm rotation restricts audit firm choices and forces companies to select audit firms which do not have the same industry expertise as their current auditors (PwC 2011; Ernst & Young, 2011).

Audit clients

Audit clients have different opinions about mandatory audit firm rotation. On the one hand, some companies share auditors' concerns regarding the expertise of audit teams (Kenny, 2011). However, a survey in Egypt in 2010 found that the majority of listed companies think a sufficient number of audit firms are able to conduct audits of listed companies (Mohamed, 2010). In addition, management of some companies fear that employees might be very reserved towards new auditors, hampering the audit in general and fraud detection in particular (Stringer, 2011). Finally, given an already short engagement period, auditors might be inclined to please the company even more to avoid losing the engagement prematurely, compared to a no-rotation situation (Kimball International, Inc., 2011). On the other hand, some companies fear that given longer audit tenure, auditors lose their ability to constantly and aggressively open and reopen questions about practices of the client company (Zeff, 2003a&b; Barton, 2002).

Shareholders

Finally, there is an interesting addition to the debate from a shareholders' perspective. Namely, in the case of mandatory rotation, an investor might no longer be able to distinguish a voluntary change of the audit firm (due to, for example opinion shopping of management) from a compulsory rotation, ultimately increasing the cost of information (Bigus & Zimmermann, 2007).

4. THE IMPACT OF MANDATORY AUDIT FIRM ROTATION ON AUDIT QUALITY

From a research perspective various studies analyse the effect of mandatory audit firm rotation and/or tenure on audit quality and auditor independence. As will be shown, most analytical, experimental and survey-based studies examine rotation effects on independence, but as argued in chapter three and supported by numerous auditing researchers (for example, DeAngelo, 1981), it is suggested that auditor independence significantly influences audit quality, such that audit quality is higher if auditors are independent. The following section distinguishes between analytical, experimental, survey and archival research studies. The analytical method is usually concerned with cause-effect relationships by using mathematical modelling to investigate the relationship at a theoretical level. Experimental research uses manipulation in a controlled setting to examine causal relationships. Generally, one or more variables are manipulated to determine their effect on a dependent variable. The broad area of survey research encompasses any measurement procedures that involve asking questions to respondents. A survey can vary from a short paper-based or web-based questionnaire to an intensive one-on-one in-depth interview. Archival research uses historical data stored in an archive. Tables 2-5 provide a comprehensive overview of the studies under review.

Analytical research

Analytical research generally (see Table 2) reveals positive effects of mandatory firm rotation on auditor independence, especially in cases of high market concentration and when there is a need for very specialised audit services (Stefani, 2002). Further, the positive impact on independence exceeds the costs of mandatory rotation when there are only a few but very large audit clients in the audit market (Gietzmann & Sen, 2002). On the other hand, the model of Summer (1998) shows that auditors are less independent in short-term audit engagements than in long-term engagements, indicating that a rotation requirement might have adverse effects on auditor independence by undermining the incentives to build a reputation of honesty. In addition, Arruñada and Paz-Ares (1997) show that not only does rotation increase audit costs, but it also reduces the auditor's technical competence due to a lesser degree of specialisation and harms the auditor's independence, because a limited time horizon of the engagement does not reduce the risk of collusion. Elitzur and Falk (1996) conclude that a known and finite audit engagement period decreases audit quality over time, and the level of audit quality for the last period will be the lowest.

Table 2 Analytical research studies on rotation effects

Author/year	Sample	Results
Elitzur & Falk, 1996	UK quoted companies (1987-1994)	Irrespective of the penalty regime, the level of planned audit quality will diminish over time. It is possible to motivate the auditor to plan a higher audit quality level for the last engagement period by increasing the penalty for audit failure in that period. Such a strategy will result, however, in reduced planned audit quality levels in all periods prior to the final one.
Arruñada & Paz-Ares, 1997	n/a	Beside other findings, limiting the time horizons of the engagement does not reduce the risk of collusion.
Summer, 1998	n/a	Mandatory rotation undermines the incentives for building up a reputation for independence by destroying quasi-rents from an ongoing relation.
Stefani, 2002	n/a	Positive effects of mandatory audit firm rotation on auditor independence
Gietzmann & Sen, 2002	n/a	Positive effects on independence exceed the costs of mandatory audit firm rotation, when there are only a few but very large audit clients on the audit market.

Note:

Table 2 provides an overview of analytical research papers addressing the impact of mandatory audit firm rotation on audit quality, sorted chronologically.

Experimental research

Experimental evidence (see Table 3) on the effects of audit firm rotation on independence and ultimately audit quality varies across studies of 'independence in fact' and 'independence in appearance'. With respect to 'independence in fact', auditors compromise independence most frequently in regimes that do not require rotation (Dopuch *et al*., 2001). In the presence of mandatory rotation, auditors adopt less cooperative negotiation strategies with the client, potentially leading to outcomes that are more in line with the auditor's preferences (Wang and Tuttle, 2009). Auditors are more likely to modify their audit report in response to a disagreement with the client when they are in the last year before rotation, compared to a situation in which a continuing relationship is expected (Arel *et al*., 2006). However, while rotation leads to greater proposed audit adjustments, it does not fully eliminate the effects of client pressure (Hatfield *et al*., 2006).

Some argue that lack of 'independence in appearance' is enough to undermine confidence in the audit and financial reporting, and potentially leads to destabilisation of markets (Fearnley & Beattie 2004: 121). The effect of audit firm rotation on 'independence in appearance' depends on the background of the participants. In

the opinion of judges, MBA students and law students, audit firm rotation strengthens independence perceptions even more than audit partner rotation (Moody *et al*., 2006; Gates *et al*., 2007). Interestingly, Kaplan and Mauldin (2008) found that non-professional investors' independence perceptions were equally high for both partner and firm rotation. In conclusion, experimental evidence suggests that mandatory audit firm generally strengthens independence both in fact and in appearance and therefore should also increase audit quality, even though it is unclear whether this effect is superior to audit partner rotation.

Table 3 Experimental research studies on rotation effects

Author/year	Sample	Results
Dopuch, King & Schwartz, 2001	USA, 144 managers and auditors	Subjects are more likely to issue unbiased reports when mandatory rotation is imposed.
Hatfield, Jackson & Vandervelde, 2006	USA, 155 CPAs	Neither partner rotation nor firm rotation may eliminate the effects of client pressure. Further, audit partner rotation may produce many of the benefits of audit firm rotation without the attendant costs.
Moody, Pany & Reckers, 2006	USA, 49 judges	Mandatory audit firm rotation enhances auditor independence perceptions compared to partner rotation. Further, judges consider auditors less likely to be liable for fraudulently misstated financial statements when firm rotation is involved in a minimally compliant corporate governance environment.
Arel, Brody & Pany, 2006	USA, 105 CPAs	Auditors in the rotation condition are more likely to modify their audit report as opposed to those in a situation where a continuing relationship is expected.
Gates, Lowe & Reckers, 2007	USA, 79 MBA-students	Audit firm rotation incrementally influenced individual's confidence in financial statements, whereas audit partner rotation did not have a similar effect.
Kaplan & Mauldin, 2008	USA, 163 MBA-students as non-professional investors	Compared to audit partner rotation, audit firm rotation does not strengthen 'independence in appearance' among non-professional investors.
Wang & Tuttle, 2009	USA, 54 graduate business students taking the role of auditor and manager	Mandatory rotation auditors adopt less cooperative negotiation strategies, producing asset values that are more in line with the auditor's preferences than with the client's preferences and more negotiation impasses.

Note:

Table 3 provides an overview of experimental research papers addressing the impact of mandatory audit firm rotation on audit quality and auditor independence, sorted chronologically.

Survey and interview-based research

Survey and interview evidence (see Table 4) among companies subject to statutory audits shows that the likelihood of a substandard quality audit increases with the length of the auditor-client relationship (Copley & Doucet, 1993). On the other hand, clients with short

audit tenures believe they can persuade their position in case of a disagreement (Iyer & Rama, 2004). O'Leary and Radich (1996) found that the majority of auditors and publicly listed companies were against mandatory audit firm rotation due to a misbalance of costs and benefits. However, when considering perceptions of auditor independence a significant number of the same respondents consider mandatory audit firm rotation a useful way to improve the perception of independence. In reference to a study by SDA Bocconi School of Management in 2002, Cameran *et al*. (2005) even argue that mandatory audit firm rotation produces positive effects on perceived independence, whereas the impact on 'independence in fact' is negative. Further, a survey among finance directors in the UK reveals that the costs related to mandatory audit firm rotation might be higher than the related benefits of such regulations (Hussey & Lan, 2001). Overall, results about the projected effects of mandatory audit firm rotation on 'independence in fact' and hence on audit quality are inconsistent, and a positive effect on 'independence in appearance' might be very costly.

Table 4 Survey research studies on rotation effects

Author/year	Sample	Results
Copley & Doucet, 1993	USA, 136 companies	The likelihood of receiving a substandard quality audit increases with the length of the auditor-client relationship.
O'Leary & Radich, 1996	Australia, 300 companies, 180 audit partners	97% of the auditors and 87% of the public listed companies were against mandatory audit firm rotation due to misbalance of costs and benefits. However, focusing on the perception 63% of public listed companies and 37% of auditors consider mandatory audit firm rotation as a useful means of improving the perception of independence.
Hussey & Lan, 2001	UK, 776 CFOs	The perception of audit independence would be enhanced by prescribing the rotation of auditors even if the concerns about audit quality and costs are predominant and overall opinion on the rotation rule is negative.
Cameron *et al*. (2005) referring to SDA Bocconi School of Management, 2002	Italy, managers, internal auditors, auditors and managerial accountants	Mandatory auditor rotation results in positive effects on perceived independence but the impact on effective independence is negative.
Iyer & Rama, 2004	USA, 124 CPAs employed as CFO or CEO, controller or treasurer in industry of AICPA	Respondents with short audit tenures were more likely to indicate that they could persuade the client's position in case of disagreement.
Ebimobowei & Keretu, 2011	Nigeria, 172 auditors and investors	Mandatory audit firm rotation increases the quality of audit reports as well as the independence of auditors, even though also the audit costs increase.

Note:

Table 4 provides an overview of survey-based research papers addressing the impact of mandatory audit firm rotation on audit quality, sorted chronologically.

Archival research

Numerous archival studies (see Table 5) investigate the effect of audit firm rotation on audit quality and typically use four different types of proxies to measure audit quality. First, some studies use 'audit opinions' to proxy for audit quality, where the issuance of a 'qualified opinion' could be equated to high audit quality. Overall findings indicate a decrease of the likelihood of issuing a qualified audit opinion over the length of the auditor-client-relationship (Vanstraelen, 2000; Levinthal & Fichmann, 1988), suggesting the possibility that auditors become less independent over the course of tenure, a phenomenon potentially cured by mandatory firm rotation.

Second, some studies use the issuance of a 'going-concern opinion' as a proxy for audit quality, where again, such an issuance could indicate a high-quality audit. With few exceptions (Carey & Simnett, 2006), these studies conclude that audit tenure has no positive impact on the likelihood of issuing a going-concern opinion (Jackson *et al*., 2008; Ruiz-Barbadillo *et al*., 2009; Knechel & Vanstraelen, 2007). However, there is some evidence of more audit reporting failures during the initial years of engagement as compared to later years (Geiger and Raghunanda, 2002), suggesting potentially adverse effects of rotation.

Third, the studies on the effect of tenure on outright 'audit failures' address cases in which auditors conclude that the financial statements are fairly stated even though this turns out not to have been the case. In these occurrences, the quality of the audit is arguably very low. Related studies find that audit failures most frequently occur in the early years of the engagement period (Walker *et al*., 2001; Carcello & Neal, 2000; Raghunathan *et al*., 1994; Stice, 1991; St. Pierre & Anderson, 1984). However, Nashwa (2004) observes that the likelihood of audit failures again increases after seven years of tenure, whereas Raghunathan *et al*. (1994) note a re-increase of audit failures after the fifth year of engagement.

Fourth and most predominantly, numerous archival studies proxy audit quality by measuring the 'client's accrual accounting behaviour', which is the difference between the cash flow and the accruals-based income statement. The proposition is that the higher the proportion of unreasonable accruals (so-called discretionary accruals), the more likely the company has managed earnings which might form a departure from the neutral application of the applicable reporting framework. These studies assume that high-quality audits should mitigate more extreme management accounting decisions and therefore evoke lower discretionary accruals. Overall, familiarity (as proxied by length of tenure) seems to help to produce earnings of higher quality, which better incorporate the economic performance of a firm (for example, Johnson *et al*., 2002; Chen *et al*., 2008; Myers *et al*., 2003). Some, but not all, studies observe a cut-off point in the auditor-client relationship after some time. Chi and Huang (2005) find such a cut-off after five years of audit tenure, findings by Davis

et al. (2009) suggest an increase in discretionary accruals after 13 to 15 years and Manry *et al*. (2008) note a cut-off after seven years, but only for small clients. However, neither Johnson *et al*. (2002) nor Jenkins and Velury (2008) find evidence of reduced financial-reporting quality or a decrease in conservatism for longer audit-firm tenures.

When investigating rotation effects, voluntary firm rotation should be distinguished from mandatory firm rotation. DeFond and Subramanyam (1998) examine voluntary auditor switches and find that discretionary accruals are income decreasing during the last year with the predecessor auditor and generally insignificant during the first year with the successor, suggesting beneficial effects of voluntary rotation. In the Italian mandatory audit firm rotation environment, the highest level of earnings management is found in periods after a mandatory rotation (Cameran *et al*., 2008), whereas a voluntary change improves earnings quality. On the other hand, Kim *et al*. (2004) find in a Korean setting that the level of discretionary accruals is significantly lower for firms with designated auditors than for firms that voluntarily select their auditors. This is also supported by Chung (2004), who examines a mandatory rotation regime and finds a decrease in the discretionary accruals of firms that meet the rotation requirement.

Following the forced change from Arthur Andersen to another auditor, smaller ex-Arthur Andersen clients experienced a significant decrease in discretionary accruals, while non-Arthur Andersen clients did not (Nagy, 2005). Consistently, Cahan & Zhang (2006) found that in the year following rotation, ex-Arthur Andersen clients had lower levels of and larger decreases in abnormal accruals. However, focusing on ex-Arthur Andersen clients with extreme discretionary accruals, switching to a different auditor did not significantly improve financial reporting quality (Blouin *et al*., 2007).

Remaining studies use miscellaneous other proxies for audit quality.[5] An evaluation of the 'inspection reports of the PCAOB' by Gunny *et al*. (2007) shows that an auditor's industry expertise is more important than auditor tenure for mitigating deficiencies. By analysing SEC Accounting and Auditing Enforcement Releases, Carcello and Nagy (2004) find that fraudulent financial reporting is more likely to occur in the first three years, whereas there is no significant positive relationship between long audit tenure and fraud. Using the likelihood of restatement and non-audit fees as proxies for audit quality, Stanley and DeZoort (2007) corroborate the previously discussed finding that audit quality increases with tenure, but they do not observe a decrease after long tenure. O'Keefe *et al*. (1994) point out that the number of hours performed is not systematically correlated with the years an audit has been performed, suggesting that audit quality, measured by number of hours, is not affected by auditor tenure. On the other hand, Deis and Giroux (1996) use quality control reviews as a proxy for audit quality and find a negative relationship between audit quality and the length of tenure.

In summary, the findings of archival studies are mixed, but overall, there is limited evidence to suggest beneficial effects of mandatory rotation:

- Empirical studies on the likelihood of issuing going-concern opinions suggest an erosion of audit quality with tenure, whereas mandatory rotation has no beneficial effect.
- With respect to audit failure, longer audit tenure appears to be beneficial for audit quality, as audit failures are more likely to occur in the early years of the engagement period. Hence, mandatory rotation might disrupt such positive developments.
- Findings related to the client's accrual behaviour are inconsistent, but most research finds a positive effect of tenure in the first years of engagement. In addition, some, but not all, studies conclude that audit tenure affects audit quality negatively after an excessive tenure period.

Table 5 Archival research studies on rotation effects

Author/year	Sample	Proxy(ies) for audit quality	Results
St. Pierre & Anderson, 1984	USA, 129 litigation cases (1960-1973)	Audit failures	30 of the 129 cases analysed involved auditors with less than three years of experience with the client.
Levinthal & Fichman, 1988	USA, 2,388 companies in the COMPUSTAT (1983)	Audit opinions	The likelihood of a qualified opinion increases just after the initial period, but decreases in continuing relationships.
Stice, 1991	USA, 49 litigation cases (1960-1985)	Audit failures	Audit failures are more likely to occur with short audit firm tenures.
Raghunathan, Lewis & Evans, 1994	USA, 81 cases of audit failures	Audit failures	Audit failures are likely to occur in either the first year of after the fifth year of engagement.
O' Keefe, Simunic & Stein, 1994	USA, 249 audit engagements	Hours performed by auditors	The numbers of hours performed is not systematically correlated with the years an audit has been performed.
Deis & Giroux, 1996	USA, 308 quality control reviews (1984-89)	External quality controls	Negative relationship between audit quality and the length of the auditor-client relationship.
DeFond & Subramanyam, 1998	USA, 503 companies changing auditors (1990-1993)	Client's accrual accounting behaviour	Discretionary accruals are income decreasing during the last year with the predecessor auditor and generally insignificant during the first year with the successor.
Carcello & Neal, 2000	USA, companies cited for fraudulent reporting (1990-2001)	Audit failures	Audit failures are more likely to occur with short audit firm tenures.

Table 5 Archival research studies on rotation effects (Cont.)

Author/year	Sample	Proxy(ies) for audit quality	Results
Vanstraelen, 2000	Belgian, companies submitted to the Belgian National Bank (1992-1996)	Audit opinions	Long-term auditor-client relationships significantly increase the likelihood of an unqualified opinion or significantly reduce the auditor's willingness to qualify audit reports. Further, auditors are more willing to issue an unqualified audit report in the first two years of their mandate than in the last year of their mandate.
Walker, Lewis & Casterella, 2001	USA, 110 companies failed (1980-1991)	Audit failures	The risk of audit failures increases early on in the audit client relationship and then declines over long-term periods.
Geiger & Raghunandan, 2002	USA, 117 companies that filed for bankruptcy (1996- 1998)	Going-concern opinions	Auditors are less likely to issue a going-concern opinion during the initial years of engagement but not in later years.
Hackenbrack & Hogan, 2002*	802 auditor changes (1991-1997)	Effects of earnings announcements after rotation	The average price response per unit of earnings surprise due to earnings announcements is lower subsequent to an auditor change for companies that switched for disagreement-related or fee-related reasons and higher for those that switched for service-related reasons.
Cammack, 2002*	USA, 73 fraud cases after 1995	Detected fraud cases	The companies in fraud cases change auditors more often and engage industry specialist audit firms less often.
Johnson, Khurana & Reynolds, 2002	USA, companies audited by a Big 6 (1986-1995)	Client's accrual accounting behaviour	Short audit tenures are correlated with lower-quality financial reports. However, there is no evidence of reduced financial-reporting quality for longer audit tenures.
Myers, Myers & Omer, 2003	USA, all companies in Compustat (1998 to 2000)	Client's accrual accounting behaviour	Higher earnings quality is correlated with longer auditor tenure.
Chung, 2004	South Korea, publicly held companies listed on the South Korea Stock Exchange (1985-1989,1991-1995)	Client's accrual accounting behaviour	Discretionary accruals by companies that fulfil the rotation requirement decrease after the passage to a mandatory rotation regime.
Nashwa, 2004	USA, 90 large public companies audited by large CPA firms between1996 to 2001	Audit failures	The audit failures occur most often in the first three years of the engagement and after an engagement period of seven years or longer.

Table 5 Archival research studies on rotation effects (Cont.)

Author/year	Sample	Proxy(ies) for audit quality	Results
Kim, Min & Yi, 2004	South Korea, 752 company-year observations with designated auditors and 2,784 company-year observations with non-designated auditors (1991-2000)	Client's accrual accounting behaviour	The level of discretionary accruals is significantly lower for companies with designated auditors than companies that freely select their auditors, suggesting that auditor designation improves the independence of designated auditors.
Carcello & Nagy, 2004	USA, 267 companies alleging a violation of Section 10(b)-5 (1990-2001)	SEC Accounting and Auditing Enforcement Releases	Fraudulent financial reporting is more likely to occur in the first three years, whereas there is no significant positive relationship between long auditor tenure and fraud.
Chi & Huang, 2005	Taiwan, listed companies (1998 to 2001)	Client's accrual accounting behaviour	Familiarity helps to produce higher earnings quality, but excessive familiarity results in lower earnings quality. The cut-off point of positive and negative effects of familiarity is around five years.
Nagy, 2005	USA, all the companies listed on Research Insight (2000-2003)	Client's accrual accounting behaviour	Following the forced change from Arthur Andersen (AA), there was a significant decrease in discretionary accruals for ex-AA clients, but only for smaller companies. In general, there was an overall decline in discretionary accruals following the failure of AA.
Carey & Simnett, 2006	Australia, 1,021 listed companies (1995)	Going-concern opinions, abnormal working capital accruals, earnings benchmarks	For long tenure observations there is a lower propensity to issue a going-concern opinion and some evidence of just beating (missing) earnings benchmarks. There is no evidence of an association of long audit tenure with abnormal working capital accruals.
Cahan & Zhang, 2006	USA, 368 companies audited by Arthur Andersen in 2001 and audited by one of the Big 4 in 2002	Client's accrual accounting behaviour	In the year after rotation, ex-Andersen clients had lower levels of and larger decreases in abnormal accruals.
Knechel & Vanstraelen, 2007	Belgium, 618 audit reports of private, stressed bankrupt companies	Going-concern opinions	Auditors do not become less independent over time nor do they become better at predicting bankruptcy.

Table 5 Archival research studies on rotation effects (Cont.)

Author/year	Sample	Proxy(ies) for audit quality	Results
Blouin, Grain & Rountree, 2007	USA, 407 former clients being audited by of Arthur Andersen in 2001	Client's accrual accounting behaviour	No significant improvements for companies with extreme discretionary accruals that switched to another auditor.
Gunny, Krishnan & Zhang, 2007	USA, 631 client-observations and 137 non-Big 4 auditors covering PCAOB inspections (2005-2007)	Inspection reports of the PCAOB	Auditor industry expertise is more important than auditor tenure for mitigating deficiencies.
Stanley & DeZoort, 2007	USA, 382 companies with and without financial restatements (2000–2004)	Likelihood of restatement Non-audit fees	Findings suggest reduced audit quality in cases of short tenure, and an increase with tenure. However, results indicate no decrease in audit quality after long tenure.
Jackson, Moldrich & Roebuck, 2008	Australia, auditor switches for listed companies (1995-2003)	Going-concern opinions, discretionary expenses	Audit quality increases with audit firm tenure, when proxied by the propensity to issue a going-concern opinion, and is unaffected when proxied by the level of discretionary expenses.
Manry, Mock & Turner, 2008*	Two years of data from audits of 202 clients conducted by three audit firms (1999-2000; 2000-2001)	Client's accrual accounting behaviour	Only for small clients with partner tenure of greater than seven years, audit partner tenure is significantly and negatively associated with estimated discretionary accruals
Cameran, Prencipe & Trompetta, 2008	Italy, non-financial, listed Italian companies (1985-2004)	Client's accrual accounting behaviour	Generally, audit quality improves over time. In detail, in a mandatory rotation setting, a voluntary change of the auditor tends to improve audit quality while a mandatory change tends to hamper audit quality.
Chen, Lin & Lin, 2008	Taiwan, nonfinancial companies included in the Taiwan Economic Journal database (1990-2001)	Client's accrual accounting behaviour	Absolute and positive values of discretionary accruals decrease significantly with audit partner tenure. After controlling for partner tenure, absolute discretionary accruals decrease significantly with audit firm tenure.
Jenkins & Velury, 2008	USA, 86,914 company-year observations (1980-2004)	Client's accrual accounting behaviour in terms of conservatism	An increase in conservatism between short and medium tenure and no change in conservatism between medium and long tenure.

Table 5 Archival research studies on rotation effects (Cont.)

Author/year	Sample	Proxy(ies) for audit quality	Results
Ruiz-Barbadillo, Gómez-Aguilar & Carrera, 2009	Spain, 1,199 non-financial, listed but financially stressed company-years (1991–2000)	Going-concern opinions	The market appears to be enforcing auditor independence, since the auditor is very aware of the potential loss of reputation if it is discovered delivering a more favourable report than the company really deserves.
Davis, Soo & Trompeter, 2009	USA, 23,748 company-year observations (1988-2006)	Client's accrual accounting behaviour in conjunction with forecasts	Companies with 2-3 and 13-15 years of tenure are more likely to report levels of discretionary accruals that allow them to meet or beat earnings forecasts.

Notes:

Table 5 provides an overview of archival-based research papers addressing the impact of mandatory audit firm rotation on audit quality, sorted chronologically then by each proxy.

* Study reviewed for comprehensive coverage of existing research but not referred to in the text.

5. THE IMPACT OF MANDATORY AUDIT FIRM ROTATION ON COSTS, BENEFITS AND MARKET COMPETITION

Costs and benefits

Regulators are in agreement about the general cost drivers of mandatory audit firm rotation, such as set-up costs of the new auditors to understand the client's business model and organisational structure, as well as costs of the client's management to support the new auditors in these learning procedures (PCAOB, 2011; European Commission, 2011a). This conjecture is confirmed by South Korean research examining mandatory audit firm rotation (Kwon *et al.*, 2010). The PCAOB currently discusses cost increases of 20% of the audit costs due to audit firm rotation. At the same time, rotations are often used for negotiating lower average costs per hour of audit work, as shown in the Italian mandatory audit firm rotation environment (Barton, 2002). Such price competition and the subsequent downward pressure on audit fees are particularly feared by auditors (KPMG International, 2010; IDW, 2012b; Ernst & Young, 2011). Meanwhile, investors have repeatedly expressed willingness to bear some added costs if the result is a better audit (CFA, 2011). For instance, prior studies document that investors pay a larger premium for 'high-quality' earnings, assuming that those earnings are sustainable (Schipper & Vincent, 2003; Teoh & Wong, 1993). Focusing on audit clients, 38% of Certified Public Accountants and 65% of the Fortune 1000 company survey respondents acknowledged that investor perceptions of auditor independence would increase under mandatory audit firm rotation, even though the costs of mandatory audit firm rotation would ultimately exceed the benefits (United States General Accounting Office, 2003 and 2004).

Regulators in particular expect positive financial market reactions due to increased audit quality and positive perceptions of 'independence in appearance' (European Commission, 2011b; Dopuch *et al.*, 2003; Shockley, 1981; Elliot, 2000). More specifically, regulators argue that the costs of mandatory audit firm rotation will be significantly less than the costs endured by investors losing confidence in financial statements (Conference Board Commission, 2003). Overall, regulators assume that mandatory audit firm rotation might prevent large-scale corporate collapses (Jackson *et al.*, 2008) and damages to audit firms. This is based on the assumption that a loss of reputation due to audit failures may significantly reduce the present value of future revenue streams from both audit and non-audit services (Krishnan & Krishnan, 1996). Aside from the proposed positive effect on audit quality, rotation might also strengthen the reliability of financial information, which in turn should directly reduce costs of capital (for example, in a general context of costs of capital, Jensen & Meckling, 1976; Watts & Zimmerman, 1986).

Table 6 summarises archival studies examining costs and benefits of mandatory audit firm rotation.[6] Archival research generally supports a negative impact of audit firm tenure

on the cost of companies' capital (Azizkhani *et al*., 2010). Mansi *et al*. (2004) find that companies with audit firms of long tenure receive better bond ratings; hence mandatory rotation could have adverse effects on the cost of capital. A positive relationship between tenure and investor perceptions of earnings quality is reported by Ghosh & Moon (2005). They show that the influence of reported earnings on stock rankings increases with extended tenure, although the association between debt ratings and reported earnings does not vary with tenure. In contrast, Boone *et al*. (2008) find that the equity risk premium decreases in the early years of tenure even though it increases with additional years of tenure.

Table 6 Research studies on costs and benefits of rotation

Author/year	Method	Sample	Proxy(ies) for costs	Results
Barton, 2002	Narrative	Italy	Audit fees	For being selected or kept as auditor, Italian firms are lowering their fees.
Mansi, Maxwell & Miller, 2003	Archival	USA, 8,529 company-year observations (1974-1998)	Cost of debt financing	Companies with auditors of long tenure receive a better rating on their bonds. Further, investors place a premium on the bonds of companies, which have large auditors.
United States General Accounting Office, 2003 & 2004	Survey	USA, 97 public accounting firms with at least 10 SEC clients and 330 of the Fortune 1000 public companies randomly selected	Audit fees	Initial year audit costs under mandatory audit firm rotation would increase by more than 20% combined auditor selection costs and additional auditor support costs totalling at least 17% of initial year audit fees.
Ghosh & Moon, 2005	Archival	USA, 38,794 company-year observations (1990-2001)	Stock ranking, bond ranking and expected earnings per share	There is a positive association between investor perceptions of earnings quality and tenure. Further, the influence of reported earnings on stock rankings becomes larger with extended tenure, although the association between debt ratings and reported earnings does not vary with tenure. Finally, the influence of past earnings on one-year-ahead earnings forecasts becomes greater as tenure increases.
Boone, Khurana & Raman, 2008	Archival	USA, 12,493 company-year observations (1993-2001)	Equity risk premium	The equity risk premium decreases in the early years of tenure but increases with additional years of tenure.

Table 6 Research studies on costs and benefits of rotation (Cont.)

Author/year	Method	Sample	Proxy(ies) for costs	Results
Azizkhani, Monroe & Shailer, 2010	Archival	Australia, 2,033 company-year observations (1995-2005)	Cost of equity capital	Audit firm tenure is significantly associated with lower ex-ante cost of equity capital, but only for non-Big 4 audit firms for the years 1995-2005. However, for the periods 2001-2002 and 2003-2005, audit firm tenure and engagement partner tenure are not significantly associated with ex-ante cost of equity capital.
Kwon, Kim & Simnett, 2010	Archival	South Korea, 12,463 company-year observations (2000-2007)	Audit hours, audit fees	Since 2006 MAFR is required in South Korea, showing that audit hours as well as audit fees increased, whereas audit quality (measured as abnormal discretionary accruals) remained unchanged or decreased slightly.

Notes:

Table 6 provides an overview of research papers addressing the impact of mandatory audit firm rotation on costs and benefits, sorted chronologically.

*Study reviewed for comprehensive coverage of existing research but not referred to in the text.

Overall, findings are inconclusive with respect to the trade-off between costs and benefits. However, countries such as Canada, Spain and Uganda have abolished mandatory audit firm rotation because of the lack of cost-effectiveness, (GAO, 2003; GAO 2003; Institute of Certified Public Accountants of Uganda 2010).

Market competition

In 2010, 99% of the FTSE 100 audit fees were paid to Big 4 auditors in the UK (98% of FTSE 250 audit fees); PwC alone accounts for almost 50% of these fees (for example, OFT 2011). Not surprisingly, audit firm rotation is often discussed with respect to its effects on market competition (European Commission, 2011b). The argument is that mandatory firm rotation might provide smaller audit firms the opportunity to grow (Mamat, 2006). However, it is equally likely that mandatory firm rotation will lead to higher market concentration because large corporations tend to choose one of the Big 4 auditors when switching their audit firm (for example, European Commission, 2011b; DBV, 2010). Conclusively, small audit firms might suffer from mandatory audit firm rotation.

Because of the internationally focused organisational structures of many companies requiring a financial statement audit, there are substantial barriers for smaller audit firms to enter the audit market (for example, Beattie *et al*., 2003; Véron, 2007). Furthermore, mandatory audit firm switches might be restricted to larger audit firms, since audit

committees may perceive that medium-sized audit firms lack the necessary resources and expertise to deal with frequent rotations (for example, IDW, 2012a; Federation of European Accountants, 2011; BDO, 2010, 20; Grant Thornton, 2009; Grant Thornton, 2011; BDO, 2011). This notion is also supported by survey findings from Egypt (Mohamed, 2010), indicating that 83% of listed companies believe that the audit firm should be a Big 4 firm. Empirical observations of mandatory audit firm rotation in South Korea (for example, Kwon *et al*., 2010) and in Italy (BDO, 2010; Mazars, 2011; Jackson *et al*., 2008) further support these concerns.

The experiences in Italy highlight that rotation does not increase competition because audit clients often pre-negotiate the rotation of audit firms, although rotation should be random (Anonymous, 2002). Similarly, Bahrain took a position against mandatory audit firm rotation fearing that small markets are distorted by such requirements (Al-Ajmi, 2009). Canada and Spain implemented mandatory audit firm rotation to enhance competition in the audit market, but eventually abolished the regulation due to a mismatch between costs and benefits and because the objective of increased competition had been achieved by means of the rotation exercise (GAO, 2003).

6. CONCLUSION AND RECOMMENDATIONS

Summary

In this report, the expected and observed effects of mandatory audit firm rotation are examined, both from a stakeholder and research perspective. First, the cross-country comparison reveals that there are mixed international experiences with mandatory audit firm rotation. For instance, Australia is currently debating a pilot program to obtain sufficient empirical data to arrive at a satisfactory conclusion (CPA Australia, 2011). Countries, such as Canada, have in the past adopted mandatory audit firm rotation only for a short period of time to increase competition for audit services (GAO, 2003). In India, compulsory rotation of the audit partner and 50% of the audit team is required, whereas in Portugal an eight to nine-year rotation on a 'comply or explain' basis for listed companies is recommended. Slovenian companies have the choice to either conduct a five-year partner or firm rotation. In Belgium, an auditor is appointed for a term of three years and cannot be dismissed within this period. The mandate can be renewed after three years. In Bosnia Herzegovina rotation is required after five years, even though mandatory firm rotation can be postponed for two years if a new engagement partner is appointed. In countries, such as Germany and the Netherlands, audit partner rotation instead of firm rotation is mandated. This alternative, however, is not convincing for the European Commission, since the problem of client retention still exists and the new audit partner might not be willing to criticise the work of his/her colleague (European Commission, 2011b; Jackson *et al.*, 2008).

Stakeholders' views on the topic of mandatory audit firm rotation vary widely. First, regulators argue that rotation on a regular basis could release the auditor from independence threats, which supposedly worsen as the length of the auditor-client relationship increases. However, auditors caution about the loss in client-specific expertise, attractiveness of the audit profession and a steep cost increase. While shareholders are generally willing to pay a premium to receive higher quality financial information, they fear that in case of mandatory rotation, an investor would no longer be able to distinguish a voluntary switch from one which is compulsory, and this might increase the cost of information.

This comprehensive research review on the topic suggests that rotation can have both positive and negative consequences, largely depending on the method and proxy for audit quality and/or independence used. For instance, most archival research supports the notion of a loss in client-specific expertise in the early years of engagement. As tenure increases, the auditor gains expertise and audit quality improves. There are only a few archival studies which suggest that excessive tenure would lead to a reduction in audit quality, providing limited evidence that rotation would have overall beneficial effects. However, another perspective is how outsiders (for example, investors and shareholders) perceive

(the quality delivered by) the auditor, and research in this area largely supports a positive effect of rotation on 'independence in appearance'. Finally, while there has been extensive discussion on the impact of rotation on costs and market concentration, empirical evidence in this area is scarce.

Taken as a whole, while most research measuring proxies of 'independence in fact' and audit quality suggests no or even negative effects of rotation (due to the reduction in client-specific expertise), research on perceptions reveals that rotation can have beneficial effects on the extent to which financial statement users' view the auditor as more independent. Both perspectives are important.

Limitations of reviewed research

A research review relies on previously published research and merely provides an overview of the major findings. Further, given the varying individual characteristics of individual regulatory environments, research findings cannot easily be generalised to other countries/contexts. Further, it is important to emphasise a number of methodological limitations, which should be considered when interpreting the reviewed studies:

- *Analytical and experimental research:* This has the advantage that casual relationships can be ascertained (internal validity) but often lacks generalisability to other contexts (external validity).
- *Archival studies*: If the status quo has already changed, the relevance of the data and findings may be reduced. This is especially crucial in cases where the archival study is relatively old.
- *Surveys*: Responses typically depend on the way the questions were formulated and on the subjects being asked. Answers of subjects can be biased by personal motives and experiences.
- *Costs and benefits* are hard to quantify; consider for example the opportunity costs of a market crash. Further, beside direct costs, such as audit fees, there are also indirect costs (for example, a client's effort to introducing a new auditor to the company's organisational structure) which should be considered.
- *Audit quality and auditor independence* are extremely difficult to measure. The measures used in research are only proxies of the real constructs and hence, provide limited insight into actual relationships.
- *Tenure versus rotation and voluntary versus mandatory rotation*: Many of the reviewed archival studies examine tenure effects rather than rotation effects, and voluntary switches rather than mandatory rotation. Hence, conclusions with respect to the effects of mandatory rotation of audit firms should be drawn with caution.

Recommendations

First and foremost, regulators, professional bodies and academics should continue to learn from countries which have implemented mandatory rotation in the past (for example, Canada). The experiences and reasons as to why the requirement was abolished are so far not well documented, even though these countries might be able to provide valuable input to the on-going debate. From a research perspective, a case study approach might be a valuable contribution to the literature.

Further, in terms of research recommendations, it is recommended that more extensive empirical research on the effects of mandatory rotation on audit quality is undertaken. Given that most prior archival research is concerned with auditor tenure and/or voluntary switches, it is in many cases difficult to generalise and apply the results to mandatory audit firm rotation. In addition there are problems with the use of proxies to measure audit quality in many of the studies.

Also, from an international (or at least EU) perspective, any compulsory rotation periods should be coordinated to avoid the situation where country-specific requirements add even more complexity for foreign subsidiaries.

Given the potentially detrimental effects of rotation on costs, market concentration, client-specific expertise and the working relationship between auditor and client, it is suggested that alternative proposals to solve the problem of auditor independence should be discussed on an international platform. These discussions should include all relevant parties. Also, research should attempt to evaluate initiatives already implemented (for example, partner-level rotation), to be able to conclude whether more radical interventions are indeed necessary. It is questionable whether audit firm rotation should be governed by a legislative process or whether it should be left to the audited companies to signal strong corporate governance by changing auditors after a specific time period.

If mandatory audit firm rotation is implemented, the rotation period should be determined with great care, given the delicate trade-off between client-specific knowledge on the one hand and independence-related issues on the other hand. In this context, one should consider the research finding that audit quality tends to be very low in the first three years of the engagement, suggesting that three years at a minimum are needed for an audit firm to achieve adequate knowledge of the audited entity (European Commission, 2011b).

Finally, when evaluating the pros and cons of rotation, it is important to distinguish between auditor 'independence in fact' and 'in appearance'. While rotation effects on 'independence in fact' (and other important results of rotation such as cost, audit quality and market concentration effects) are generally not significant or even negative, the evidence suggests that rotation would lead to a positive impact on auditor 'independence in appearance' which may in turn lead to positive reputation effects for the auditor.

Given the lack of available evidence, regulators need to carefully determine the long-term objectives of a mandatory rotation requirement before implementing a costly measure.

ENDNOTES

1 An exception is Italy, which introduced mandatory audit firm rotation in 1974.

2 In some cases, frameworks use the phrase 'independence in mind' when referring to 'independence in fact', and the term 'objectivity' is often defined as 'independence' (European Commission, 2002). For the purposes of many regulatory frameworks, independence is often described from two perspectives: 'independence in fact' and 'independence in mind'. The second relevant concept, 'independence in appearance' is defined as the avoidance of significant facts and/or circumstances that would cause a rational and informed third party to reasonably conclude that a firm's (or a member of the assurance team's) integrity, objectivity or professional scepticism has been compromised (International Federation of Accountants, 2004: 17). Depending on the perspective taken, research measures capture independence either in fact or in appearance. Particularly for the practical perspective, 'independence in appearance' is important because other parties' perceptions of the auditor's independence are investigated.

3 The following four audit firms are typically subsumed under the Big 4: Deloitte Touche Tohmatsu Limited, Ernst & Young, KPMG (Klynveld Peat Marwick Goerdeler), PricewaterhouseCoopers International Limited (PwC).

4 The following research articles refer to the same or a similar view: Johnson *et al*. (2002); Beck *et al*. (1988); Hoyle (1978); Knapp (1991); Solomon *et al*. (1999); Geiger & Raghunandan (2002).

5 For reasons of brevity some of the miscellaneous studies are not discussed in the text. Please refer to Table 5, for a comprehensive overview.

6 This section refers to some studies that are not reviewed in Table 6. These studies are either not academic (for example, KPMG International, 2010) or they are concerned with generic aspects of agency theory (for example, Jensen & Meckling, 1976), explaining the potential long-term effect of rotation on costs versus benefits.

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ABOUT SATER

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SATER's objective is to promote research into, and education of, accountancy, finance and management together with all subjects in any way related. In fulfilling its charitable objectives, it also seeks to provide public benefit by making grants for research projects which result in reliable evidence for use in the development of policy – by professional bodies, standard setters, regulators or governments.

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Further details about SATER and the ICAS research programme can be found from the SATER and ICAS websites: scottishaccountancytrust.org.uk/research.html and icas.org.uk/research.

David Spence
Chairman of SATER
December 2012

The global banking crisis brought to the fore questions surrounding the scope and quality of the external audit, market concentration and auditor independence. One of the issues currently being considered by the European Commission and European Parliament is mandatory audit firm rotation. ICAS believes that policy decisions should be based on independent evidence and therefore commissioned this literature review on audit firm rotation to serve as a sound platform for policy making and future research.

The aim of this review is to identify, consider and evaluate the existing evidence on mandatory audit firm rotation to inform future policy making, highlight any deficiencies in the existing literature, identify opportunities for further research and make recommendations for policy makers.

The review covers research from the major international markets and jurisdictions with experience of mandatory audit firm rotation. Issues considered include the impact, if any, of mandatory audit firm rotation on: audit quality, auditor independence, audit costs and audit market concentration. The study also includes a summary of the experiences of countries that have previously adopted a policy of mandatory audit firm rotation.

This study finds that the existing evidence on the impact that mandatory audit firm rotation has had on audit quality and auditor independence is inconclusive. The review highlights the need for more research looking at the implications of measures designed to improve audit quality and market concentration and a need to consider how audit quality can be measured by means other than the use of existing proxies. The study concludes with recommendations for policy makers.

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