Chapter 1

Introduction

1.1 Statement of the Problem

Corporate disclosure has gained increased attention due to globalisation and integration of capital markets, greater mobility of monetary and actual goods, and developments of new technologies. Also, international bodies such as the IASB (previously IASC), IFAC, the EU, the IOSCO, the UN, the Organization for Economic Co-operation and Development (OECD), the World Bank, and the International Monetary Fund recognized the significance of timely and accurate corporate disclosure. In the face of globalization, and in response to pressures of international bodies, many countries have utilized various economic and accounting reforms to revitalize their disclosure practices and consequently their investment environments. Privatization is one of these measures mainly utilized to develop the role of capital markets to allocate resources.

Privatization is an economic tool utilized by more than one hundred countries worldwide defined as "the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents" (Megginson & Netter 2001, p.321). The main objectives of privatization are to optimize the efficiency of enterprises, mobilize domestic savings, attract external finance and consequently promote the use of markets to allocate resources. As capital markets become increasingly important, the level of information disclosed becomes crucial to the prospective investors. Further, governance mechanisms (external and internal) are vital to the success of privatization. Hence, governments that undertook privatization programs have significantly changed their corporate governance systems and revamped their disclosure regulations. Moreover, privatization is argued to be the most effective policy that governments use to attract foreign investments (Shehadi 2002). Revitalizing disclosure practices to more internationally acceptable and comparable accounting standards is vital for countries undertaking privatization programs. It can therefore be expected that if a country adopts a privatization program, it

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will enhance corporate disclosure. The objective of this study is to investigate the impact of privatization on corporate disclosure in Jordan.

1.2 Motivation and Justification of the Study

The push for privatization was encouraged by many international organizations such as the World Bank Group that has been actively assisting the Jordanian government, in association with USAID (the US Agency for International Development) and other development partners, in its privatization program. Privatization results in major changes in ownership structure of firms. Further, evidence from privatization research suggests that privatization prompts countries, particularly developing ones, to significantly change their governance systems and revamp their disclosure regulation (Megginson & Netter 2001). Therefore, the study of the impact of privatization on corporate disclosure in Jordan is motivated by: 1) the study of the impact of privatization which may be a determinant of corporate disclosure. In particular, the significant changes in corporate governance systems and disclosure regulation that result from privatization and provide a unique opportunity to examine the combined impact of ownership changes and governance and disclosure regulation reforms on corporate disclosure. 2) The suitability of Jordan as its government executed a privatization program, hence documenting and understanding the impact this program has on Jordanian firms' disclosure takes a particular importance.

1.2.1 The Importance of the Influence of Privatization on Disclosure

Evidence from disclosure research indicates that environmental factors including economic conditions influence corporate disclosure. Indeed, the economic environment is important to the development of accounting in general and disclosure in particular, and the role of accounting as a means to measure and communicate economic data becomes more important as economies develop (Adhikari & Tondkar 1992).

In the past two decades, the economic policy of privatization was utilised by more than one hundred governments worldwide in an attempt to promote efficiency, economic

growth and development (Enthoven 1998). The impact of privatization on privatized firms' performance and efficiency have been extensively researched, and empirical evidence supported the proposition that privatized firms became more efficient, more profitable, increased their capital spending and became financially healthier (Megginson & Netter 2001; Boubakri et al 2005).

Privatization causes major changes to ownership from the state to private owners, significantly altering the ownership structure of firms. Hence, the protection of these new owners becomes of crucial importance. To that end, governments undertaking privatization programs are forced to significantly change their corporate governance systems, including changes to their legal systems, significantly restructure their securities markets by establishing a regulatory body similar to the US Securities and Exchange Commission, and establish the listing and other regulations that will strengthen shareholders protection and provide for adequate prevention of insider dealings (Megginson & Netter 2001).

Given the importance of the role that the securities market plays in privatization, and as it increasingly becomes an important avenue to companies for cheaper sources of finance, accurate and reliable information disclosure is of concern to potential investors. Therefore, countries executing privatization programs have improved their securities market regulation, and information disclosure rules, and introduced new components of modern financial systems (Megginson & Netter 2001). Evidence from disclosure research indicates that ownership structure; corporate governance and disclosure regulation reforms influence the level of disclosure.
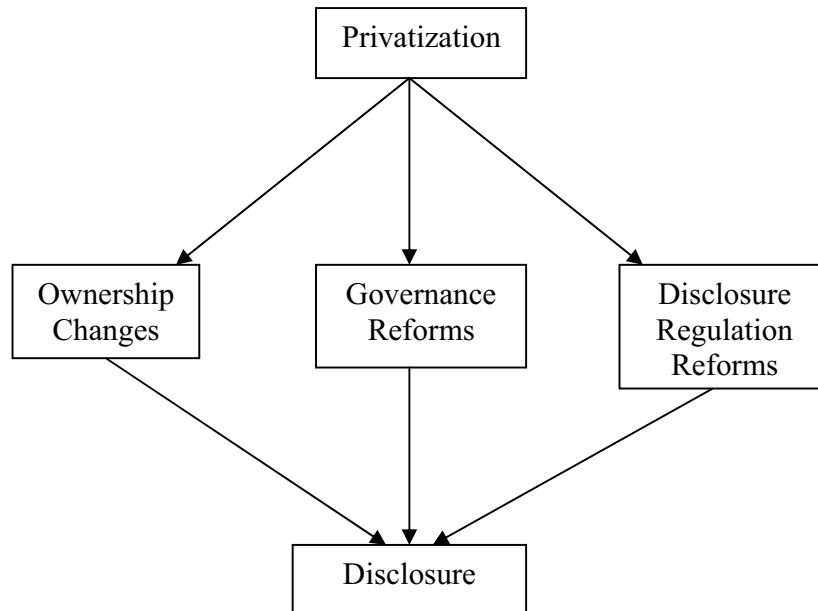
This study proposes a novel approach to analyse the impact of privatization on corporate disclosure through three channels (Fig. 1.1). The first channel is through changes in the governance structure of firms in terms of changes in ownership structure. Privatization leads to the transfer of ownership from the state to private owners (Boubakri et al. 2005). Several disclosure studies examined the relationship between ownership structure and corporate disclosure. These studies argued that different types of owners are associated

with different disclosure levels since each have distinct incentives and abilities to monitor management. For instance, it is suggested that state ownership would lead to moral hazard and agency problems resulting in higher disclosure to mitigate the higher agency costs and weak governance (Eng & Mak 2003). It is also posited that institutional and foreign investors monitor management closely and require higher efficiency and disclosure standards (Boubakri et al. 2005).

Second, privatization compels governments to significantly change their corporate governance systems (Megginson & Netter 2001). Corporate governance is perceived to contribute to more transparent markets since it acts as a disciplinary tool aimed at protecting shareholders. A growing disclosure research is examining the impact of the use of corporate governance mechanisms on corporate disclosure. The findings of this literature asserted that improved governance mechanisms ensure higher corporate disclosure quality (Cohen et al. 2004).

Third, privatization forces governments to revitalize their disclosure regulations (Megginson & Netter 2001). Privatization prompts changes in accounting institutions leading to revamping disclosure regulations which is expected to induce improvements in the overall accounting standards and promote the reputation of the capital market and the confidence of investors. Disclosure studies examining the impact of the introduction of disclosure regulation on mandatory disclosure compliance are scarce. Yet, these studies reported significant improvements in mandatory disclosure compliance with the imposition of accounting disclosure regulation (Inchausti 1997; Walker & Mack 1998; Owusu-Ansah & Yeoh 2005). Consequently, privatization may be an important factor that previous studies failed to examine as a potential determinant of disclosure through the aforementioned channels.

Figure 1.1 Relationship between Privatization and Disclosure.

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      │  Ownership  │   │ Governance │   │  Disclosure  │
      │   Changes   │   │   Reforms  │   │  Regulation  │
      │             │   │            │   │   Reforms    │
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                      │ Disclosure │
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1.2.2 The Suitability of Jordan's Privatization Program

Like many developing countries, the quality of Jordanian firms' disclosure was unacceptable (Solas 1994), leaving the users of financial statements concerned about the reliability and adequacy of the information disclosed (Abu-Nassar & Rutherford 1996). This was mainly due to the incomplete set of accounting standards used by Jordanian companies. Jordanian accounting standards were very general statements lacking any itemisation or guidelines for measurement and disclosure. The disclosure practice in Jordan was dictated by the companies' Act No. 12 of 1964 (amended in 1989) and the Commerce Code of 1966. Income Tax Laws and Amman Financial Market (currently known as Amman Stock Exchange) required Jordanian firms to prepare annual reports in accordance to Generally Accepted Accounting Principles (GAAP) without an interpretation on what constitutes GAAP (Naser 1998).

Jordan embarked on its privatization program due to external pressures of many international organizations such as the World Bank Group, and in response to new economic developments, in terms of globalization, liberalization of trade and the evolution of new technologies. Further, the inefficiency of public sector firms, their substandard services and high indebtedness, compared to the private sector firms that were yielding higher returns and enjoying higher levels of efficiency compelled the Jordanian government to undertake its privatization program commencing in 1997 (ASE 2007).

The Jordanian privatization program led to the reduction of the state's shares from 15% of the total shares of public listed companies in 1997 to less than 6% after it sold its shares in most of these companies in 2003. To pave the way for privatization and ensure its success, Jordan revamped its governance systems and corporate disclosure rules through the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law (ASE 2007).

The 1997 Company Law focused on the adoption of the full version of IAS/IFRS by all listed Jordanian firms in an attempt to improve transparency, comparability and reliability of Jordanian firms' corporate disclosure. Moreover, this law laid down the governance policy framework which focused on strengthening legal investor protection and emphasized the board of directors' responsibilities in ensuring compliance with mandatory requirements.

The 1997 Temporary Securities Law aimed at setting up three new institutions to replace the old Amman Financial Market (AFM), namely: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Commission (SDC). These three institutions are responsible for setting and enforcing accounting regulations, protecting investors and ultimately promoting an investment culture in Jordan (JSC 2007).

Finally, the 2002 Securities Law called for the adoption of the full version of the IFRSs. It also strengthened the powers of the above institutions by giving them the authority to penalize non-complying firms. It also spelled out the responsibilities of these institutions focusing on strengthening investor protection and developing stronger governance concepts and stringent regulations to ensure compliance with the new requirements.

Therefore, Jordan provides an interesting setting to examine the influence of privatization on corporate disclosure through examining the impact of these measures on corporate disclosure. Also, the combined influence of these variables (ownership, governance and disclosure regulation), occurring simultaneously, on corporate disclosure has not previously been examined. Further, Jordan (and the Middle Eastern region) is relatively neglected by disclosure research despite the recent changes in its economic and accounting regulatory environments in the wake of the recent move towards globalisation. Hence, a study of the influence of privatization and the resulting reforms on corporate disclosure in Jordan provides insights into factors driving disclosure practices in the Middle Eastern region and specifically Jordan.

1.3 Objectives of the Study

To date, the relationship between privatization and corporate disclosure has never been examined. The study takes a novel approach into analysing the relationship between privatization and corporate disclosure by investigating three channels by which privatization can impact disclosure. These are ownership changes, corporate governance reforms and disclosure regulation reforms. The specific new contributions of the study are to: 1) investigate the impact of changes in ownership structure resulting from privatization on the extent of voluntary disclosure, 2) investigate the impact of the resulting governance reforms on voluntary disclosure, and 3) the impact of the resulting governance and disclosure regulatory reforms on mandatory disclosure compliance in Jordan.

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1.4 Research Question

As stated earlier, the study examines the impact of privatization through three channels; ownership changes, the resulting corporate governance and disclosure regulation reforms. Additionally, it is argued that privatization attracts foreign investments putting all firms in the country on the foreign investors' radar screen (Shehadi 2002). Hence, all firms of the privatizing country (privatized and non-privatized) are expected to exhibit changes in ownership. Therefore, this study addresses the following research questions:

1. Did privatization influence the extent of voluntary disclosure for Jordanian listed firms through ownership changes?
2. Did the governance reform resulting from privatization influence the extent of voluntary and mandatory disclosure of Jordanian firms?
3. Did disclosure regulatory changes resulting from privatization in terms of introducing and enforcing the use of IAS/IFRS influence mandatory disclosure compliance of Jordanian firms?

1.5 Significance of the Study

The significance of this study lies in the three issues addressed. The first and the major significance of the study is the investigation of the relationship between privatization and corporate disclosure.

Second this study uses a new approach by investigating the impact of privatization on corporate disclosure through investigating the impact of ownership changes, the impact of the resulting governance reforms, and disclosure regulatory reforms on corporate disclosure while controlling for the effect of key selected company characteristics that have been significantly associated with corporate disclosure, particularly in developing countries.

The third significant issue is the use of cross-sectional models and panel data estimation techniques to analyse the relationship between privatization and disclosure. While

previous disclosure research used cross-sectional models to study corporate disclosure and empirically test its relationship with certain determinants, inconsistent findings and misspecification problems have dominated the results of these studies due to the use of static models.

Finally, the study develops a model that incorporates several variables (i.e. ownership, governance, disclosure regulation and firm specific variables) considered individually in other studies. This will provide a comprehensive analysis of the research question and will enhance the understanding of the influence of possible determinants of mandatory and voluntary disclosures in the context of a developing country.

1.6 Prior Research

Disclosure studies have considered the influence of several environmental factors on the development of accounting and reporting practices (e.g. Radebaugh 1975; Choi & Mueller 1984; Nobes & Parker 1995). These factors include culture (Zarzeski 1996; Jaggi & Low 2000), political systems (Archambault & Archambault 2003), capital markets (Adhikari & Tondkar 1992; Archambault & Archambault 2003), economic systems (Archambault & Archambault 2003), and regulatory framework (Jaggi & Low 2000; Archambault & Archambault 2003). These environmental factors were mostly, however, examined in comparative studies.

Further, there is a wealth of research on corporate disclosure many of which have explored corporate disclosure in a single country study. These studies examined disclosure levels and empirically related them to certain firms' characteristics (Buzby 1975; Cooke 1989a; Lang & Lundholm 1993; Raffournier 1995). Recent studies have incorporated governance variables, many of which have been examined individually, particularly in the context of developed countries (Forker 1992; Turpin & DeZoort 1998), although more recent research has shifted its concern to developing countries (Wong & Ho 2001; Chau & Gray 2002; Eng & Mak 2003; Gul & Leung 2004).

Previous disclosure studies used cross-sectional models to analyse the relationship between the different determinants and corporate disclosure. Cross-sectional models

alternatively termed static models are simplified formulations of more accurate dynamically specified models of the true underlying economic processes. Econometrically, static models suffer from omitted variables bias resulting in specification and estimation problems. Hence, this study argues that it is important to account for the dynamic effects of the factors under study in the same model. To the extent that any of the effects of these factors are excluded, the model may produce misleading results.

In addition, more than one hundred countries worldwide have executed privatization programs. However, previous studies have not examined privatization's impact on disclosure despite the major changes in ownership structure of firms, and the significant changes in governance systems and disclosure regulation in the privatizing country. This study extends the previous research in several ways. First, this study investigates the impact of an economic policy, which is privatization on corporate disclosure in a single country study.

Second this study builds upon the privatization literature arguing that privatization results in the relinquish of state ownership to private owners (mostly foreign investors), and forces countries to undertake governance and disclosure regulation reforms. Therefore, this study investigates the impact of privatization on corporate disclosure through investigating the impact of ownership changes, governance reforms, and disclosure regulatory reforms on corporate disclosure while controlling for the effect of key selected company characteristics that have been significantly associated with corporate disclosure, particularly in developing countries.

Third, the study uses both cross-sectional and panel data estimation techniques to examine the impact of privatization on corporate disclosure. The use of panel data offers a solution for the problem of bias caused by unobserved heterogeneity which is a problem in cross-sectional models. Further, an over emphasis on cross-sectional models in the previous literature produced inconsistent results. Another important reason for the use of panel data is in its capability to reveal dynamics that are difficult to detect using cross-

sectional data making it the most suitable method for capturing the variation over time in disclosure determinants.

Finally, incorporating several variables (ownership, governance, disclosure regulation variables and firm specific variables) considered individually in other studies, helps develop a comprehensive corporate disclosure models, and enhances the understanding of the influence of these variables as possible determinants of corporate disclosures in a context of a developing country.

1.7 Research Methodology

The study examines the impact of privatization on corporate disclosure in Jordan. It investigates the impact of privatization through three channels, ownership structure, governance reform and disclosure regulation reforms. The study conducts an empirical investigation and uses univariate testing and cross- sectional regression models. It also incorporates panel data estimation techniques to account for the dynamic effects of the factors under study.

For the purposes of the research, the data is extracted from the annual reports of 80 public non-financial listed Jordanian firms for the years 1996 and 2004, one year before privatization and the governance and disclosure regulation reforms took place, and one year after. Another vital data source is the Annual Shareholding Company Guide for the years 1997 and 2005[1] from which some information for the independent variables was extracted.

1.8 Limitations of the Study

As indicated above, the study uses data from the annual reports of the years 1996 and 2004, and includes companies that had an annual report in both years only. While this procedure limits the sample size of the companies, as it excluded companies that merged,

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[1] Jordanian companies' ownership and financial data for the year 1996 are reported in the 1997 Annual Shareholding Company Guide, and information for the year 2004 is reported in the 2005 guide.

de-listed or were taken over, it is preferred since each company serves as its own control. Alternatively, to increase the sample size, the study could have incorporated privatized firms from a number of developing countries in the region as many of these countries undertook similar privatization programs.

Another limitation is in the exclusive use of voluntary disclosures in annual reports, despite the presence of other means of disclosures such as management forecast, analysts' presentations, conference calls, press releases and Internet sites. However, in a country like Jordan the annual report is the main source of firms' financial information available to users of that information. Further, the annual report serves as a good proxy of voluntary disclosure since annual report disclosure levels are positively correlated with the amount provided by other means (Lang & Lundholm 1993).

1.9 Organization of the Study

The remainder of the study is organized as follows. Chapter 2 presents the literature review regarding privatization and its relationship with corporate disclosure. The chapter develops the hypotheses with respect to ownership variables and governance mechanisms. It also presents an overview about privatization, privatization studies and the Jordanian privatization program.

Chapter 3 discusses disclosure regulation. The chapter presents an overview of disclosure regulation and the different theoretical arguments relating to disclosure regulation and develops the related hypotheses. Further, the empirical evidence investigating the effect of regulatory reform on corporate disclosure compliance is reviewed. Finally, the chapter sheds light on the accounting regulatory reforms undertaken by the Jordanian government.

Chapter 4 discusses corporate disclosure and its determinants. It also investigates the motivations and incentives of disclosure. Finally, the chapter provides an overview of the abundant empirical literature investigating disclosure and its determinants.

Chapter 5 introduces the empirical evidence regarding the influence of privatization through changes in ownership and governance reform on the extent of voluntary disclosure in Jordan. The chapter explains panel data estimation techniques and its advantages compared to cross-sectional models. It further discusses the hypotheses regarding the control variables. It then explains the research design including data selection, development of the voluntary checklist, and measurement of the independent variables. The following sections offer the statistical analyses and the results sections followed by a summary of the findings.

Chapter 6 introduces the empirical evidence regarding the influence of privatization, through governance and disclosure regulation reforms, on mandatory disclosure compliance in Jordan. The chapter discusses the hypotheses with respect to the influence of disclosure regulation and the appointment of audit committees on mandatory disclosure, and explains the research design including developing the mandatory checklist. The next sections offer the statistical analyses and the results. Finally, a summary and conclusion for the chapter's results are offered.

Chapter 7 offers a summary for the study with an overall commentary on the results and the study contributions. Finally, the chapter offers limitations of the study and recommendations for future research.

Chapter 2

The Impact of Privatization on Corporate Disclosure

2.1 Introduction

This chapter introduces a framework linking privatization to corporate disclosure. This framework incorporates the three channels by which privatization can influence disclosure, these are: ownership changes, governance reforms and disclosure regulation reforms. Further, the theoretical and empirical literatures are explored and the related hypotheses are developed.

It has long been recognized that accounting is a function of its environment (Cooke & Wallace 1990). International accounting research has considered the influence of environmental factors on the development of accounting and reporting practices and identified a number of these variables (e.g. Mueller 1967; Radebaugh 1975; Choi & Mueller 1984; Nobes & Parker 1995). Belkaoui (1983, p.207) notes that "the accounting objectives, standards, policies, and techniques result from the environmental factors in each country…"

Moreover, Doupnik & Salter (1995) argue that environmental factors including economic conditions influence countries' accounting systems. Similarly, Arpan & Radebaugh (1985) note that the stage of economic development of a country influences accounting development and practice. It was also argued that accounting development and economic development go hand in hand (Belkaoui 1983). Indeed, the economic environment is important to the development of accounting in general and disclosure in particular, and the role of accounting as a means to measure and communicate economic data becomes more important as economies develop (Adhikari & Tondkar 1992). Archambault & Archambault (2003) argue that the economic system of the country influences the relations between companies and investors and provides structures that influence the information to be disclosed.

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Over the past two decades, the major economic policy of privatization was utilised by numerous governments world wide, in an attempt to promote efficiency, economic growth and development (Enthoven 1998). Megginson and Netter (2001, p.321) defined privatization as "the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents". The impact of privatization on privatized firms' performance and efficiency has been extensively researched, and empirical evidence supported the proposition that privatized firms became more efficient, more profitable, increased their capital spending and became financially healthier (Boardman & Vining 1989; Boycko et al. 1996; Boubakri & Cosset 1998; Megginson & Netter 2001; Boubakri et al 2005).

Privatization causes major changes in the ownership structure of the firm from the state to private owners. Also, Megginson & Netter (2001, p. 378) contend that "privatization impacts the patterns of the changes in the legal system of countries". The authors note that governments that undertake privatization programs introduce significant changes to their countries' corporate governance systems. They add that privatization leads to "significant improvements in securities market regulation, information disclosure rules, and other required components of modern financial systems" (Megginson & Netter 2001, p.381). Evidence from accounting disclosure research indicates that the structure of ownership, corporate governance and disclosure regulation reforms influence the level of corporate disclosure. Hence, privatization may be an important factor that previous studies failed to examine as a potential determinant of disclosure through the aforementioned channels.

The rest of this chapter is organized as follows. Section 2.2 provides an overview of privatization followed by section 2.3 which provides a brief account of privatization methods used. In particular, the use of share issue privatization that attracted many governments so as to develop their capital markets. Section 2.4 discusses the benefits of privatization including an overview of the empirical research that documented these benefits. Section 2.5 provides a discussion of the association of privatization and

corporate disclosure. This association is explained through three main channels, these are ownership changes, governance reforms and disclosure regulation reforms along with the theoretical and empirical literature and the related hypotheses. Section 2.6 reviews the Jordanian privatization program and the resulting changes particularly with regard to the ownership changes, governance and accounting regulation reforms, and section 2.7 summarizes the chapter.

2.2 Privatization: An Overview

Throughout history, government ownership of infrastructure and network industries, such as telecommunications, gas, electricity, postal services, airlines, and other means of production, was very common (Megginson & Netter 2001). State ownership was perceived as a remedy to correct market failures such as externalities and monopolies, reduce income inequality, and achieve a host of social goals such as raising employment levels (social welfare theory, Shirley & Walsh 2000). Moreover, state ownership of state-owned enterprises (SOEs), particularly in developing countries, was perceived necessary to promote economic strength through designing and directing the economic policies (Shleifer & Vishny 1997). Governments were mainly involved in SOEs so as to offset the dominance of multinationals, and compensate for the inability or unwillingness of local firms to participate in the economy (Singh & Ang 1999) and to balance weak private sectors, promote investment and produce a capital surplus to finance investment and transfer technology to infrastructure firms (Kikeri et al. 1994).

One of the first governments utilising privatization was the Thatcher government in the United Kingdom during the 1980s. Hundreds of governments of developed and developing countries around the world followed, launching several privatization programs including Eastern Europe, the former Soviet Union, China, Latin America and the Caribbean, Sub-Saharan Africa, South Asia and the Middle East. The number of transactions peaked in the mid 1990s furnishing global revenues totalling US$850 billion. Most of the revenues were harvested from public offerings of large firms (Mahboobi 2000). In non-OECD countries, thousands of firms were sold during the 1990 with revenues mounting to $250 billion (Kikeri & Nellis 2004).

In the Middle East and North Africa, Morocco, Tunisia, Jordan and Egypt, were the first countries to adopt privatization in the region while a number of new comers have started their own privatization programs including Algeria and Lebanon. Privatization revenues in these countries grew in the late 1990s, largely as a result of Morocco's telecommunications sale and the privatization of cement and other large and medium-size companies in Jordan and Egypt.

2.3 Methods of Privatization

The choice of a privatization method is particularly important and largely dependent on the government objectives and intended outcomes since different sales methods and types of owners explain much of the variance in privatization outcomes (Kikeri & Nellis 2004; Boubakri et al. 2005). For instance, in Eastern Europe where voucher privatization (mass privatization)[2] was used, less performance improvement was observed (Shehadi 2002; Kikeri & Nellis 2004). This is mainly because voucher privatization does not effectively replace the state ownership and control with other groups of private investors (Shehadi 2002).

Another privatization method used by governments as a means to develop their capital markets is share issue privatization (SIPs) where governments sell their stake to investors through a public share offering. Boutchkova and Megginson (2000) concluded that share issue privatization have dramatically increased the number of shareholders in many countries. As a result of using this method, rapid growth in capital markets and trading volumes were observed, forcing governments to improve security market regulation, modernize their corporate governance systems, and information disclosure rules (Megginson & Netter 2001).

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[2] In which governments distribute vouchers for free or at nominal prices for eligible citizens so that they bid for stakes in SOEs.

2.4 Benefits of Privatization

A vast number of governments executed privatization programs due to its perceived benefits such as the need to raise revenue for the state and reduce budgetary burden, reduce its interference in the economy, promote competitiveness and economic efficiency through the improvement of the efficiency of former SOEs. Other benefits are the development of national financial markets and fostering an equity culture, facilitating access to technology and modern techniques, and attracting foreign investments which ultimately results in augmenting domestic growth and economic well being (Megginson & Netter 2001; Kikeri & Nellis 2004; Boutchkova & Megginson 2000).

Empirical evidence on the effectiveness of privatization in achieving its intended benefits is well documented. The literature examining privatization and its impact on privatized firms reported that privatized firms become more profitable, more efficient, increase their capital spending, become financially healthier, and increased their returns to new owners and shareholders (Boardman & Vining 1989; Boycko et al. 1996; Boubakri & Cosset 1998; Megginson & Netter 2001; Kikeri & Nellis 2004).

One of the major advantages of privatization is the improvement in firms' performance. Numerous privatization studies investigated the impact of privatization on the performance of privatized firms in terms of profitability, efficiency, productivity, investments, output, dividends, exports and financial leverage (Megginson & Netter (2001) and Shehadi (2002) offer a comprehensive survey of these studies. Also, Djankov & Murrell (2002) offer a comprehensive survey of the literature studying privatization in transition countries). Table A.1 (Appendix A) summarises selected empirical privatization studies.

2.5 The Relationship between Privatization and Disclosure

It was argued earlier that privatization results in the transfer of ownership from the state to private owners (Megginson & Netter 2001). Boubakri et al. (2005) propose that different types of owners have different incentives and abilities to monitor managers.

Hence, the level of this monitoring leads to the production of different levels of information disclosure. Moreover, privatization is suggested to attract foreign investors who place greater emphasis on profit and efficiency (Boycko et al. 1996; Shleifer & Vishny 1997), maintain strict monitoring of management actions and demand high standard comparable information disclosure (Dyck 2001).

To ensure its success and improve its outcomes, privatization has forced governments to undertake capital market reforms. As explained earlier, these reforms include significant changes to corporate governance systems (Megginson & Netter 2001; Shehadi 2002). Moreover, Megginson & Netter (2001) contend that privatization lead to improvements in information disclosure rules and other required components of the modern financial systems. Consequently, privatization can influence disclosure through the above mentioned channels (see Figure 2.1). The following sections will discuss each channel and examine the associated theoretical and empirical literatures for each.

Figure 2.1 The Impact of Privatization on Corporate Disclosure
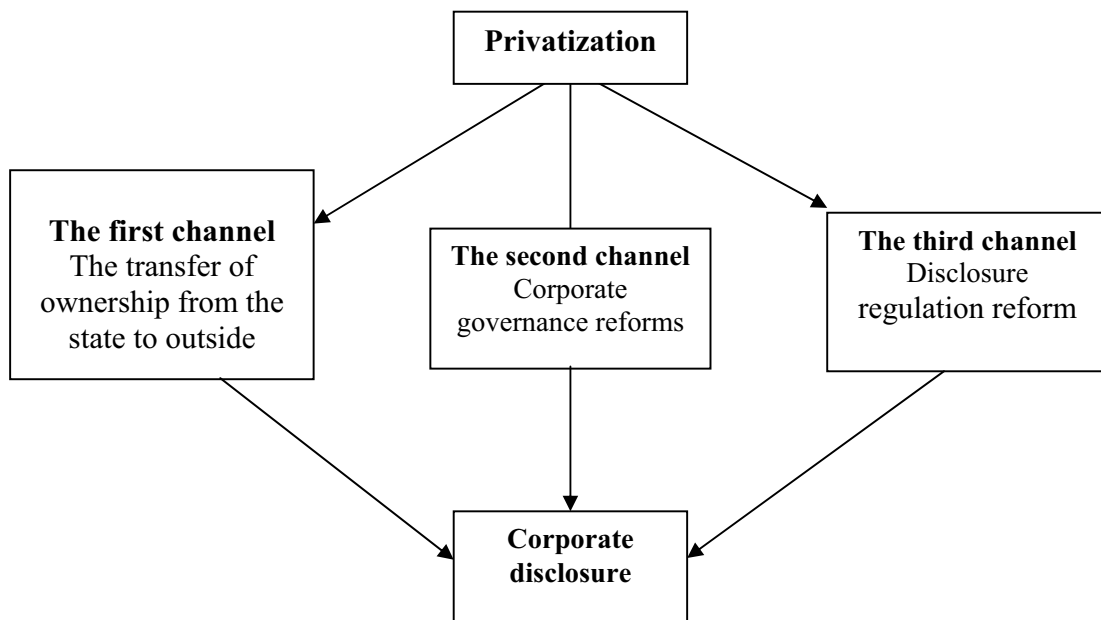
2.5.1 Ownership Structure and Voluntary Disclosure

For each firm, the structure of ownership determines the level of monitoring and thereby the disclosure level of that firm (Eng & Mak 2003). Hence, different types of owners are associated with different disclosure levels since each have distinct incentives and abilities to monitor management. As argued earlier, privatization causes the transfer of ownership from the state to private owners (see Figure 2.2). The success of privatization in influencing disclosure (through ownership changes) depends on the effectiveness of these private owners in influencing disclosure. The following sections discuss each ownership type and its association with disclosure.

Figure 2.2 Ownership Changes and Voluntary Disclosure: Channel 1
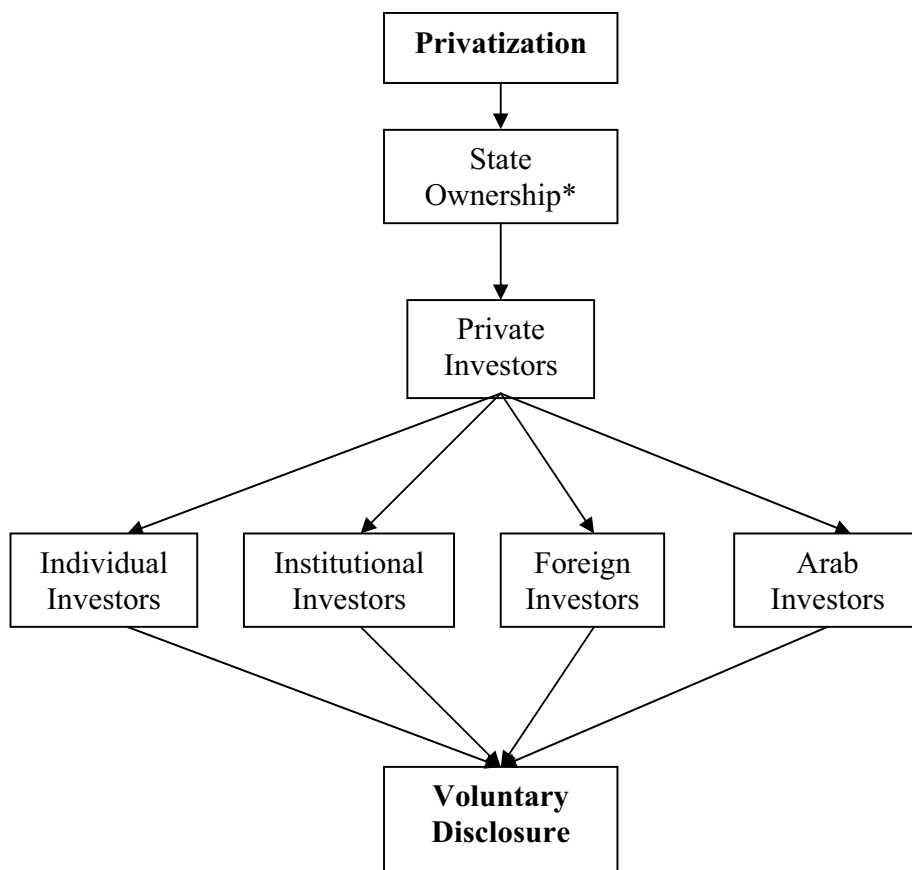
* Another variable is introduced (Government agencies ownership), having the same hypothesis as the state ownership.

2.5.1.1 State Ownership

According to agency theory, the separation of ownership and control of a firm raises agency conflicts giving rise to agency costs and leading to more pressure on management to increase information disclosure for monitoring purposes (Jensen & Meckling 1976; Fama & Jensen 1983). However, when the owners have substantial equity ownership, the demand for information disclosure is low (Owusu-Ansah 1998). Adhikari & Tondkar (1992) argued that:

> Where the state, banks, or certain families have substantial equity holdings, there is generally little physical separation between those who own, and those who manage capital. In such cases, capital owners have greater access to the internal information of corporations and do not have to rely to a great extent on public disclosure and reports to monitor their investments. Thus the demand for public disclosure and reporting is generally low… (p. 84)

One of the major aims of privatization is to improve the efficiency of state owned firms. The main reason for this inefficiency is the weak governance of these firms (Mak & Li 2001; Eng & Mak 2003). The weak governance of state owned firms could be explained in light of agency conflicts advancing two arguments. The first is the public choice theory postulating that government actors (politicians and bureaucrats) use state ownership to pursue their own objectives such as securing political office, accumulating power, or seeking rents (Alchian 1965). Further, Shleifer & Vishny (1997) argue that the political interference in the firm results in excessive employment, poor choices of product and location and lack of investments. The second argument suggests that corporate governance will be weaker in state owned firms than in private firms because managers of state owned firms may lack high-powered incentives or proper monitoring. This lack of incentives and monitoring is due to "the weaker accountability for financial performance, easier access to financing, lack of exposure to a market for corporate control, and weaker monitoring by shareholders" (Mak and Li 2001, p. 240)

One of the most important functions that corporate governance can play is ensuring the quality of the financial reporting process. It was argued that companies with better corporate governance have higher standards of disclosure and transparency (Chiang

2005). The author concludes that companies with better governance signal better information disclosure to outsiders to develop a good image. Further, academic research has found an association between weaknesses in governance and poor financial reporting quality, earnings manipulation, financial statement fraud, and weaker internal controls (e.g., Dechow et al. 1996; Beasley 1996; McMullen 1996; Beasley et al. 2000; Carcello and Neal 2000; Klein 2002). Hence, the weak governance of state owned firms might be a source of poor corporate disclosure.

On the other hand, Eng & Mak (2003) argue that government ownership would lead to moral hazard and agency problems resulting in higher disclosure to mitigate the higher agency costs and weak governance. They contend that the conflicting objectives faced by state owned firms create more need to communicate with other shareholders leading to greater disclosure. Further, Naser et al. (2002) suggest that the participation of the state in firms as a shareholder is perceived as a supervisory mechanism, and hence would improve the quality of financial disclosure.

Empirical evidence relating state ownership and disclosure has reported mixed results. A study by Eng & Mak (2003) investigated the impact of state ownership on voluntary disclosure by Singaporean firms. The study used an ordinary least squares regression model (OLS), and tested two variables to investigate the influence of government ownership on disclosure. The first is a dummy variable that takes the value of one for government owned firms and zero otherwise, and the second is a continuous variable that measures government ownership as the percentage ownership in the firms. The authors found a significant positive association between voluntary disclosure and the first (dummy) variable while the second (continuous) variable was not significant.

Cheng & Courtenay (2006) examined the association between government ownership and voluntary disclosure in Singapore using a sample of 104 companies. The authors argued that the impact of the government ownership on corporate disclosure was not clear. They hypothesized that while large state ownership might impede management tendency to more disclosure, they might prompt management to increase disclosure as a commitment

on part of the state to transparency. They used a dummy variable that takes the value of one for government owned firms and zero otherwise, and reported a significant positive influence of state ownership on voluntary disclosure.

Three studies have empirically examined the influence of company characteristics and ownership variables including government ownership on financial disclosure in Jordan. Naser (1998) and Naser et al. (2002) investigated the influence of government ownership on the depth of information disclosure in annual reports of Jordanian companies. Also, Naser & Al-Khatib (2000) investigated the influence of government ownership on voluntary disclosure in the board of directors' statements of Jordanian companies. The authors expected that the government participation in the company as a shareholder, seen as a supervisory mechanism, would improve the quality of financial disclosure. However, no association was reported between the government ownership variable and the depth of disclosure by Jordanian firms in the first two studies, while the third study reported a positive significant influence of government ownership on voluntary disclosure.

2.5.1.2 Government Agencies Ownership

In Jordan, another way that the government owns shares in listed Jordanian firms is through government agencies. These are agencies that are fully owed by the Jordanian government and can own shares in Jordanian listed firms. The Jordanian Shareholding Companies Guides provide information regarding ownership percentages of the different owners including government agencies. Government agencies have substantial shareholdings in Jordanian listed firms (ROSC 2005); therefore their inclusion is of interest to this study. None of the Jordanian studies have investigated the influence of government agencies ownership on corporate disclosure, thus there is no empirical evidence regarding the relationship between government agencies ownership and voluntary disclosure. Hence, the hypothesis related to government agencies is similar to that of state ownership on voluntary disclosure.

2.5.1.3 Individual Ownership

It was argued earlier that the separation of owners from the decision-making function leads to conflicts of interest between owners and managers resulting in an increase in agency costs. Privatization leads to diffused ownership structure resulting in increased agency costs (Boycko et al. 1996). One way of reducing these agency costs could be through the voluntary disclosure of more information about the firm so that owners can monitor their interests in the firm, and managers can reduce the agency costs that they bear. Further, an increase in the number of individual shareholders with smallholdings who are inactive in running the firm leads to an increase in information asymmetry resulting in more demand for information by these shareholders (Susilowati et al. 2005). Wallace & Naser (1995) argue that the greater the number of people who need to know about the affairs of a firm the more comprehensive the disclosure of the firm.

Previous disclosure studies did not examine the influence of individual ownership directly on corporate disclosure; rather they examined ownership diffusion/concentration referring to outside ownership other than block shareholders. Since this study incorporated the influence of other types of private owners (foreign, institutional and Arab), thus, individual ownership other than block shareholders[3] represents ownership diffusion. Hence, the empirical evidence relevant to this section and which is reviewed here pertains to ownership diffusion.

Empirical evidence from earlier studies regarding the influence of individual ownership (ownership dispersion) on voluntary disclosure is mixed. McKinnon & Dalimunthe (1993) investigated the association between ownership diffusion and voluntary disclosure of segment reporting based on a sample of 65 listed diversified Australian firms. They analysed their data using both univariate (the two-sample t test, the Mann-Whitney U test and a Chi-square test) and multivariate tests (a simple probit test) and reported a positive significant association between ownership diffusion and voluntary disclosure. Also, Hossain et al. (1994) empirically examined the influence of ownership concentration on

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[3] Individual ownership is measured here as the equity held by individual owners other than those holding 10% or less.

24

the general level of voluntary disclosure in the annual reports of Malaysian listed companies. The authors used univariate and multivariate analyses (OLS) and found that ownership concentration is significantly related to voluntary disclosure. Chau & Gray (2002) is another study that investigated the influence of ownership dispersion (as measured by equity owned by outsiders) on voluntary disclosure in the context of two developing countries, Hong Kong and Singapore. The authors reported a significant positive association between the wider ownership and the extent of voluntary disclosure in both countries.

On the other hand, Wallace & Naser (1995) examined the influence of ownership diffusion on the comprehensiveness of mandatory disclosure in the annual reports of 80 Hong Kong firms. Using both ranked and untransformed variables and conducting two OLS regression estimates on the transformed and untransformed variables, the hypothesis that the higher proportion of shares owned by outsiders would produce more comprehensive disclosure was not supported. Two Jordanian studies Naser & Al-Khatib (2000) and Naser et al. (2002) investigated the influence of individual ownership in Jordanian listed firms on the extent of voluntary disclosure in the board of directors' statements and on the depth of corporate disclosure respectively. Both studies reported significant negative associations between individual ownership and corporate disclosure. They explained that Jordanian investors are not sophisticated and their investment decisions are uninformed and can exert little influence on disclosure quality. Another study by Barako et al. (2006) investigated the influence of shareholders concentration on voluntary disclosure by Kenyan firms. The authors used a sample of 43 Kenyan listed firms, and reported a negative significant association between ownership concentration and the level of voluntary disclosure.

2.5.1.4 Institutional Ownership

Firms with large institutional ownership tend to increase their levels of voluntary disclosure (El-Gazzar 1998). The author contends that institutional investors are major holders of equity and their decisions to sell or buy can affect share prices and

management disclosure policies. Further, institutional investors are more informed and more professional and have more incentives to monitor management performance and management has more incentives to listen which results in higher voluntary disclosure to gain their confidence (Pound 1988; Kikeri et al. 1994). Also, institutional investors exert closer monitoring of management activities so as to ensure higher returns, leading to higher information disclosure (Ajinkya et al. 2004).

Empirical studies regarding institutional investors are scarce. El-Gazzar (1998) examined the relationship between institutional ownership and the market price reactions to the firm earnings announcement around the date of mandatory releases on a sample of 1262 firms between 1987 and 1990. The author argued that smaller market reactions would be due to more voluntary disclosure by these firms pre-empting some information about the content of earnings announcements. Using multiple analyses to test the data, the results confirmed his hypothesis suggesting that institutional investors are associated with higher voluntary disclosure.

A more recent study by Ajinkya et al. (2004) investigated the influence of institutional investors on the extent and quality of voluntary disclosure, particularly through management earnings forecasts' occurrence, specificity, accuracy and optimism. The authors used a sample of 2934 annual management earnings forecasts between 1997 and 2002. Using probit models and OLS, they reported significant association between institutional investors and voluntary disclosure.

2.5.1.5 Foreign Ownership

One of the major aims of privatization is the attraction of foreign investment. Shehadi (2002) contend that over 90% of foreign direct investment in developing countries has come from privatization. The author suggests that privatization facilities the involvement of foreign investment in developing countries through three main channels. First, directly, through the adoption of regulatory measures that would liberalise trade, open the capital market to competition and allow foreign investors to own shares in listed companies. Second, indirectly, through increasing the liquidity of the capital market, which provides

investors with an exit strategy attracting by that foreign investors. Third, through a catalytic impact by gaining the confidence of foreign investors as governments show commitment to privatization and liberalisation.

Brown et al. (2004, p.12) argued that "foreign owners have better access to finance, management skills, new technologies and knowledge of markets, which would suggest higher productivity effects". It is also argued that foreign investors are a source of better governance and higher performance (Boycko et al. 1996; Dyck 2001), place more emphasis on efficiency, require higher disclosure standards and exert more monitoring on management (Boubakri et al. 2005). Naser et al. (2002) contend that foreign investors have more experience in regional and international markets and hence they are more likely to demand higher disclosure standards.

While empirical evidence investigating the impact of foreign investors on voluntary disclosure is limited, the results supported the significant influence of foreign investors on the extent of voluntary disclosure. Haniffa & Cooke (2002) argued that there is a greater need for disclosure as a means to monitor management by foreign investors. They investigated the determinants of voluntary disclosure of a sample of 139 non-financial listed Malaysian firms in 1994. Using multiple regression, the authors reported a significant positive association between foreign ownership and voluntary disclosure. Also, Lakhal (2005) examined the impact of foreign institutional investors on voluntary earnings disclosure by French listed companies. Based on a sample of 207 French firms and using univariate and Logit regression analyses, the author reported a significant association between foreign institutional investors and voluntary disclosure arguing that their presence is a signal of a firm's good reputation in terms of disclosure.

2.5.1.6 Arab Ownership

In Jordan, Arab investors constitute a significant percentage of investors in the Amman Stock Exchange. A report on the observation of standards and codes of corporate governance in Jordan found that the percentage of foreign ownership in Jordanian listed

firms was a round 40% of market capitalization mostly from Arab countries (ROSC 2005). Therefore, Arab ownership is considered in this study. Naser and Al-Khatib (2000, p.114-115) stated that "inside information is one of the main problems facing the Arab stock exchanges" and that "in the Arab countries, investors and brokers have little experience of dealing with stock exchanges". Naser et al. (2002) is the only Jordanian study that examined the influence of Arab investors on the depth of information disclosure of Jordanian listed firms, but found no significant influence of Arab investors on corporate disclosure in Jordan.

Following the above arguments, it can be hypothesized that:

Hypothesis 2.1: The level of voluntary disclosure is higher in the published annual reports of listed Jordanian companies after privatization than before privatization (due to changes in ownership from the state to the private owners discussed above).

2.5.2 Corporate Governance and Voluntary Disclosure

In recent years, corporate governance has received increasing emphasis due to the prevalence of highly publicized financial reporting frauds such as Enron and WorldCom, and the unprecedented number of earnings restatements and earnings manipulation by corporate management. Hence, researchers and professionals assert that corporate governance plays an important role in solving agency problems and consequently, maintaining the quality of financial disclosure. This prompted active involvement of the Organization for Economic Co-operation and Development (OECD), which stated in the fifth principle (2004, p.22) that "the corporate governance framework should ensure that timely and accurate disclosure is made on all material matters". Accordingly, disclosure research realized the significance of incorporating governance mechanisms in the study of corporate disclosure and its determinants.

Corporate governance was defined as a set of mechanisms put in place in response to the agency problems arising from the separation between ownership and management

(Shleifer & Vishny 1997). More specifically, the Public Oversight Board (POB 1993) defined corporate governance as "those oversight activities undertaken by the board of directors and audit committee to ensure the integrity of the financial reporting process". Accordingly, the board of director's role was realized in guiding and monitoring management in its corporate disclosure policies (Fama 1980). For instance, the presence of outside non-executive directors on the board would lead to better monitoring of management and limit management opportunism (Fama 1980; Fama & Jensen 1983). Also, the presence of an audit committee as a monitoring mechanism may improve internal control and hence ensure the quality of disclosure. Two types of governance mechanisms are identified by the literature: internal and external. Internal mechanisms include, among other things, the presence of outside directors and audit committees, while external mechanisms include the legal system.

It is suggested that "the framework and operation of a country's legal system impacts the operation of financial markets and corporate governance in that country" (Megginson & Netter 2001, p.378). The authors contend that the legal system is an essential corporate governance mechanism that influences the impact of privatization. They argue that privatization is a major change in the governance structure of a firm in terms of changes in ownership structure. Furthermore, Boutchkova & Megginson (2000) conclude that the number of shareholders in privatized companies is significantly higher than that in non-privatized companies. Thus, the protection of these investors becomes crucial to the privatizing country in terms of gaining the confidence of investors and maintaining the reputation of its capital market. Indeed, "how well the legal system protects investors is presumably a determinant of the success of privatization…" (Megginson & Netter 2001, p.378).

Therefore, to ensure the protection of small shareholders, governments undertaking privatization programs are compelled to establish or augment a regulatory body similar to the US Securities and Exchange Commission, and establish the listing and other regulations that will strengthen shareholders protection and provide for adequate prevention of insider dealings (Megginson & Netter 2001). In a survey of 225

privatization studies, Megginson & Netter (2001) conclude that privatization leads to significant changes in corporate governance systems and impacts the patterns of the changes in the legal system of countries.

Privatization through its emphasis on financial markets has prompted governments to undertake reforms to its governance systems both internal and external. These reforms incorporate the mandate of certain internal governance mechanisms as well as introducing changes in the legal system to strengthen legal investor protection. Such reforms are expected to influence corporate disclosure (see Figure 2.3).

Jordan developed its corporate governance policy framework which was incorporated in the 1997 Company Law No. 22 administered by the Ministry of Industry and Trade (MIT)[4]. The corporate governance policy framework focused on the protection of the rights of shareholders, equitable treatment of shareholders and their role in corporate governance, and the board of directors' responsibilities. The law introduced the following provisions: 1) shareholders can examine unpublished corporate information through a court order and those holding 15 percent of capital can request the company Controller to audit the company, 2) shareholders, bondholders and creditors can object to the Controller within 30 days and claim damages, 3) shareholders can redress against any Annual General Meetings (AGM) resolutions through the courts, 4) directors, management and employees are forbidden from insider trading, and if caught the deal is cancelled, the insider is subject to a fine and liable to damages to the company, shareholders and third parties, 5) directors and management must disclose to the JSC, the board and the Controller their family holdings in the issuer and in companies where the issuer holds shares, 6) related party transactions are also prohibited between directors, the general manager, or other employees, and the company, and 7) loans to directors are prohibited (ROSC 2005).

Another step in the development of the governance policy framework in Jordan was the enactment of the Temporary Securities Law No. 23 of the year 1997 aiming at

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[4] Through the Company Controller who is responsible for enforcing corporate governance provisions.

restructuring and regulating the Jordanian capital market in order to secure transparency, safe trading in securities and promoting investors confidence in the Jordanian capital market (ASE 2007). This law gave way to setting up three new institutions to replace the Amman Financial Market (AFM), namely: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Centre (SDC). The Securities Depository Centre (SDC) is responsible of safe keeping records of ownership of securities; registering and transferring ownership of securities traded on ASE; and settling the prices of securities among brokers (ASE 2007). In 2002, Securities Law No. 76 administered by the Jordanian Securities Commission (JSC) was enacted. This law significantly strengthened the powers of JSC in protecting investors, particularly article 82 which required all listed companies to register their shares ownership at the SDC (ROSC 2005).

Figure 2.3 Corporate Governance Reforms and Disclosure: Channel 2
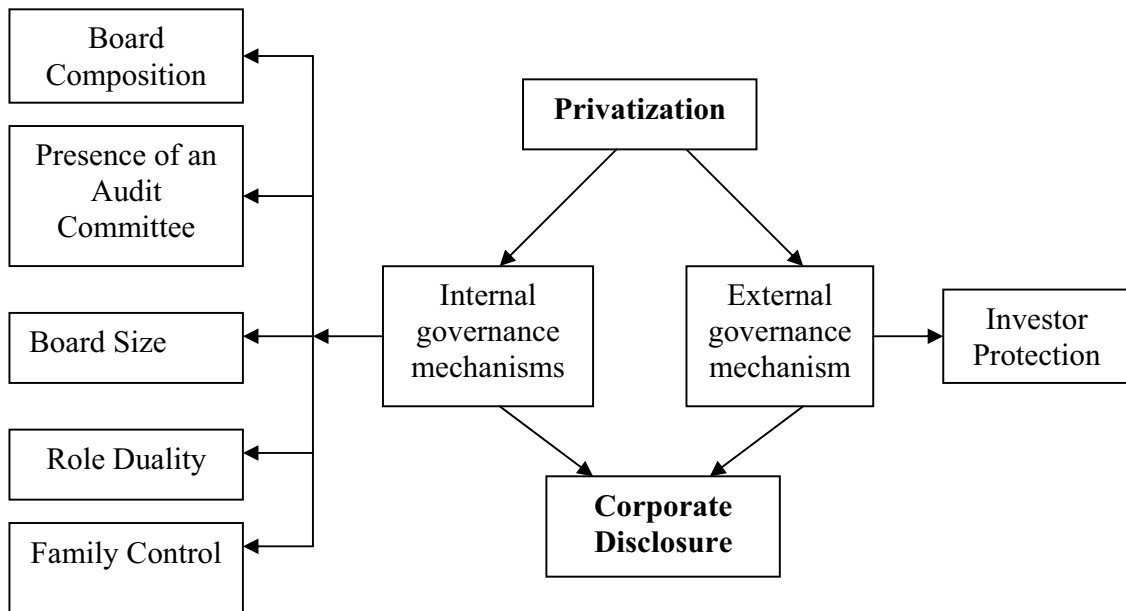
2.5.2.1 Corporate Governance Variables

As argued above, the Jordanian governance framework policy dealt with the development of provisions of legal protection of investors. It further dealt with issues of the board of directors mandating the appointment of at least three non-executive directors on the board, mandating of audit committees to be comprised of at least three non-executive directors, and the size of the board to be comprised of a minimum of 3 and a maximum of 13 directors. Nevertheless, an issue such as role duality which is a feature of many Jordanian firms is still unregulated. Further, Jordanian firms are characterized by the control of a family group employing many of their members in senior positions. Therefore, this study examines a number of governance variables that were recently mandated (proportion of non-executive directors on board, the presence of an audit committee and the size of the board) and those typical to Jordan (role duality and family control) (see Figure 2.3).

2.5.2.1.1 Board Composition: The Proportion of Non-Executive Directors on Board

The board of directors is the central internal mechanism for monitoring management (Mak & Li 2001). The authors argue that "three characteristics that affect the monitoring potential of a board are board size, board composition and board leadership structure" (p. 236). Board composition is defined as the ratio of non-executive directors to the total number of directors (Haniffa & Cooke 2002). Fama & Jensen (1983) contend that non-executive directors act as a reliable mechanism to reduce agency conflicts between managers and owners through encouraging management to disclose more information. It was further suggested that the presence of outside directors may limit management opportunism (Eng & Mak 2003). Besides their monitoring role, non-executive directors are perceived as respected advisors; hence they have an influence on the quality of firms' disclosures (Haniffa & Cooke 2002).

Empirical evidence regarding the influence of non-executive directors on management disclosures is mixed. Chen & Jaggi (2000) reported a positive and statistically significant

relationship between the ratio of independent non-executive directors and mandatory disclosure by 87 Hong-Kong firms. Susilowati et al. (2005) found a significant positive association between the number of independent directors and transparency levels measured by mandatory and voluntary disclosures by a sample of 60 firms (30 Indonesian and 30 Australian firms). Also, a study by Cheng & Courtenay (2006) reported significant positive association between the proportion of independent directors and voluntary disclosure by 104 Singaporean firms. On the other hand, Forker (1992) did not find support for an association between the fineness of mandatory disclosure of stock options and the proportion of non-executive directors. Also, Ho & Wong (2001) documented insignificant relationship between the ratio of outside directors and voluntary disclosure by Hong-Kong firms. However, Eng & Mak (2003), Gul & Leung (2004) and Barako et al. (2006) all reported significant negative associations between the ratio of non-executive directors and voluntary disclosure. Hence, the following hypothesis is formulated:

Hypothesis 2.2: The ratio of non-executive directors on the board is positively associated with the level of voluntary disclosure.

2.5.2.1.2 The Presence of an Audit Committee

Audit committees are viewed as monitoring mechanisms that oversee various aspects of governance in the firm including internal control structure, internal and external audit functions and ensuring the quality of financial reporting (Bradbury 1990; DeZoort 1997). Audit committees play an intermediary role between the external auditor and management, and assist in maintaining the independence of external auditors such that higher quality reporting is achieved in terms of compliance with disclosure standards (Susilowati et al. 2005).

Previous research provided evidence of a positive association between the presence of an audit committee and corporate disclosure. For instance, Forker (1992) reported a positive but weak relationship between disclosure of the audit committee and the quality of share-

option disclosure of UK companies. Also, McMullen (1996) found a significant positive relationship between the presence of an audit committee and more reliable financial reporting. Ho & Wong (2001) examined the influence of the presence of audit committees on voluntary disclosure in the annual reports of 98 Hong-Kong firms. Using a weighted relative disclosure index their results supported the hypothesis that the presence of audit committees is positively associated with voluntary disclosure. Barako et al. (2006) examined the extent of voluntary disclosure in the annual reports of 43 Kenyan firms. They reported significant positive association between the presence of audit committees and the extent of voluntary disclosure.

As indicated earlier, listed Jordanian firms have been required to form audit committees as mandated by the 1997 Company Law. The 2002 Securities Law spelled out the responsibilities of the audit committee including nominating an external auditor, ensuring that they fulfil the requirements of Jordan Securities Commission (JSC), monitoring corporate compliance with the Securities Law and other regulations, examining the financial reports of firms, reviewing the internal control procedures, and preventing conflicts of interest by related parties. Therefore, the following hypothesis is formulated:

Hypothesis 2.3: The presence of an audit committee is positively associated with the level of voluntary disclosure.

2.5.2.1.3 Role Duality

Fama (1980) suggests that board characteristics are efficient internal monitoring mechanisms. One of the main characteristics of the board of directors to influence the effectiveness of corporate governance is board leadership structure (role duality) (Mak & Li 2001). According to agency theory, when the chairman is the same as the CEO, the board effectiveness in performing its governing functions will be at stake since control will concentrate in the hands of the CEO (Haniffa & Cooke 2002). Further, the CEO might engage in opportunistic behaviour and pose a threat to monitoring, thus influencing the amount and quality of information disclosed (Fama & Jensen 1983).

Previous research examining the impact of role duality on voluntary disclosure produced mixed results. While Forker (1992) and Gul & Leung (2004) reported that the presence of dominant personalities was associated with poor disclosure, Ho & Wong (2001), Haniffa & Cooke (2002) and Barako et al. (2006) did not find any association between role duality and voluntary disclosure. Hence, the following hypothesis is formulated:

Hypothesis 2.4: The presence of dual leadership is negatively associated with the level of voluntary disclosure.

2.5.2.1.4 Board Size

Mak & Li (2001) argue that smaller boards are more likely to function effectively and are more difficult for the CEO to control. Jensen (1993) and Lipton & Lorsch (1992) suggest that the smaller the size of the board the more effective it is in monitoring management. Moreover, John and Senbet (1998) argue that while larger boards might imply higher monitoring capabilities, this might be offset by poorer communication and decision-making efficiencies associated with the larger board sizes diminishing by that the monitoring capacities. Empirical evidence relating to board size is scarce. Cheng & Courtenay (2006) found no support for an association between the size of the board and the extent of voluntary disclosure. Hence, the following hypothesis is formulated:

Hypothesis 2.5: The size of the board of directors is negatively associated with the level of voluntary disclosure.

2.5.2.1.5 Family Control

As argued earlier, Jordanian listed companies are largely dominated by family groups. When certain families have substantial equity holdings, there is little separation between ownership and management. Hence, the need for public disclosure is weak as the owners have greater access to internal information (Adhikari & Tondkar 1992; Chau & Gray 2002). Empirical evidence from previous studies reported a significant negative association between family ownership and voluntary disclosure (Ho & Wong 2001; Chau & Gray 2002; Haniffa & Cooke 2002; Susilowati et al. 2005). The percentage of equity

held by family members is the measure to be used for family control; however, due to the unavailability of such data in Jordan[5], this study uses a surrogate which is the proportion of family members on the board. Therefore, the following hypothesis is formulated:

Hypothesis 2.6: The proportion of family members on the board is negatively associated with the level of voluntary disclosure.

2.5.2.2 The effect of External Governance Reforms: Investor Protection

Earlier, the recent corporate governance reforms undertaken by the Jordanian government through the 1997 Company Law (CL), the 1997 Temporary Security Law (TSL) and 2002 Securities Law (SL) were outlined. These reforms were concerned with internal and external governance mechanisms. Internal mechanisms are those dealing with the board of directors as discussed above, while external governance is concerned mainly with legal investor protection. It is suggested that the stronger the legal protection of investors, the more transparent firms tend to be (La Porta et al. 1997, 1998). The authors suggest that in countries with more investor protection, investors will be more willing to enter the equity market, the equity market will be larger and firms will raise external capital through equity. When firms have large numbers of shareholders, providing information to these shareholders will be important to protect their interests, hence, firms provide more information disclosure. On the other hand, in countries with weak investor protection, investors are likely to be reluctant to invest in equity; rather they will deposit their money in banks. As a result, the country will have an extensive banking system and a small capital market, hence, firms will depend on banks to finance their projects, reducing the need for public information disclosure and conveying information through private contacts. Jaggi & Low (2000) contend that where there is more investor protection, information asymmetry is likely to be resolved by timely public disclosure compared to otherwise a weaker investor protection environment where asymmetry is likely to be resolved by private communication between management and agents of suppliers and owners.

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[5] Data for this variable is not available for the year 1996, but available for the year 2004 since the 2002 Securities Law mandated reporting of equity ownership of family members.

Empirical research provided evidence of the significance of legal investors' protection to the development of accounting systems and accounting rules. La Porta et al. (1997) empirically examined the influence of different settings of legal protection of investors on debt and equity markets. They concluded that countries with poor investor protection have significantly smaller debt and equity markets. Jaggi & Low (2000) investigated the influence of the legal system on corporate financial disclosure using legal system dichotomy, code law versus common law, and found that firms from common law countries were associated with higher financial disclosures. Therefore, the following hypothesis is formulated:

Hypothesis 2.7: The level of voluntary disclosure in the annual reports of listed Jordanian companies is higher after the introduction of the 1997 CL, 1997 TSL and 2002 SL than before the introduction of the laws.

2.5.3 Accounting Regulation and Disclosure

Enthoven (1998) argues that the effectiveness of privatization in achieving its objectives is largely dependent on the efficiency of accounting systems and audit methodologies. However, the outdated accounting systems of developing countries undermine the achievement of the objectives of privatization. Therefore, changes in accounting legislation including stock exchange regulations, corporate disclosure rules and audit requirements are of significant importance. Indeed, Megginson & Netter (2001, p.381) state that "privatization programs lead to significant improvements in securities market regulation, information disclosure rules and other required components of modern financial systems". They argue that most governments have either established or augmented a securities commission similar to that of the US as they issue their first SIPs and established the listing and other regulations to attract and gain the confidence of investors. Similarly, Shehadi (2002) notes that privatization forces governments to undertake capital market reforms including improving their regulation and revamping their disclosure requirements to restore investors' confidence, as illustrated by Figure 2.4.

Figure 2.4 Regulatory Reforms and Disclosure: Channel 3

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                        ┌─────────────────┐
                        │  Privatization  │
                        └─────────────────┘
                         ╱               ╲
                        ╱                 ╲
        ┌─────────────────┐         ┌─────────────────┐
        │ Security Market │         │   Information   │
        │   Regulation    │         │ disclosure rules│
        └─────────────────┘         └─────────────────┘
                 │                           │
                 ▼                           ▼
     ┌─────────────────────┐     ┌─────────────────────┐
     │ Introducing         │     │ The adoption of high│
     │ enforcement         │     │ quality accounting  │
     │ mechanisms          │     │ disclosure standards│
     │ preventive and      │     │ such as the IAS/IFRSs│
     │ punitive, such as   │     │                     │
     │ monitoring and      │     │                     │
     │ imposing sanctions  │     │                     │
     └─────────────────────┘     └─────────────────────┘
                      ╲                 ╱
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                    ┌─────────────────────┐
                    │ Mandatory Disclosure│
                    │     Compliance      │
                    └─────────────────────┘
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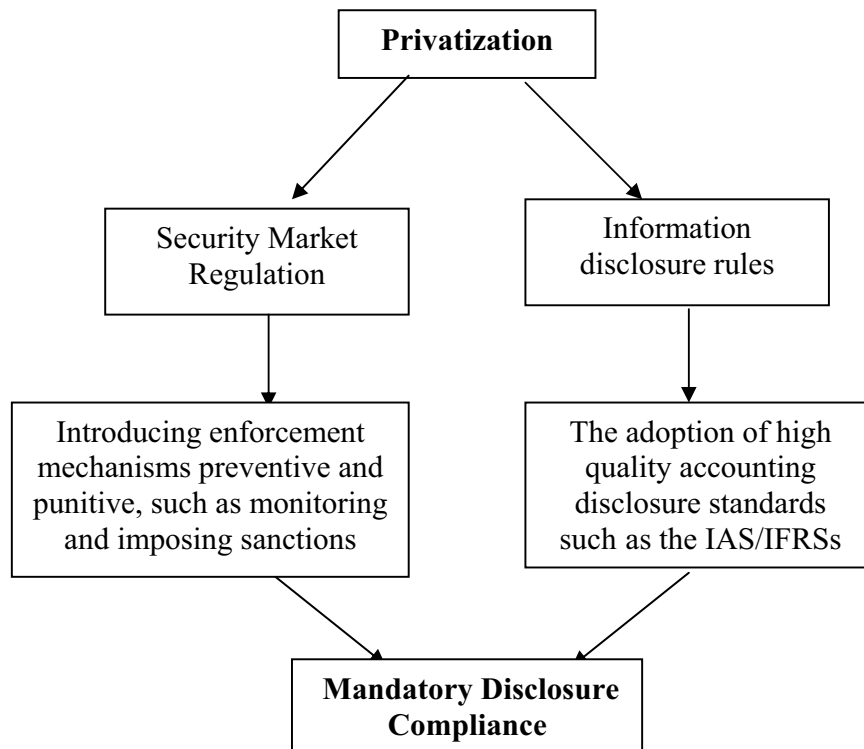
Additionally, and in line with international efforts towards harmonisation of accounting standards, more and more countries are adopting the full version of the International Accounting Standards/ International Financial Reporting Standards (IAS/IFRS). Therefore, governments are revamping existing accounting policies and enacting new accounting regulation that would enforce the use of the IAS/IFRS (see figure 2.4). Moreover, the adoption of high quality standards such as IAS/IFRS is vital to the attraction of foreign investors and mobilising domestic savings. Fan & Wong (2002) argued that closer adherence to international disclosure rules and the adoption of the IAS/IFRS are essential for improving corporate transparency. It is also suggested that disclosures in accordance with IAS/IFRS aim for true and fair reporting leading to improved investment decisions and, in turn, greater efficiency in resource allocation, higher economic growth and social welfare. Chapter 3 provides a comprehensive

discussion regarding accounting regulatory reform and its role in improving mandatory disclosure compliance and Chapter 6 provides the empirical evidence regarding the influence of these reforms on mandatory disclosure compliance by listed Jordanian firms.

2.6 Jordan's Privatization Program

The Jordanian government involvement in the Jordanian economy through state owned enterprises was intended for achieving several objectives and focusing on serving the national economy including building, developing and maintaining the infrastructure, import substitution, and regional development (ASE 2007). Hence, the public sector in Jordan played a crucial role in designing and directing the economic policies including subsidies and fixed pricing of goods and services. The Jordanian government owned substantial share-holdings in a number of small-and medium-sized industrial and service sector companies, and various financial institutions. It also had partnerships with the private sector in major industries and services such as minerals (cement, phosphate and potash), electricity, communications, public transport and tourism (ASE 2007).

The Jordanian government conducted a number of surveys and studies regarding public sector institutions and corporations. These studies concluded that these institutions were highly inefficient, provided substandard services and were highly in debt, while the private sector were better performing, producing higher returns and generating better job opportunities (ASE 2007). To pave the way to the privatization program, Jordan reformed its legal and economic environments. These reforms included the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the enactment of the 2002 Securities Law (EPC 2007).

The Jordanian privatization program was initiated with a set of objectives that would lead to augmenting domestic growth and economic well being, these were: raising efficiency, productivity and competitiveness of Jordanian firms; encouraging private investment by maintaining a better investment setting; stimulating private savings and directing them towards long-term investments so as to develop the domestic capital market and

strengthen the national economy; managing Jordanian firms using modern technology in order to enable them to compete in regional and international markets; and alleviating the debt burden off the Treasury by lifting subsidies and loans to state owned enterprises (ASE 2007).

The Jordanian privatization program is one of the earliest (along with Morocco, Tunisia and Egypt), and most successful programs in the Middle Eastern region. Since 1995, the World Bank Group has been actively assisting the Jordanian government, in association with USAID (the US Agency for International Development) and other development partners, in its privatization program: tailoring a privatization strategy that suits the Jordanian environment, designing an institutional framework for implementing the program, and supporting the implementation of the program. At the present, the World Bank Group manages a substantial trust fund for USAID that supports the Jordanian privatization program (EPC 2007).

The Jordanian privatization program was launched in 1997, progressing slowly due to a number of reasons. The main issues being; the question of the absorptive capacity of the Jordanian financial market which was resolved later by upgrading the security market and enacting the Securities Law in 1997; public preferences on strategic or foreign ownership; and public perceptions of the impact of privatization on labour and consumer prices. The program gained momentum in 1998. The government's participation in public shareholding companies comprised around 15% when the privatization process commenced, and went down to less than 6% after it sold its shares in most of these companies. At present, the government has a share in major infrastructure companies such as the Arab Potash, Jordan Phosphate Mines, and Jordan Petroleum Refinery companies. Table A.2, (Appendix A) shows the completed transactions yielding sizable revenues and leading to considerable investments by the private sector both domestic and foreign (EPC 2007). Privatization proceeds for transactions completed in the period 1997-2003 amounted to around US$1271 million. The program has successfully attracted over US$850 million in investments linked to privatization particularly in the telecom, water, transport, and other privatized sectors. It contributed to the financing of a number

of projects under the umbrella of the Economic and Social Transformation Program and to a number of development projects as instructed by the Privatization Law no. 25 for the Year 2000 (EPC 2007).

The Jordanian Government's privatization strategy took several privatization methods with appropriate modes for each situation according to the specificity and particularity of each transaction and to avoid the risks incurred when using one method. The methods used were: capital sales, e.g., IPO and divestiture; sales to strategic investors; concession agreements; management contracts; franchising; and other modes including BOT (Build-Operate-Transfer), BOO (Build-Own-Operate), BTO (Build-Transfer-Operate), and BOOT (Build-Operate-Own-Transfer) schemes (EPC 2007).

Figure 2.5 Jordan Privatization Program
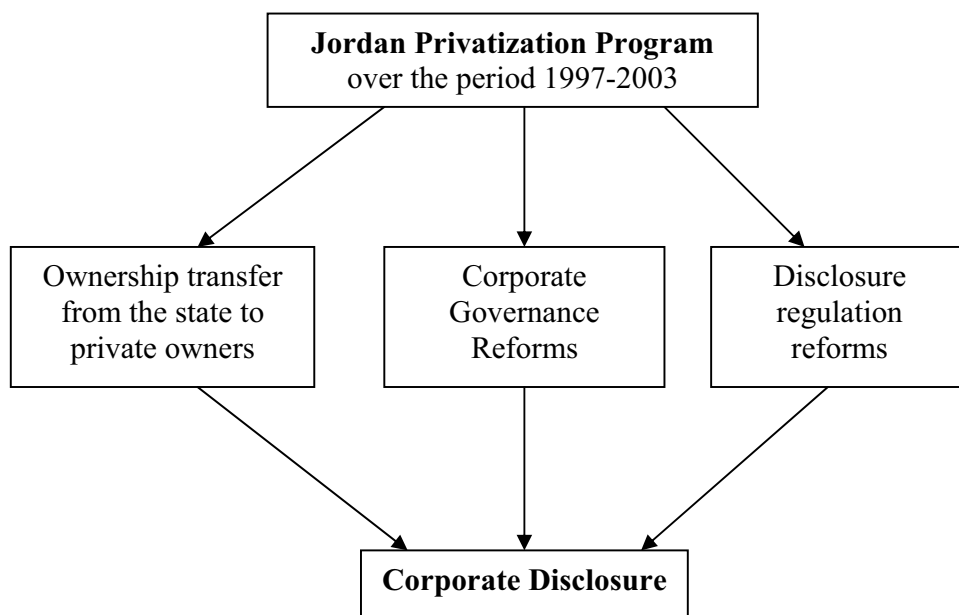
As shown in Figure 2.5, the Jordanian privatization program was executed over the period from 1997 to 2003 leading to relinquishing of state ownership to private owners. To pave the way for privatization and ensure its success, Jordan revamped its governance systems and corporate disclosure rules through the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law (ASE 2007).

2.7 Chapter Summary

This chapter has introduced a framework linking privatization to corporate disclosure. Privatization is perceived to impact disclosure through three main channels; ownership changes, governance and accounting regulatory reforms. Privatization results in the transfer of ownership from the state to private owners. Further, privatization can impact corporate disclosure through the resulting governance and disclosure regulatory reforms. Therefore, the association between disclosure and ownership structure, corporate governance and disclosure regulation was discussed.

Additionally, this chapter shed some light on the benefits of privatization, and the different privatization methods used. Finally, the chapter offered a detailed account of the Jordanian privatization program. The Jordanian Government has executed one of most successful privatization programs in the region yielding sizable proceeds. The Jordanian privatization program led to the relinquish of state ownership to private owners and resulted in governance and disclosure regulatory reforms incorporated in the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Laws.

Chapter 3

The Impact of Disclosure Regulatory Reform on Corporate Disclosure

3.1 Introduction

The objective of this chapter is to discuss the last channel by which privatization can influence corporate disclosure, which is disclosure regulation reform. It reviews the different theoretical arguments relating to disclosure regulation and develops the related hypotheses. Further, the chapter explores the Jordanian accounting regulatory environment and the recent disclosure regulatory reforms.

It is argued that regulatory reforms in the form of enacting securities laws and company laws serve to improve the quality of corporate disclosures, improve the confidence of investors and consequently develop capital markets (Lopez-de-Silanes 2003). Moreover, the adoption of high quality accounting standards results in improvements in the quality of corporate disclosure (Litan 2003; Owusu-Ansah & Yeoh 2005). In recent years, new economic developments have taken place globally in terms of privatization, changes in global markets, the evolution of new technologies, the expansion of business environment, liberalisation of trade, and removal of trade barriers. Accordingly, many countries adopted the full version of the International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) providing the opportunity of comparable, reliable and transparent financial information disclosure and providing cost-efficiencies to companies and regulators (Pacter 1998). Further, the use of IAS/IFRS restores the confidence of investors leading to more willingness to invest across boarders and consequently more economic expansion (IFAC 2004).

Nevertheless, global disclosure standards are optimal only if compliance is monitored and enforced by efficient institutions (Healy & Palepu 2001). The enforceability of standards ensures proper implementation of these standards (Wulandari & Rahman 2004). Further,

Walker (1987) contended that the use of regulation as an enforcement mechanism to monitor compliance and impose punishment in cases of non-compliance would improve the implementation of accounting standards and enhance compliance levels.

There is a long tradition in regulating companies and securities markets in many countries. Taylor & Turley (1986, p.1) defined disclosure regulation as:

> The imposition of constraints upon the preparation, content and form of external financial reports by bodies other than the preparers of the reports, or the organizations and individuals for which the reports are prepared.

Further, Owusu-Ansah & Yeoh (2005, p.92) argued that companies do not comply with mandatory requirements unless stringent regulation (enforcement mechanism) is in place defining a regulation as stringent "if it allows only one outcome, has adequate enforcement mechanism, and sanctions for non-compliance".

The need for disclosure regulation has been extensively debated. A number of arguments have been advanced opposing the need for disclosure regulation based on the free market perspective. These arguments propose that managers have private incentives to produce information voluntarily (Watts & Zimmerman 1986; Macey 1994). By contrast, there is a wide support for the need of regulation (Friend & Herman 1964; Coffee 1984; Taylor & Turley 1986; Lev 1988; Fox 1999) based on the need to protect investors and provide all users' groups with equal access to the same financial information (Lev 1988).

Empirical studies examining the impact of disclosure regulation on mandatory disclosure compliance is scarce (Healy & Palepu 2001). Yet, these studies reported significant improvements in mandatory disclosure compliance with the imposition of accounting disclosure regulation (Inchausti 1997; Walker & Mack 1998; Owusu-Ansah & Yeoh 2005). Further, these studies concluded that regulation produced an increase in disclosure even before it became mandatory (Inchausti 1997), and that its impact was far more significant than other determinants (Walker & Mack 1998; Owusu-Ansah & Yeoh 2005).

This chapter starts with an overview of the history of accounting regulation (section 3.2). Section 3.3 surveys the different theoretical arguments in favour of disclosure regulation and against it. Section 3.4 deals with the different institutional arrangements that countries utilised in setting accounting regulation, followed by section 3.5 discussing the different modes for accounting regulation and various mechanisms used to enforce accounting regulation. Empirical evidence supporting the need for disclosure regulation is explored in section 3.6. Finally, section 3.7 discusses the Jordanian accounting regulatory environment and recent disclosure regulatory reforms.

3.2 Evolution of Corporate Disclosure Regulation

The regulation of accounting disclosure is relatively new compared to accounting practice (Deegan 2001). At first, financial affairs were a private matter such that no organization had the authority to prescribe any form of accounting regulation (laissez-faire) (Epstein & Mirza 1997). The first developments of disclosure regulation were in response to investors and creditors needs prompted by the separation between management and ownership of firms, commencing in the early twentieth century. Prior to the industrial revolution and due to the small size of business enterprises dependent on internal financing, owners/managers were the only beneficiaries of financial statements. With the growth of business enterprises, and the use of external financing, new forms of companies were established and consequently, a new group of financial statements users emerged, namely shareholders, which led to the separation between management and ownership (Taylor & Turley 1986; Deegan 2001). Further developments in accounting regulation were in response to shocks in the financial reporting environment (Tower et al. 1992) which provoked the enactment of the first accounting legislation to regulate accounting reporting and disclosure namely the Companies Act (the Joint Stock Companies Registration Act) of 1844, which was passed by the U.K. Parliament following a report by a Select Committee on Joint Stock Companies (Allen & Herring 2001). According to this Act, British firms were required to produce a balance sheet and an auditor report (Belkaoui & Kahl 1978; Taylor & Turley 1986). This introduced the principle of mandatory disclosure through the registration of prospectuses inviting subscriptions to corporate shares.

In Britain, as in the United States, accounting regulation grew rapidly in the nineteenth century, as a result of the growth of business (industrial) enterprises compared to other developed industrial countries. By 1900, the New York Stock Exchange (NYSE) required listed companies to produce financial statements showing the results of their operations and their financial position. In 1926, the NYSE required listed companies to provide their shareholders with an annual financial report before their general meeting (Deegan 2001). The first strict accounting legislation regulating financial information disclosure was passed by the United States government in 1934, after the stock market crash in 1929, requiring firms to follow specific disclosure rules, administered by the Securities Exchange Committee (SEC).

Currently most countries' accounting regulations is adapted from the American and the British models due to the influence of colonisation and historical associations (Diga 1996). Enthoven (1977) argued that companies' acts in many developing countries regulating financial accounting practice mirrored those of developed countries. For instance, accounting and reporting practices in Jordan were influenced by the Anglo-Saxon and French models following the educational backgrounds of professionals that practice accounting (Solas 1994).

In general, setting disclosure regulation is crucial to satisfy the needs of investors and lenders and providing them with relevant and timely accounting information and enhancing the allocation of economic resources (Taylor & Turley 1986; Deegan 2001). However, some researchers argued that this does not necessarily imply the mandate of disclosure regulation (Lev 1988). Therefore, the next section will examine arguments justifying the need for disclosure regulation and the counter arguments calling for the reduction or the elimination of disclosure regulation.

3.3 Disclosure Regulation: Theoretical Arguments

Two streams of arguments are debated regarding disclosure regulation. The first stream proposes that disclosure regulation is necessary to protect investors from the provision of misleading information (Coffee 1999; Glaeser et al. 2001; Fox et al. 2003); to secure an

equal access to accounting information by all investors; to ensure the production of an optimal amount of information; and to enhance comparability and the efficiency of markets (Allen & Herring 2001; Fox et al. 2003). Posner (1974, p. 335) argued "regulation is supplied in response to the demand of the public for the correction of inefficient and inequitable market practices".[6]

By contrast, the opposing stream argues that the regulation of disclosure should be minimised since accounting information like any other good, subject to the supply and demand forces, will reach an optimal production amount, and the market will punish companies failing to provide the right amount of information (Watts & Zimmerman 1986). The following section explores both streams of arguments.

3.3.1 The Case for Disclosure Regulation

One of the strongest arguments supporting the need for regulation is the case of market failure (Taylor & Turley 1986; Scott 1997; Deegan 2001; Glaeser et al. 2001). Scott (1997, p. 329) defined market failure as the "inability of market forces to produce a socially 'right' amount of information, that is, to produce information to the point where its marginal cost to society equals its marginal benefit".

3.3.1.1 Market Failure

The following reasons contribute to market failure justifying the need for disclosure regulation. First, the lack of rules governing market behaviour and the authoritative bodies that governments formulate, which impinge on accounting numbers can lead to market failure (Taylor & Turley 1986). Second, the shortage in the most needed accounting information so as to improve markets efficiency. According to Taylor & Turley (1986, p.8) "regulations directed towards increasing the quantity and improving the quality of accounting disclosures and widening access to them would improve assessments of risk and return and the relationship between them". Further, Coffee (1984)

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[6] Referred to as the public interest theory

argues that mandatory information disclosure serves ordinary investors in two ways, to achieve a reasonable diversification of their portfolios and help in the assessment of their portfolios' risk levels. Also, Fox et al. (2003) note that greater information disclosure will lead to share price accuracy, improving the quality of choice among investment projects in the economy.

A third reason for market failure is market distortions (Taylor & Turley 1986; Deegan 2001). The authors argue that when an enterprise monopolises the supply of accounting information, certain users' groups, such as investment analysts, will have access to more information than others, giving them more market power than shareholders. Further, the cost of supply of information will be borne by the reporting enterprise, which would weaken the connection between costs and incentives to produce accounting information. Another problem created by this monopolistic behaviour is adverse selection (Akerlof 1970). In this case, and due to the unavailability of information, only poor quality enterprises will provide their information for investors to assess and invest, causing investors to bear more risk or reduce their investments. However, if good quality enterprises decide to voluntarily disclose information, the adverse effect might be reduced, provided that all enterprises make the same decision.

Fourth, the free-rider dilemma occurring because accounting information is a public good that everyone can use once available without paying for it (Deegan 2001). This dilemma in turn leads to the underproduction of information due to lack of incentives of the producers. Therefore, regulation is necessary to reduce the underprovision of accounting information. Also, the underprovision of accounting information will prompt users to search for more information from non-issuer sources; thus, a mandatory disclosure system reduces the search costs (Coffee 1984). However, some economists argue that while regulation solves the underproduction of accounting information, it leads to overproduction of this free good resulting from the overstatement of some users to their needs for accounting information, which would lead to accounting standards overload, the cost of which would be borne by the reporting enterprises (Deegan 2001).

3.3.1.2 Inequity of Access

The need for regulation is further prompted by the problem of inequity of access to accounting information leading to asymmetric information across investors (distribution power) (Taylor & Turley 1986; Lev 1988; Deegan 2001). This accounting information asymmetry leads to adverse social consequences, higher transaction costs, thin markets, and lower liquidity since differential access to information leads to differential expected returns and consequently altering the wealth distribution which could lead to decreased gains from trade (Lev 1988). Hence, regulation that would remove the asymmetries in information endowments by introducing measures to stop the harmful effects of inequity would enhance the overall welfare of investors (Taylor & Turley 1986; Lev 1988; Healy & Palepu 2001). Deegan (2001, p.58) contended, "Putting in place greater disclosure regulations will increase the confidence of external stakeholders that they are playing on a *level playing-field*".

In the next section, arguments opposing the setting of disclosure regulation are explored. These arguments are based on the free market approach, which is largely based on the work of Adam Smith and his notion the 'invisible hand' (Deegan 2001). The author argued that advocates of the free market approach used this notion to promote the reduction or elimination of regulation since market mechanisms would protect market participants without the intervention of the state.

3.3.2 The Case against Disclosure Regulation

Researchers opposing disclosure regulation depend on the 'free-market' perspective in their debate. They argue that there is no need to regulate disclosure practices and that accounting regulation that changes the set of procedures selected by firms will only lead to higher compliance costs (Watts & Zimmerman 1986). The authors argued that regulation would affect the firm's contracting technology through restricting the set of accounting procedures used by the company; resulting in firms incurring additional costs for re-contracting.

Furthermore, it has been claimed that market players have available to them a range of private arrangements to achieve efficiency such as corporate charters and various forms of bonding rendering most regulations unnecessary (Glaeser et al. 2001). It is also proposed that disclosure regulation lead to suppressing innovation due to increased risk of litigation and burdensome task of regulatory approval (Macey 1994).

The free market argument also postulates that accounting information should be treated like any other good subject to the forces of supply and demand such that an optimal production of accounting information is achieved, and that management have private economics based incentives to provide stakeholders with the information, including private contracting, management signalling and compensation and markets for corporate takeovers (Deegan 2001; Healy & Palepu 2001). These arguments will be explored in more detail in the next chapter.

3.4 Institutional Arrangement for Accounting Standard Setting

Setting disclosure standards aims at standardising diverse disclosure practices so as to achieve the ultimate conformity and comparability of financial statements. Ali & Ahmed (2007, p.10) stated that accounting standards "provide a set of standard accounting policies, valuation norms and disclosure requirements to discourage pursuance of accounting policies that are not in conformity with the generally accepted accounting policies".

Generally, accounting standard setting is comprised of three phases: the design phase, the approval phase and the enforcement phase (Morley 1985; Nobes & Parker 1995). The design phase deals with setting the agenda, topic selection, research and preparing exposure drafts (Tower et al. 1992). In the approval phase, the drafts are reviewed and if accepted it will be approved. The enforcement phase comprises two sub stages, monitoring compliance and imposing sanctions for non-compliance (Walker 1987). However, countries adopting the IAS/IFRS directly need only worry about the latter phase, which is critical to the compliance of standards.

The responsibility of enforcing accounting regulation lies either on the public or the private sector or both (Taylor & Turley 1986; Puxty et al. 1987; Lev 1988; Allen & Herring 2001). The following section will shed light on the different modes to accounting regulation.

3.5 Modes of Accounting Regulation

The responsibility for setting accounting regulations and enforcing them has been largely debated. Those in favour of the private sector, argue that the accounting profession is best able to set accounting regulation since it possesses better accounting knowledge and that regulations would be more acceptable by the business community. By contrast, those favouring the public sector argue that governments are better placed to set accounting standards and rules because it possesses the power and authority to enforce these regulations (Parker 1986). Also, Zeff (1988, p.20) said that "a government agency is in a much better position to enforce compliance with accounting standards than is the council of a professional accounting body", and emphasised that private standard setting bodies and governmental authorities should cooperate when setting accounting regulation.

Accordingly, different countries have utilized different modes of accounting regulation. Puxty et al. (1987) argue that the mode of accounting regulation is a function of the social environment of the country. In countries where market forces dominate, a liberal regulatory environment exists and there is no systematic accounting regulation. On the other hand, in countries where the state dominates, state rules control. However, the pure market or pure state modes rarely exist, instead a hybrid mode of market and state cooperation exists (Puxty et al. 1987). Consequently, four modes of accounting regulation have been identified, these are; a pure market based (laissez faire), a professional self-regulation mode (pure accounting profession), a hybrid mode 'community' (mixed private sector or mixed government), and a legalistic mode (pure governmental) (Cooke & Wallace 1990; Diga 1996). Figure 1 represents a continuum of accounting regulation modes.

Figure 3.1 A Continuum of Accounting Regulation Modes

LEGALISTIC	HYBRID	PROFESSIONAL	MARKET
Pure	Mixed Private Sector	Pure	Laissez
Government	or Mixed Government	Accounting Profession	faire
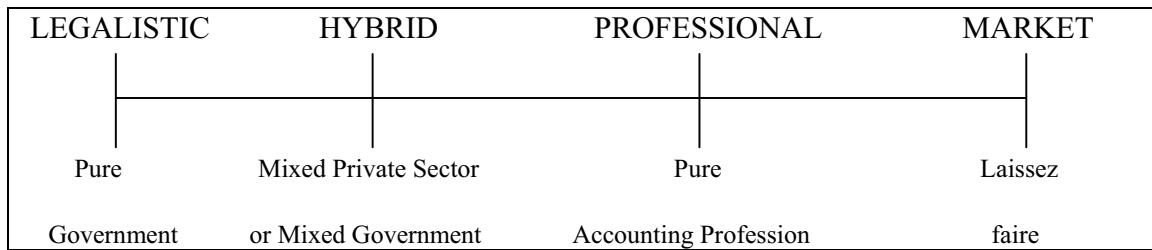
Source: Diga 1996

As described above, the market-based mode, where no organization is charged with regulating accounting practices, is rarely adopted by any country. However, there are close examples to this approach such as Brunei, Honduras and Argentina in the early 1990s. In the pure professional mode, detailed accounting standards are set by a private organization (usually a professional accounting body) and are given official or semi official legitimacy by governments or courts of law. Examples of countries following this mode are Brazil, Mexico and Singapore. The third mode is a hybrid taking either a mixed private sector mode or a mixed government mode. In the mixed private sector mode, a private sector organization backed by the government issues accounting standards, the members of which are mostly non-accountants and public sector representatives. Examples for this mode are the US (FASB), the UK (ASB) and the Netherlands (Raad voor de Jaarverslaggeving). In the mixed governmental mode, standard setting is the responsibility of either a statutory body or a government instrumentality given the full backing of the government, the members of which are mostly official government appointees. Examples of countries following this mode are France (CNC) and Australia (AASB). Within the pure governmental mode, accounting standards are issued by a government agency with little or no involvement by the private sector. However, in some countries particularly developing countries, private sector accounting bodies play an advisory role (examples are Japan and Austria) (Diga 1996). Section 3.8 explores the evolution of standard setting in Jordan from the pure government approach to one of the mixed approaches.

The next section explores the mechanisms used to enforce disclosure regulations, since an accounting regulatory environment constitutes accounting standards and requirements and the mechanisms used to implement and enforce these standards (Benston et al. 2003).

3.6 Enforcement Mechanisms for Accounting Regulation

The use of regulation as an enforcement mechanism to monitor compliance and impose punishment in cases of non-compliance would enhance the implementation of accounting standards (Walker 1987). Enforcement mechanisms are classified into preventive (ex ante) and punitive (ex post) (Diga 1996; Saudagaran & Diga 2000; Wulandari & Rahman 2004). Preventive mechanisms refer to certain measures that are considered to prevent violations of existing regulations such that compliance is encouraged. Punitive mechanisms are used in cases of non-compliance where penalties are exercised. Wulandari & Rahman (2004, p.6) stated:

> Preventive mechanisms as those that encourage and facilitate compliance, and punitive arrangements as mechanisms that force compliance or lead to penalties for non-compliance. In this regard preventive methods relate to regulations concerning the authorities, responsibilities, and activities of the auditor and supervisory body to prevent unlawful accounting activities in the capital markets and provide favourable conditions to create high quality financial reporting. Punitive methods relate to the mechanisms for enforcing the standards and enforcement actions taken by the professional accounting body and supervisory body against the management of the company, the company itself and its auditors for not complying with the accounting standards or related rules.

In light of the above definition, several preventive and punitive methods of regulatory enforcement have been introduced such as the independence of auditors and audit committee, and continuing professional education of auditors and accountants. Also, a number of punitive methods have been suggested such as prosecution of auditors and company directors, fines on auditors and company directors, fines on companies and suspension from securities markets (Diga 1996).

3.7 Studies Examining Disclosure Regulation and Enforcement

The setting of accounting regulation alone will not lead to compliance unless it was associated with stringent enforcement mechanisms (Walker 1987; Tower et al. 1992). Additionally, Saudagaran & Diga (1997) argue that legislation and the means for enforcing it are essential components of accounting regulation. Indeed, Cooke & Wallace (1990) contend that the effectiveness of accounting regulation is a function of the regulatory requirements and the degree of enforcement. Also, Modigliani & Perotti (2000) argue that proper enforcement of rules and not rules alone is vital for the development of capital markets. Weak enforcement of regulation impedes economic gains intended from regulation (Ball 2001; Bushman & Smith 2003).

Enforcement mechanisms were classified into preventive (monitoring compliance) and punitive (sanctions against non compliance). Accordingly, empirical studies investigating the impact of disclosure regulation on mandatory disclosure could be categorised into three groups. The first group involves empirical studies that investigated the impact of using certain preventive or punitive enforcement mechanisms on the credibility of accounting information. The second group of empirical studies investigated the influence of the accounting regulatory environment on the properties and quality of financial disclosure across a number of countries. The third group of studies have directly investigated the introduction of a disclosure related regulation on the improvement of properties and levels of corporate disclosure. The following sections provide a detailed account of these studies.

3.7.1 Studies Investigating the Effect of Enforcement Mechanisms

The first group of studies examining the impact of disclosure regulation on mandatory disclosure investigates the impact of one type of enforcement mechanism, preventive or punitive, on the credibility of accounting information. Investigating the impact of an enforcement mechanism is one method through which the impact of regulation is analysed since these enforcement mechanisms are part of the accounting regulatory environment (Cooke & Wallace 1990; Benston et al. 2003). Further, accounting rules and

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standards that do not have strong enforcement capabilities are likely to generate low levels of compliance (Tower et al. 1992).

Examples of this group of studies investigating the effect of preventive arrangements are Choi & Jeter (1992), Klein (2002), Chen et al. (2002) and Sivakumar & Waymire (2003). Table 3.1 provides a summary of these studies. Another group of empirical studies (Feroz et la. 1991; Nourayi 1994; Wulandari & Rahman 2004; Griffin et al. 2005) have investigated the influence of punitive methods on different market indicators. These studies are summarized in Table 3.2. This group of studies concluded that preventive and punitive enforcement mechanisms served to enhance the reliability and credibility of the information disclosed.

Table 3.1 Empirical Studies Examining the Effect of Preventive Enforcement Mechanisms on the Credibility of Accounting Information

Author(s)	Data, Period, and Methodology	Findings and Conclusions
Choi & Jeter (1992)	Examined the influence of the issuance of two types of audit qualifications: consistency (on a sample of 58 companies) and "subject to" (on a sample of 72 companies) qualifications during the years 1983 through 1986, by comparing earnings response coefficient (ERC) of pre-qualifications period with those for the post period.	A significant decline in market responsiveness to earnings announcements. For both consistency qualifications and "subject to" qualifications the post-qualification earnings response coefficient (ERC) declined significantly.
Klein (2002)	Examined 687 publicly large US firms in the period 1992-1993, to see whether audit committee and board characteristics are related to earnings management by the firm.	A negative relation is found between audit committee independence and earnings management, on one hand, and board independence and abnormal accruals on the other. Reductions in board or audit committee independence are accompanied by large increases in abnormal accruals. Earnings management is positively related to: whether the CEO sits on the board's compensation committee.
Chen et al. (2002)	Investigated whether the introduction of a 1998 regulation aiming at reconciling accounting earnings from the Chinese GAAP to IAS by comparing differences between Chinese and IAS earnings over a three-year period from 1997 to 1999 for 75 companies.	The 1998 regulation did not immediately eliminate or significantly reduce the earnings gaps due to weak enforcement of accounting standards as manifested in the quality of audit and professional requirements for auditors.

| Sivakumar & Waymire (2003) | Investigated the influence of the first fixed asset accounting rules issued by the Interstate Commerce Commission (ICC) in 1907 and 1908 for 43 railroads on conservatism and income smoothness by comparing two periods: the period 1909 –1912 with the period 1904-1906. | The new enforceable accounting rules led to lower income smoothness and increased conservatism. |

Table 3.2 Empirical Studies Examining the Effect of Punitive Enforcement Mechanisms on the Credibility of Accounting Information

Author(s)	Data, Period, and Methodology	Findings and Conclusions
Feroz et al. (1991)	Examined the impact of 224 Accounting and Auditing Enforcement Releases (AAER) issued by the SEC between April 1982 and April 1989 on companies.	The market reacted negatively to the investigation news even when there was prior public disclosure of the violation due to changed expectations of targets' future earnings as mirrored in financial analysts' reduced earnings estimated after the disclosure.
Nourayi (1994)	Examined the effect of enforcement actions of the SEC against a sample of 82 companies listed on NYSE and AMEX during the period from 1977 to 1984 using an event methodology (stock prices reactions to release of information).	The stock price response to litigation releases is directly associated with the severity of the enforcement actions. The negative equity price response may be due to a signalling effect of future legal costs of litigation.
Wulandari & Rahman (2004)	Examined the effects of punitive enforcement mechanisms utilising an index of 12 enforcement items on the value relevance of accounting earnings using firm level data (24,462 firm-years for the period 1996-2001) from thirty-five countries.	The value relevance of earnings is positively associated with effective punitive enforcement of accounting standards. This suggests that the investors' interests are better protected in a country with effective punitive enforcement, since it sends strong signals to the market that departure from accounting standards is not tolerated.
Griffin et al. (2005)	Examined nine SEC enforcement actions undertaken in the period 2002-2005, regarding a violation of Regulation FD issued in 2000, and the effect of these violations on stock prices.	The average cost to the company of an alleged FD violation is a 4.19 percent drop in stock prices on the day of the SEC announcement.

3.7.2 Studies Investigating the Accounting Regulatory Environment and Legal Environment

The second group follows a cross-country approach investigating the impact of the legal environment by employing legal system dichotomy (code law versus common law) or accounting legal environment in terms of corporate governance (investor protection), company and bankruptcy/reorganisation laws and disclosure rules, on the properties and quality of financial disclosure across a number of countries. The first category of these studies have drawn on the assumption that different legal underpinnings of corporate finance-and commerce produce different disclosure levels and properties since the legal system of a country can influence corporate financial disclosure in that country both directly and indirectly (La Porta et al. 1998; Jaggi & Low 2000). Jaggi & Low (2000) point out that the legal system in a country has a direct influence on the development of Companies Acts or accounting regulation prescribing information disclosure requirements, and indirectly through legal investor protection rights. The second category argues that the accounting regulatory environment directly deals with the quality of accounting information, hence having an influence on accounting information properties and quality (Wulandari & Rahman 2004). Examples of empirical studies of this group are summarized in Table 3.3.

Table 3.3 Empirical Studies Examining the Effect of the Accounting Regulatory Environment and Legal Environment

Author	Data, Period, and Methodology	Findings and Conclusions
La Porta et al. (1998)	Examined investor protection rules, the origin of these rules (common law versus code law), and the quality of their enforcement and ownership concentration in 49 countries.	Concluded that investor protection and law enforcement are higher in common law countries than civil-law countries. Also, civil-law countries develop substitute mechanisms for poor investor protection such as statutory mechanism and ownership concentration.
Ball et al. (2000)	Investigated the influence of institutional differences (code versus common law) on the demand for accounting income on a sample of 40,359-firm/year observations from seven countries in eleven years (1985-95).	The properties of accounting income in code law countries are of less quality than in common law ones. Regulation, taxation and litigation cause variation among common law countries.
Jaggi & Low (2000)	Examined the impact of cultural values and legal systems (common versus code law) on financial disclosures of 401 firms from six countries. The study also controlled for firm	Firms from common law countries are associated with higher financial disclosures compared to firms from code law countries.

	size, debt ratio, multi-nationality and market capitalization.	
Hung (2001)	Tested the relationship between the use of accrual accounting and the relevance of accounting measures in countries with different levels of investor protection using two measures: anti director rights and legal systems. 17,743 firm-year observations of industrial companies in 21 countries from 1991 to 1997.	The study found that stronger investor protection, an institutional factor characterising a country's corporate governance environment, improves the effectiveness of the accrual system.
Guenther & Young (2000)	Investigated how cross-country differences in legal systems (code versus common law) affect the relation between financial accounting earnings and real economic value-relevant events using four measures, utilising a large sample from five countries in the period from 1983-1997.	The association between financial accounting earnings and real economic activity in a country is related to the legal and economic systems that underlie financial accounting standard setting and the demand for accounting standards.
Glaeser et al. (2001)	Compared relative performance of Polish stock market (regulated) with Czech stock market (less regulated) in the 1990s. Performance is measured by market capitalisation, number of listed firms and number of IPOs.	The polish market outperformed the Czech by a wide margin on all measures of performance.
Doidge et al. (2001)	Estimated Tobin Q for 955 cross listed (CL) firms and compared it with 7725 control firms from 40 countries in 1997 by observing premiums for these firms.	Average premium of CL firms is 16%, compared with 36.5% for exchange-listed CL firms. Inferences made about cross listing by firms are to assure investors that they will not be exploited and to reduce cost of capital.
Bhattacharya & Daouk (2002)	Investigated the effect of IT laws and enforcement in 103 countries in 1998 on the cost of capital (CC) using 4 methodologies; descriptive statistics, international asset prising model, dividend yields and country risk forecast survey.	IT laws do not reduce CC, but the enforcement of these laws has a significant negative effect on CC ranging between 0.3 to 7%.
Leuz et al. (2003)	Surveyed financial accounts of 8000 firms from 31 countries over the period 1990-1999. Used 4 proxies for earnings management to estimate countries engaged more in this practice.	Classified countries into 3 groups. Outside economies are mostly common law countries with large stock markets and low earnings management. Inside economies have the reverse characteristics and mostly of French origin.
Hope (2003)	Investigated the relationship between forecast accuracy and degree of enforcement of accounting standards using a sample of 890 firms from 22 countries during 1992-1993.	Significant positive association between enforcement of accounting standards and forecast accuracy concluding that strong enforcement forces managers to follow rules, hence reducing analyst's accounting uncertainty.
La Porta et al. (2003)	Analysed characteristics of securities laws governing IPOs, responsibilities of issuers and distributors, and their relationship with 7 measures of market development using data from 49 countries in 1993.	Securities laws matter a great deal to market development. Private enforcement, through disclosure and liability rules, is more beneficial to stock markets than public enforcement.
Wulandari & Rahman (2004)	Investigated the relationship between the accounting regulatory environments and the value relevance of earnings using firm level	The association between value relevance of earnings and accounting regulatory environment is stronger for code law and

	data (24,462 firm-years for the period 1996-2001) from thirty-five countries.	emerging market countries than for developed common law countries suggesting that the former group can benefit more from good quality accounting regulatory environments.

This group of studies has reported the significance of the legal system and the accounting institutional environment in explaining the phenomena under investigation. However, the legal origin of a country is one factor influencing disclosure regulation and explaining cross-country variation in disclosure regulation, and there are a number of internal and external environmental factors that affect disclosure requirements and enforcement in different countries (Cooke & Wallace 1990).

3.7.3 Studies Investigating the Introduction of Accounting Regulation

The third group follows a within-country time series approach investigating directly the impact of introducing accounting regulation. A very limited number of studies have followed this approach focusing on developed countries. Table 3.4 summarizes these studies.

Table 3.4 Empirical Studies using the Within-Country Time Series Approach

Author	Data, Period, and Methodology	Findings and Conclusions
Stigler (1961)	Compared two groups of new shares issues, one in the pre Act period (1923-28), the other in the post Act period (1949-55), calculating the average of the price performance of each group relative to the price performance of the market for the corresponding period.	Variance in relative price performance of individual share issues around the average of the group declined by almost half between the pre Act group and the post Act group.
Benston (1973)	Studied the effect of periodic disclosure requirements on 466 NYSE firms under the 1933 exchange Act by comparing the average decline of the variance of the month-to-month residuals (as a measure of price dispersion) of a group of disclosing firms to that of non-disclosing ones.	A small insignificant amount of decline existed between the two groups concluding that the post Act disclosure requirements did not reduce the riskiness of non-disclosing firms.
Simon (1989)	Return information on stocks and stocks issues from 1926-1940. Compares performance of new issues with old stock before and after the 1933 SEC Act.	Found a low variance for the share issues made after mandatory disclosure was imposed compared to those made in the pre Act period.
Fox et al. (2003)	Examined the effects of a change in disclosure rules by the SEC in December	Reported a statistically significant reduction in R^2 after imposition of the new

	1980 using a sample of 2690 firms in1980 and a sample of 2988 firms in 1982 using the $R^{sup 2}$ methodology to examine more directly the price-accuracy effects of mandatory disclosure.	requirements, suggesting that share prices did in fact become more informed as a result of the provision of more meaningful information due to the enhance requirements.
Inchausti (1997)	Investigated the effect of accounting reform in 1990 on financial disclosure by analysing annual reports of 49 Spanish firms over a three years period (1989-1991) using an index of 30 mandatory items from three regulatory sources and 20 voluntary items and controlling for certain firm specific characteristics.	Indicated that the introduction of new legislation increased levels of mandatory information disclosure even before it became mandatory. However, the results indicated that legislation did not influence voluntary disclosure.
Walker & Mack (1998)	Studied the effect of regulation on the publication of consolidated statements by investigating reporting practices of 779 non-mining Australian companies listed on the Sydney Stock Exchange as at the first of January 1958 by reviewing evidence of the first use of consolidated accounting by holding companies listed on Sydney's Stock Exchange.	Reported that the majority of Australian companies complied with consolidation accounting as a result of the authority of regulation related to the practice of consolidation accounting and that statutory requirements were more influential than listing rules of the stock exchange, and more influential than the professional recommendations.
Owusu-Ansah &Yeoh (2005)	Examined the effect of the Financial Reporting Act of 1993 (FRA) on mandatory disclosure practices of companies listed on the New Zealand Exchange by comparing mandatory disclosure compliance of 50 New Zealand's firms with FRS after the Act with that before the Act, while controlling for certain firm specific characteristics.	Reported significant improvement in mandatory disclosure compliance by New Zealand companies following the use of legislation, which mandated the use of FRSs. The results of the study further indicated that increased mandatory disclosure compliance was significantly associated with auditor type, company size, and profitability.

Earlier examples of this group of studies such as Stigler (1961), Benston (1973) and Simon (1989) investigated the impact of the 1933 and 1934 SEC Securities Acts on the accuracy of securities prices. These studies compared two groups of new share issues, one in the pre-Acts and the other in the post-Acts periods and reported a reduction in the price dispersion after the imposition of the mandatory disclosure requirements. The authors explained that the mandatory disclosure of more meaningful information led to more accurate prices.

In a recent study, Fox et al. (2003) investigated the influence of a SEC disclosure rule imposed in 1980, on the accuracy of stock prices. Fox et al. (2003) examined the effects of a change in disclosure rules by the SEC in December 1980 that enhanced requirements concerning management's discussion and analysis (MD&A) of issuer financial condition

and operating results. This change in disclosure rules required managers to disclose any material information suggesting that the issuer's most recent results are not necessarily indicative of future operating results or future financial condition. The study used the R^2 methodology[7] to examine more directly the price-accuracy effects of mandatory disclosure.

The authors used a sample of 2690 firms for the year 1980, and 2988 firms for the year 1982, one year before and one year after the implementation of the enhanced MD&A requirements. They reported a statistically significant reduction in R^2 after imposition of the new requirements, suggesting that share prices did in fact become more informed as a result of the provision of more meaningful information due to the enhanced MD&A requirements. Such a result is strong evidence that disclosure regulation can increase the amount of meaningful information reflected in share prices and increase share price accuracy. The authors further asserted that share price accuracy enhanced the efficiency with which capital is allocated.

Other more recent studies have shifted the focus to other countries investigating the influence of accounting disclosure regulation on corporate mandatory disclosure. Examples are Inchausti (1997), Walker & Mack (1998), and Owusu-Ansah & Yeoh (2005). The three studies followed a before and after approach comparing financial disclosure practices after the introduction of the regulation with that before its introduction.

Inchausti (1997) empirically investigated the effect of accounting reform on financial disclosure in Spain. The author analysed the annual reports of 49 Spanish firms over a three years period (from 1989-1991) to investigate the influence of the imposition of new Spanish accounting rules enforced in 1990. The author used an index of 30 mandatory items from three regulatory sources (14 Stock Exchange items, 12 Accounting Law 19/1989 items and 4 General Accounting Plan items), and 20 voluntary items. The study

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[7] R^2 is an inverse proxy for how much fundamental information concerning future shareholder distributions is impounded in share prices: the lower the R^2, the more accurate the share price.

controlled for certain firm specific characteristics namely, size, stock exchange cross listing, profitability, leverage, audit firm, industry type, and dividend pay-out.

Using cross-sectional and panel data regression models, the empirical results indicated that the introduction of new regulation increased levels of mandatory information disclosure even before it became mandatory. However, the results indicated that the new regulation did not influence voluntary disclosure. Overall, this study supported the notion that market forces alone were not enough to improve information disclosure, hence, confirming the need for accounting regulation to ensure a satisfactory level of information disclosure. Further, the study reported that size, cross listing and audit of firm size were among the most significant determinants of disclosure levels of Spanish firms.

The study suffered from a number of deficiencies. First, the author's use of a disclosure index was subjective since she did not include all compulsory items; rather the choice depended largely on the opinion of the author which could have influenced the results. Second, the study did not control for other important factors that have been associated with voluntary disclosure particularly governance factors (such as ownership structure, presence of an audit committee, and presence of non-executive directors).

Another study is Walker & Mack (1998) who examined the effect of regulation on the publication of consolidated statements by investigating reporting practices of 779 non-mining Australian companies listed on the Sydney Stock Exchange as at the first of January 1958. The authors reviewed evidence of the first use of consolidated accounting by holding companies listed on Sydney's Stock Exchange. They related that evidence to the chronology of the development of statutory, professional and stock exchange regulations permitting or prescribing the use of consolidated accounting.

The authors reported that while few Australian companies have voluntarily employed consolidation accounting, the majority of companies complied with consolidation accounting as a result of the authority of regulation related to the practice of

consolidation accounting. In particular, the authors found that statutory requirements were more influential than listing rules of the stock exchange, and more influential than the professional recommendations at the time these lacked legal backing, which supported the notion that legally backed regulation had the strongest effect.

The study associated the changes in the regulatory requirements of the use of consolidation accounting with more usage of consolidated statements using a historical analysis. However, there were other factors influencing the use of consolidation accounting during the time period of the study such as the increase in complexity of businesses, the increase of practitioners' awareness of the benefits of consolidation accounting, and the increase in the role of professional bodies through education. Hence, the evidence provided by the study should be treated with care, and should have been supported empirically.

Finally, Owusu-Ansah & Yeoh (2005) examined the effect of the introduction of the 1993 Financial Reporting Act (FRA) on mandatory disclosure practices of companies listed on the New Zealand Exchange Limited. This Act gave statutory backing to the Financial Reporting Standards (FRS) that were voluntary prior to the enactment of the FRA and imposed punitive sanctions to non-complying companies. The authors used a before and after research design, using time as a surrogate for differences in regulatory requirements between two periods. The study covered a four years period (1 January 1992 to 31 December 1993 as the pre-FRA period and 1 January 1996 to 31 December 1997 as the post FRA period). Using a sample of 50 New Zealand's firms, the authors compared mandatory disclosure compliance with the FRA after the mandate of the Act with that before the Act. The study controlled for certain firm characteristics, namely company size, company age, liquidity, profitability, equity ownership, auditor type and industry type.

Using univariate testing and a pooled regression model, the authors reported significant improvements in mandatory disclosure compliance with the FRA by New Zealand companies following the use of regulation. The results of the study further indicated that

liquidity, auditor type, company size, and profitability were significantly associated with increased mandatory disclosure compliance. The use of a sensitivity test performed by differentiating the dependent variables provided stronger evidence to the significance of the effect of the regulatory changes compared to the effect of the other variables. Hence, the results supported the proposition that disclosure regulation backed by more stringent enforcement mechanisms led to higher mandatory disclosure compliance. This is because compliance with accounting standards is influenced by the enforceability of these standards such that non-compliance would be illegal (Owusu-Ansah & Yeoh 2005).

A major weakness of this study apart from the small sample size of 50 companies is that the study failed to control for other factors that could have an influence on corporate disclosure such as corporate governance mechanisms.

3.8 Institutional Environment of Accounting Regulation in Jordan

The aim of this section is to examine the institutional environment of accounting regulation in Jordan. It further discusses the significance of the enactment of the 1997 Company Law (CL), and the 2002 Securities Law (SL) aiming at the adoption of the IAS/IFRS. Also, this section examines the restructuring of Amman Financial Market, which was a result of the enactment of the Temporary Securities Law in 1997, and the influence of this step on enhancing enforcement and hence compliance with mandatory disclosure requirements in Jordan. This law resulted in the establishment of three institutions emerging from AFM, these were: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Centre (SDC) (JSC 2007). The following section provides a historical overview of the accounting profession and the prevailing accounting practices in Jordan prior to the disclosure regulatory reforms, followed by a discussion of the recent reforms, namely the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law.

3.8.1 Historical Overview of Disclosure Practice in Jordan

Regulated accounting practice is recent in Jordan. The accounting profession was governed by the following laws dealing with the practice of accounting, and to a limited

extent regulating the company law and the taxation law (Solas 1994; Abu-Nassar & Rutherford 1996). The first professional law to regulate entrance to the profession was enacted in 1961, allowing accountants that practiced the profession for two years to be licensed. This law was later amended in 1985 allowing an Audit Bureau to regulate the entrance examinations to the profession, the practice of the profession and the professional body (Solas 1994). Accounting practice in Jordan was largely influenced by the educational background of practicing accountants, who received their accounting education in US, UK, Egypt, Lebanon and Jordanian universities. Hence, accounting practice was dominated by Anglo Saxon systems versus French ones.

The first Company Law was Law No. 12 enacted in 1964, administered by the Ministry of Industry and Trade (Naser 1998; Naser & Al-Khatib 2000). This law was loosely stated and very limited in scope (Solas 1994; Abu-Nassar & Rutherford 1996; Rawashdeh 2003). The Company Law was amended later and replaced by Law No. 1 of 1989. This Law required Jordanian companies to prepare an annual report with a profit and loss statement, a balance sheet, explanatory notes and an auditor's report[8]. No further requirements were specified as to the form and content of the financial statements except that they would be in accordance with Generally Accepted Accounting Principles (GAAP) without any specification to what constitutes GAAP. The Commerce Code (Trade Law No. 12 of 1966) also required all companies to keep a general journal, inventory records and a correspondence register. Again no specification was provided as to the form and content of the accounts (Ott et al. 1997).

Furthermore, listed companies must adhere to the requirements of Amman Financial Market (AFM). Article 17 of Amman Financial Market (AFM) Law No. 31 of the year 1976 required listed companies to make public disclosure of their performance and any material developments in their affairs that are likely to affect stock prices (Naser 1998; Naser & Al- Khatib 2000). However, AFM did not issue any requirements as to the form and content of the companies' accounts (Abu-Nassar & Rutherford 1996; Rawashdeh 2003). Also, the AFM required companies to prepare audited annual accounts in

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[8] The audit report must state that the company has complied with Company Law No. 1 of 1989

accordance with the Company Law No. 12 of 1964. A copy of the audited financial statements must be filed with the Income Tax Department, which required Jordanian companies to maintain proper accounting books and to make all deductions for tax purposes in accordance with sums appearing in the financial statements (Abu-Nassar & Rutherford 1996; Ott et al. 1997). The depreciation rate used for tax purposes was the straight-line method only as required by the tax law (Abu-Nassar & Rutherford 1996).

Amman Financial Market (AFM) commenced its operations in 1978 and issued a number of requirements for listed companies. However, public shareholding companies have been trading long before the establishment of AFM (Al-Hayale et al. 2005). The first public shareholding company was the Arab Bank the securities of which have been traded since the 1930s. Bonds were first issued in the early 1960s. Later, an unorganised securities market emerged in the form of unspecialised offices prompting the Jordanian government to consider the setting up of a securities market (Al-Hayale et al. 2005). AFM came into existence as a result of extensive studies carried out in 1975 and 1976 by the Central Bank of Jordan in cooperation with the World Bank's International Finance Corporation (IFC). In 1978, the AFM was established with quotations of 57 companies, rising to 120 companies in 1988 (Abu-Nassar & Rutherford 1996). In 2004, 161 public shareholding companies were registered with Jordan Securities Commission (ROSC 2005).

Further, in 1987, the Jordanian Association of Certified Public Accountants (JACPA) was brought into existence (under Law 42/1987). However, the role of JACPA[9] in accounting regulation was largely advisory and had no authority to issue accounting or auditing standards. In 1989, JACPA recommended that Jordanian companies adopt the IAS to be effective from January 1990 (Rawashdeh 2003). A number of companies did respond, however, compliance was expected to be slow and limited due to the absence of legal backing (Abu-Nassar & Rutherford 1996).

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[9] JACPA became a member of IFAC in October 1992.

To sum up, there was no legally established accounting and auditing standard setting body in Jordan, and the process of regulating accounting practice in Jordan was purely promulgated by the government (the Ministry of Industry and Trade) with a very minor role for the private sector, JACPA. Hence, accounting standard setting in Jordan could be described as legalistic (pure government approach). No enforcement mechanism, particularly punitive, existed to ensure compliance with the requirements of the law. In addition, accounting practice in Jordan was limited to the deficient recording of transactions, satisfying only the formalities of the outdated law requirements with no set form or content for financial statements. Indeed, and similar to other developing countries, accounting regulation in Jordan suffered from many weaknesses. A report by the World Bank (World Bank 1989, p.90) revealed that "in developing countries accounting and auditing practices are sometimes weak, and financial laws and regulations do not demand accurate and timely reports".

3.8.2 Jordan and IAS/IFRS

In the previous chapter, it was argued that privatization compels governments to revamp their disclosure regulations since the effectiveness of privatization in achieving its objectives is largely dependent on the efficiency of accounting systems and audit methodologies (Enthoven 1998). The outdated accounting systems of developing countries undermine the achievement of the objectives of privatization, hence, changes in accounting legislation including stock exchange regulations, corporate disclosure rules and audit requirements are of significant importance. Further, privatization is argued to be the most effective policy that governments use to attract foreign investments (Shehadi 2002). Thus, revitalizing disclosure regulations to more internationally acceptable and comparable accounting standards is a vital issue. To improve its overall accounting practices and promote the confidence of investors, Jordan adopted the full version of IAS/IFRS.

A heated debate on the relevance and adoption of the IAS/IFRS by developing countries has been going for several decades. Some researchers opposed the adoption of IAS/IFRS by developing countries arguing that the environment in these countries is completely

different from that in developed ones, deeming IAS/IFRS inappropriate for those countries (Samuels & Oliga 1982; Briston & El-Ashker 1984; Hove 1989). On the other hand, supporters argued that the adoption of IAS/IFRS by developing countries offers a cheap and politically attractive alternative that would facilitate economic growth (Collins 1989; Wyatt 1991).

Jordan's support for IAS/IFRS has been very strong manifested in the adoption of the full version of IAS/IFRS without any changes. This adoption indicates that Jordan is committed to the global model of accounting standards. Jordan's acceptance of the full version of IAS/IFRS is attributable to a number of factors; the international pressures to adopt the IAS/IFRS, the Jordanian accounting regulatory system, and to features of IAS/IFRS. Other factors are attributed to Jordan's economic, geographical and political environment.

3.8.2.1 International Pressures

Jordan has been under pressure to converge towards a global benchmark, IAS/IFRS, due to the globalisation of capital markets and pressures exerted by several international institutions including the International Accounting Standards Board (IASB), International Federation of Accountants (IFAC), the International Organization of Securities Commissions (IOSCO), the World Bank, and the International Monetary Fund (IMF).

3.8.2.2 The Jordanian Accounting Regulatory System

Jordan does not have the financial or administrative resources or expertise to undertake research aimed at formulating, maintaining and regulating its own standards. In Jordan, the accounting standard setting process was in the hands of a governmental agency constituting of people lacking the necessary expertise to formulate accounting standards. Hence, IAS/IFRS constituted a cheap and ready option for Jordan who had no capability to develop its own accounting standards.

3.8.2.3 Features of IAS/IFRS

IAS/IFRS have a number of features deeming them attractive. They are perceived to be politically neutral since they are internationally accepted rather than accepted in just one country (Saudagaran & Diga 1997). Further, IAS/IFRS are attractive for their perceived high quality, and for providing comparable accounting statements since their preparation is influenced by countries with strong accounting practices such the US and UK. Additionally, IAS/IFRS provide investors with a sense of confidence and comparability enhancing the credibility of the country's financial statements. Also, the use of IAS/IFRS is perceived to enhance markets efficiency and reduce potential costs for monitoring compliance of cross-listed firms (Ali 2005). This prompted competing countries in the Middle Eastern region, and else where, to adopt IAS/IFRS so as to become the leading financial centre.

3.8.2.4 The Environment of Jordan

Jordan was engaged in a number of initiatives to further improve its economic well being. It signed a bilateral investment agreement with the USA, concluded an association agreement with the EU in 1997, and signed an agreement for the establishment of a free trade area with the USA in 2000. Jordan is currently a member of the World Trade Organization (WTO), and is due to implement the Greater Arab Free Trade Area. Also, Jordan's various distinct features in terms of its geographical location at the meeting point of Asia, Africa and Europe, which made it an ideal gateway to the Middle East and hence attractive to the West, and the recent political stability in the region brought about by the Jordanian government after signing a peace treaty with Israel, made its capital market more attractive (Naser 1998; Al-Hayale et al. 2005). Therefore, Jordan capital market was expected to attract overseas investors and consequently information disclosure by listed Jordanian companies would become an important issue for prospective investors.

Consequently, Jordan enacted accounting regulations such as the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law aiming at introducing

IAS/IFRS and enforcing them, and creating new regulatory institutions namely the JSC, ASE and JDC responsible for monitoring regulatory compliance including disclosure compliance with IAS/IFRS. The following section provides an overview of the recent accounting regulatory reforms in Jordan.

3.9 Recent Reforms of Accounting Disclosure Regulation

In 1997, the Jordanian government enacted the Company Law No. 22, and in 2002 the Securities Law No. 76 were enacted calling for the compulsory adoption of IAS/IFRS. Table 3.5 identifies the recent reforms of accounting regulations, their requirements and the government agencies responsible for their implementation.

Table 3.5 Recent Accounting Regulatory Reforms and Responsible Government Agencies

Law	Governmental Agency	Major requirements (particularly in relation to company accounts)
Company Law 1997	Ministry of Industry and Trade (The Company Controller)	• All public Shareholding accounts kept in accordance with the International Accounting and Auditing Standards • All annual reports must be audited by an external auditor. The auditor report must address the following at the annual general meeting: data and explanations for satisfactory fulfilment of duties must be obtained; maintaining satisfactory accounting records; company financial statements (balance sheet, income statement, cash flow statement) are prepared according to IAS and ISA; audit procedures have been sufficiently followed; financial statements that are included in the Board of Director's report addressed at the General Assembly, comply with the company's records; and all legal requirements have been reflected in the accounts • Listed companies are required to form audit committees comprising three non-executive directors • Shareholders rights respected and improved investor protection.
Temporary Securities Law 1997	Prime Ministry	• Setting up three new institutions to replace AFM, namely: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Centre (SDC). • The separation of the supervisory and legislative role from the executive role of the capital market. Supervisory and legislative role entrusted to JSC. Executive role left to the private sector, ASE and SDC.
Securities Law 2002	Jordan Securities Commission	• Allowed forming an independent investor protection fund • Imposed stricter ethical and professional codes • A more stringent observance of the rule of law • Strengthened the powers of JSC, ASE and SDC • Listed companies must publish the following periodic reports: 1.An annual report, including financial statements certified by an auditor, within 90 days of the end of its fiscal year; 2.A semi-annual report within 30 days of the end of its bi-annual

		fiscal year; 3.A preliminary report about its activities submitted after a preliminary audit within a maximum period 45 days from the end of the fiscal year; 4. A report pertaining to the election of the board of directors or the executive board or any change in the composition or identity of any members.

As the Table above suggests, the recent accounting regulatory reforms were as follows. First, the enactment of the Company Law No. 22 of the year 1997. This law stated that public shareholding companies should prepare their accounts in accordance with the International Accounting and Auditing Standards. It further provided for regulations regarding governance rules such as protection of rights of shareholders, equitable treatment of shareholders and their role in corporate governance. Also, the Company Law required all annual reports to be audited by an external auditor, and to form audit committees comprised of three non-executive directors. However, the responsibilities of the audit committee, particularly with respect to compliance with the requirements of the JSC, were not laid down until the enactment of the 2002 Securities Law.

Second, the enactment of the Temporary Securities Law No.23 of the year 1997 aimed at restructuring and regulating the Jordanian capital market in conformity with International Accounting Standards in order to secure transparency, safe trading in securities and promoting investors confidence in the Jordanian capital market (ASE 2007). The Law provided for setting up three new institutions to replace AFM, namely: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Centre (SDC). A key element in this restructuring was the separation of the supervisory and legislative role from the executive role of the capital market. The supervisory and legislative role was entrusted to Jordan Securities Commission (JSC). As the regulator of the capital market, Jordan Securities Commission is responsible for setting and enforcing regulations, protecting investors and ultimately restoring investor's confidence in the capital market in Jordan (JSC 2007). The executive role was left to the private sector, Amman Stock Exchange (ASE) and the Securities Depository Centre (SDC). Amman Stock Exchange is in charge of many functions the most important of which are listing

enterprises on the Exchange, monitoring and regulating market trading in coordination with the JSC such that rules and regulations are enforced and compliance is achieved, attaining a fair market and investor protection, ensuring the provision of timely and accurate information of issuers to the market and disseminating market information to the public (ASE 2007).

Third, the enactment of the Securities Law No. 76 of the year 2002 required all entities to fully comply with the IFRS requirements in their preparation of their annual reports, and file annual audited reports at the JSC. Also, this law required listed entities to form audit committees of three non-executive directors that must meet at least four times a year to examine and discuss the company's internal control mechanisms including the work of both external and internal auditors and to monitor compliance with the requirements of the Securities Law (ROSC 2004). In addition, the law requires companies to publish their financial statements in Arabic in a widely circulated newspaper. Most importantly, the 2002 Securities Law provided for stringent enforcement of rules through strengthening the powers of the JSC, ASE and SDC (ASE 2007) (will be discussed in the next section).

3.10 Accounting Standards Enforcement and Compliance

As argued earlier, accounting standards and the mechanism used to implement and enforce them are complementary components of an accounting regulatory environment (Benston et al. 2003). It was also argued that enforcement could be achieved using a combination of preventive (ex ante) and punitive measures. In Jordan, the enforcement of accounting disclosure rules, particularly punitive measures, was the responsibility of governmental agencies. However, the recent regulatory reforms have empowered certain private sector regulatory institutions. Hence, shifting the regulation mode in Jordan from pure governmental mode to a hybrid mixed mode in which the government and the private sector cooperate in setting accounting regulation and in enforcing it. Table 3.6 provides a summary of the recent enforcement measures utilised in Jordan, preventive and punitive.

Table 3.6 Enforcement Measures Adopted by Jordanian Authorities

Type of Measure	Party Imposing The Measure
Preventive	
Licensing of auditors	The Jordanian Association of Certified Public Accountants (JACPA)
Audits by external auditors	Ministry of Industry and Trade by the Company Controller (CL 1997), and the Jordanian Securities Commission (JSC) (SL 2002)
Audit committees requirements	Ministry of Industry and Trade by the Company Controller (CL 1997), and the Jordanian Securities Commission JSC (2002)
Review of audited accounts	Ministry of Industry and Trade by Company Controller (CL 1997), and the Jordanian Securities Commission JSC (SL 2002)
Punitive	
Dissolve or revoke company boards	Ministry of Industry and Trade by the Company Controller (CL 1997)
Imposing fines on companies	The Jordanian Securities Commission JSC (SL 2002)
Suspension or delisting from trading in the ASE	The Jordanian Securities Commission JSC (SL 2002)

As the Table indicates, the 1997 Company Act has introduced many preventive and punitive enforcement measures. In terms of auditing as a preventive measure, up until 2004, the Accounting Professional Council and the Jordanian Association of Certified Public Accountants were responsible for licensing auditors (Ott et al. 1997), however, they did not have the power to issue standards, regulate, administer and enforce compliance with laws. In June 2003, a new Accountancy Profession Law has been issued leading to the creation of a new body, the Higher Council for Accounting and Auditing in March 2004. The Higher Council has given new powers to JACPA, improving its status such that it can draft its own bylaws, inspect the working papers of its members and penalise non-complying members (ROSC 2004). However, the Higher Council does not have the capacity to enforce high auditing standards (ROSC 2005).

The 1997 Company Law and the 2002 Securities Law also require annual reports to be audited by external auditors. While audited annual reports were a requirement by the old Company Law, the JSC required to be audited in accordance to ISA. Further, the 1997 Company Law mandated the formation of audit committees to be composed of three non-executive directors. The 2002 Securities Law spelled out the responsibilities of the audit committees including the nomination of an external auditor, ensuring that he fulfils the requirements of JSC, ensuring his independence, monitoring corporate compliance with

the Securities Law requirements, examining the periodic financial reports, and reviewing the internal control procedures (ROSC 2005). Audited annual reports must be filed with JSC within 90 days of fiscal year end and with the Company Controller at least 21 days prior to the Annual General Meeting of the Company. The JSC staff is responsible for monitoring the quality of disclosure of the annual reports, however, their review is not comprehensive (ROSC 2005).

Further, JSC was empowered by the 2002 Securities Law, particularly articles 17-24, to issue fines, suspend trading or delist issuers. It also has the right to conduct any investigation, inspection or auditing to determine if any person has violated any of the provisions of the Securities Law or the JSC regulations, and summon witnesses to testify under oath (ASE 2007). In 2003, JSC imposed 356 enforcement actions mostly for lack of proper disclosure (ROSC 2005) after discovering instances of non-compliance, JSC sent letters to errant companies and auditors asking them to correct their accounts. Moreover, the 1997 Company Law gave authority to the Company Controller (the Ministry of Industry and Trade) to dissolve a company's board or revoke its registration. Further amendments to the 1997 Company Law gave the Controller more powers such as issuing fines (ROSC 2005).

A report on the observance of standards and codes in Jordan by the joint World Bank-IFM (ROSC 2005) stated that "compliance with filing and disclosure standards is generally good. About 40% of listed companies make a high-quality disclosure" (ROSC 2005, p.11). Yet, Al-Hayale et al. (2005) reported that only 25% of listed companies complied fully with the IAS/IFRS. Hence, this study provides the empirical evidence regarding the influence of the recent accounting regulation reforms on mandatory disclosure compliance by Jordanian listed firms. Jordan is continuing in its efforts to improve levels of compliance with accounting standards through drafting new related regulations. For instance, the ASE powers are increased in accordance with a new regulation such that ASE makes financial analysis on a yearly basis as it receives all financial statements and categorizes companies in three different markets according to certain criteria based on profitability, capital and some other factors. Further, the ASE is

given the power to delist the company or downgrade the listing in the market and charging penalties.

Following the above discussion, the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law were major changes in the disclosure regulatory environment in Jordan. These laws aimed at enforcing the adoption of the full version of the IAS/IFRS and enforcing compliance with them. Hence it is expected that compliance with the IAS/IFRS is stronger in 2004 than in 1996 as a result of the enactment of the regulatory reforms. Therefore, the following hypothesis is formulated:

Hypothesis 3.1: Mandatory disclosure compliance in the annual reports of listed Jordanian companies is higher after introducing the disclosure regulatory reforms than before the introduction of the disclosure regulatory reforms.

3.11 Summary and Conclusion

This chapter discussed accounting regulation, its definition, and the main arguments supporting and opposing its enactment. It further introduced an overview of the history of accounting regulation. It seems that a form of accounting regulation existed late the 19th century, and developments of accounting regulation were traced leading to the conclusion that accounting regulation was mainly utilised in response to shocks in the financial reporting environment.

The rationale for and against accounting regulation was discussed. The main rationale for accounting regulation was to protect investors, secure an equal access to accounting information by all investors, ensure the production of an optimal amount of information, and enhance the efficiency of markets. Arguments against accounting regulation are based on the free market notion arguing that organizations have private economics based incentives to produce accounting information voluntarily.

Furthermore, a classification of nations according to the sectors responsible for setting and enforcing accounting regulations led to the identification of four approaches for setting accounting regulation, these are; a pure market based approach, a professional approach, a hybrid approach, and a legalistic approach. Also, another classification has been provided for enforcement mechanisms into preventive measures (ex ante), and punitive measures (ex post).

A large number of studies have investigated the influence of accounting regulation and/or the accompanying enforcement mechanisms on corporate disclosure levels and properties. These studies supported the proposition that regulation matters, and that accounting legislation and the enforcement mechanisms associated with it are essential components of the accounting regulatory infrastructure. However, the evidence investigating the effect of regulatory reform on corporate disclosure compliance is scarce and has so far targeted developed countries justifying by that this study.

Recently, the Jordanian government introduced a set of legal measures through which it enacted new laws, the 1997 Company Law and the 2002 Securities Law, focusing on the adoption of the IAS/IFRS. Also, the 1997 Temporary Securities Law was enacted aiming at restructuring the capital market, which led to the establishment of three new institutions replacing the old Amman Financial Market (AFM); the JSC, ASE and JDC. These new institutions were given more powers and authority with the enactment of the 2002 Securities Law such that rules are stringently enforced and non-compliance with mandatory disclosure requirements is penalized. These reforms aimed at improving the transparency of financial statements and creating a more favourable investment environment in Jordan so as to pave the way to privatization. These reforms focus was on converging towards IAS/IFRS driven by international pressures, Jordan's inability to formulate its own standards; the many attractive features of IAS/IFRS; Jordan's geographical location and political stability. The next chapter will discuss corporate disclosures, its determinants and other related issues.

Chapter 4
Corporate Disclosure

4.1 Introduction

The objective of this chapter is to review the empirical literature relating to corporate disclosure. The main themes of the previous disclosure research are identified and the present study is put in context.

In the previous chapter, it was argued that the introduction of disclosure regulation and adequate enforcement mechanisms have positive influence on corporate disclosure and lead to an increase in mandatory disclosure compliance. It is also suggested that managers have private economics based incentives to provide stakeholders with the information voluntarily. This type of disclosure has been termed voluntary disclosure. Hence, this chapter starts with defining disclosure and its types (section 4.2). Section 4.3 discusses the motivations of voluntary disclosure, while section 4.4 examines the constraints of voluntary disclosure. Section 4.5 reviews selected empirical studies relating disclosure to different determinants, particularly those relevant to the present study. Section 4.6 summarizes the chapter.

4.2 Disclosure Definition and Types

According to Lev (1992, p. 9) disclosure includes "quantitative (e.g., earnings, dividends) as well as qualitative communications (e.g., a strategy statement) of retrospective or prospective (e.g., an earnings forecast) nature". Corporate disclosure might be a result of compulsory requirements laid down by statue, professional regulations and listing requirements of stock exchanges referred to as mandatory disclosure (Marston & Shrives 1991). Firms compliance with compulsory requirements might also be prompted by their need to confirm with their peers' accounting practices since this conformity reduces the costs of evaluating the company's performance within its industry and consequently increasing its share prices and liquidity (Lev 1992). Examples of mandatory disclosure

are financial statements, footnotes, management discussion and analysis and other regulatory fillings (Healy & Palepu 2001).

However, firms tend to augment their disclosures in response to social and economic factors referred to as voluntary disclosures. Meek et al. (1995, p. 555) defined voluntary disclosures as "disclosures in excess of requirements, represent free choices on the part of company managements to provide accounting and other information deemed relevant to the decision needs of users of their annual reports". Examples of voluntary disclosures are management forecast, analysts' presentations, conference calls, press releases, Internet sites and corporate reports. Lev (1992) identifies a third type of disclosure, which are the actions or "commitments" aimed at enhancing the impact of disclosures. Other types of disclosures have been investigated such as segment disclosure (Bradbury 1992; Prencipe 2004), interim reporting (Leftwich et al. 1981), communication on research and development (Entwistle 1999), ratio disclosure (Watson et al. 2002), environmental and social disclosure (Cowen et al. 1987) and disclosures on provisions (Chavent et al. 2005).

4.3 Motivations of Voluntary Disclosure

As argued earlier, two types of disclosure can be identified, mandatory and voluntary disclosure. Mandatory disclosure is encouraged by compliance with compulsory accounting requirements imposed by regulatory authorities. It is ensured by effective enforcement mechanisms, to monitor compliance and impose punishment in cases of non-compliance (Ali 2005). Absent effective enforcement mechanisms, effective capital markets and accounting professions might lead to non-compliance with mandatory rules (Ahmed & Nicholls 1994).

Healy & Palepu (2001) argue that due to the imperfectness of accounting regulation, a more likely possibility, managers would trade off between making accounting decisions and disclosures to communicate their knowledge of the firm's performance to investors. Thus, managers' decisions to voluntarily disclose more information are driven by several incentives and constraints such as private contracting, mitigating information asymmetry; reducing the possibility of undervaluation in the market linked to takeover propositions

and stock-based compensation; signalling management talent (Healy & Palepu 2001; Graham et al. 2005); increasing analyst coverage, extending the limitations of mandatory disclosure (Graham et al. 2005); and changing shareholders mix (Lev 1992). The following section offers a discussion of these incentives.

4.3.1 Private Contracting

Within the context of agency theory, managers are perceived to be self-interested, opportunistic individuals. Hence, in the absence of information about the performance of the organization, owners (shareholders) will assume that the manager is acting according to his/her self-interest, which might result in shirking and other dysfunctional behaviour (Jensen & Meckling 1976; Watts & Zimmerman 1986). To protect their interests from opportunistic management, shareholders will reduce the price they pay for the shares, and likewise debtholders will price-protect demanding higher returns. This will lead to an increase in the cost of capital for the organization and consequently lowering its value. Thus, management will enter contracts with shareholders and debtholders in which they will safeguard their interests from management opportunistic behaviour. These contracts impinge on accounting numbers, thus leading to the production of accounting information (Kaplan & Atkinson 1989).

4.3.2 Mitigating Information Asymmetry

Information disclosure plays an important role in maintaining the efficiency of capital markets through mitigating information asymmetry. Economic theory provides the rationale outlining this argument postulating that because managers have more information; investors demand an information risk premium (Graham et al. 2005). Firms increase their voluntary disclosure to reduce information risk. Further, voluntary disclosure reduces information asymmetry between uninformed and informed investors reducing by that the cost of capital (Botosan 1997; Leuz & Verrecchia 2000; Bushee & Neo 2000; Admati & Pfleiderer 2000), increasing the liquidity of a firm's stock (Diamond & Verrecchia 1991; Kim & Verrecchia 1994; Botosan 1997; Leuz & Verrecchia 2000; Admati & Pfleiderer 2000), improving the market price of securities

(Fishman & Hagerty 1989) and hence increasing markets efficiency (Admati & Pfleiderer 2000). Also, Healy & Palepu (2001) argued that firms expecting to issue securities provide voluntary disclosures to reduce information asymmetry and hence reduce their cost of external financing.[10]

4.3.3 Management Signalling and Compensation

According to this argument, managers have an incentive to voluntarily disclosure information to signal to the market in general and their shareholders in particular their managerial talent and to avoid undervaluation of their organizations (Deegan 2001; Healy & Palepu 2001). Moreover, managers rewarded through stock compensation plans have incentives to voluntarily disclose information to meet the rules of insider trading and increase liquidity of the firms' securities and to reduce contracting costs associated with stock compensation for new employees (Healy & Palepu 2001).

4.3.4 Market for Corporate Takeover

This argument posits that managers will voluntarily disclose more information out of fear of losing their jobs in cases of poor stock performance, so as to reduce the possibility of undervaluation and consequently, reducing the risk of a takeover (Deegan 2001; Healy & Palepu 2001).

4.3.5 Market for Lemons

Akerlof (1970) argued that due to information (lemons) asymmetry between managers and shareholders, shareholders wouldn't be able to distinguish between good and bad firms since managers with bad firms would claim that their firms are good. Consequently, this would result in undervaluation of good firms and overvaluation of bad ones. Hence, managers are motivated to voluntarily disclose accounting information to resolve the "lemons" problem.

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[10] Referred to as the capital markets transaction suggesting that voluntary disclosure increases before and during periods of external financing (see Lang and Lundholm 1993 and Healy and Palepu 2001).

4.3.6 Increasing Analyst Coverage

Lang & Lundholm (1996) contended that firms providing additional information attract analysts coverage facilitated through lower analyst information acquisition costs, hence improving the accuracy of market expectations and consequently reducing their cost of capital.

4.3.7 Extending Mandatory Disclosures

Graham et al. (2005) argued that most managers perceive that voluntary disclosures complemented, explained and corrected the gaps in the usefulness of mandatory disclosures to financial statements users. Further, the authors noted that mandatory disclosure is largely limited to financial information, hence justifying the need for voluntary disclosures targeting non-financial indicators of the firms' performance.

4.4 Constraints of Voluntary Disclosure

While the above arguments constituted the incentives motivating management to increase their level of disclosure, by contrast, companies are faced by a number of constraints that discourage them from full disclosure. These constraints (costs) can be classified into direct and indirect constraints. Direct constraints (costs) are the costs of producing, disseminating and auditing information (Admati & Pfleiderer 2000). Indirect costs are those that result from the impact of disclosure on the company's activities (Lev 1992). These are: reluctance to set a strong disclosure precedent; threat of litigation; possibility of competitive disadvantage (i.e., proprietary costs); agency costs; political costs (Healy & Palepu 2001; Graham et al. 2005); and the increase in stock market volatility (Bushee & Noe 2000). Therefore, managers' decisions to voluntary disclose supplementary information depends on balancing the incentives (benefits) and the constraints (costs) of increasing information disclosure. The following sections discuss these constraints.

4.4.1 Disclosure Precedent

Graham et al. (2005) noted that most managers limit voluntary disclosure to avoid setting a disclosure precedent that is difficult to maintain in the future. This is so since the market would expect firms to commit to the same level of disclosure regardless of whether the news was good or bad.

4.4.2 Litigation Costs

The threat of litigation can have two contradictory effects on firms' disclosure practices (Healy & Palepu 2001; Graham et al. 2005). Litigation can induce managers to voluntarily disclose information out of fear of inadequate or untimely information particularly bad news. By contrast, management might reduce their information disclosure, particularly forward-looking information out of fear of being penalized by the legal system, which cannot distinguish between forecasts errors and those biased by management (Healy & Palepu 2001).

4.4.3 Proprietary Costs

Meek et al. (1995, p. 556) stated that "proprietary costs arise when information is revealed that potentially damages the firm, such as if it results in increased competition or government regulation". Accordingly, giving away company secrets is an important barrier to more voluntary disclosure since some disclosures might jeopardize the firm's competitive position in the product market (Healy & Palepu 2001; Verrecchia 2001; Dye 2001). However, the degree of influence of this constraint depends on the nature of competition the firm is exposed to (Healy & Palepu 2001).

4.4.4 Agency Costs

It was argued earlier that more information disclosure was perceived as a solution to agency problems. However, management might limit their voluntary disclosures to avoid unwanted attention from stakeholders. For instance, they might limit voluntary disclosures to avoid potential follow-up questions about other unimportant items which

might result in possible tension between management and shareholders (Graham et al. 2005).

4.4.5 Political Costs

Positive theory literature emphasizes the role of political costs in accounting and disclosure decisions (Watts & Zimmerman 1978, 1986). It argues that larger firms are under scrutiny by various groups such as governments, regulatory agencies, employee groups, consumer groups, and environmental lobby groups, looking for excessive profits and high product prices. Thus, large firms tend to manipulate their information disclosure policies so as to decrease political costs (Lev 1992; Deegan 2001).

4.4.6 The Increase in Stock Market Volatility

Bushee & Noe (2000) reported that improvements in disclosure rankings might cause speculation and lead to increases in stock market volatility. The authors noted that improved disclosure has an indirect cost which is attracting short sighted institutional investors leading to more volatile stock prices which in turn lead to increased riskiness of firms and increasing the cost of capital.

4.5 Empirical Disclosure Research

A large body of research has explored corporate disclosure beginning in the early 1960s and continuing. Empirical disclosure studies have attempted to examine disclosure levels and empirically relate them to certain firms' characteristics, drawing on agency theory, signalling theory, political costs and capital needs theory (Marston & Robson 1997). Disclosure levels are examined through careful quantification of disclosed items in accounting reports, particularly in annual financial statements. This was usually done through constructing a disclosure index, which is a list of selected items disclosed in company reports, and then the quantity of disclosed items is related to certain firm attributes or other governance or environmental factors.

4.5.1 Disclosure Indexes

Disclosure studies have utilised two alternative approaches in their construction of the disclosure indices. The first approach was based on constructing a disclosure index by examining actual disclosures in firms' annual reports and linking disclosure to certain firm attributes. The second approach was based on sending a questionnaire to a number of financial statements' users and investors requesting them to rank the accounting items according to the degree of importance as perceived by these parties and then relating these items to a number of firm characteristics.

Both weighted and unweighted disclosure indices were used in the measurement of disclosure. Unweighted indices were based on actual disclosure levels in annual reports scoring each item equally (Cooke 1989a; 1989b; Wallace et al. 1994). Weighted indices were based either on assigning weights to different items based on the literature or personal judgment (Barrett 1976; Amernic & Maiocco 1981) or based on the results of questionnaires sent to users of accounts (Firth 1979).

Three main types of disclosure indices were used across disclosure studies: mandatory, voluntary and a combination of both (aggregate) (Ahmed & Courtis 1999). Mandatory indices are used to measure compliance with regulations, while voluntary indices show the level of voluntary disclosures. Further, some indices include a mixture of mandatory and voluntary items measuring both types of disclosures. Earlier disclosure studies examined the general level of disclosure using different constructs such as adequacy, extent, comprehensiveness and depth of disclosure. Buzby (1974) is one example of studies using the construct adequacy, while Barrett (1976), Wallace et al. (1994) and Naser (1998) used the construct comprehensiveness. Others used the construct extent (e.g. Patton & Zelenka 1997; Owusu-Ansah 1998) and the construct depth (e.g. Naser et al. 2002). Yet, most of these studies did not offer a precise definition of the construct they use. Wallace & Naser (1995) suggest that disclosure does not have any characteristics through which its quality can be determined. They add that a construct is used as "a proxy for disclosure and refers to a standard of disclosure excellence which can be

measured along a continuum from poor to excellent" (p.327). The above discussions are utilized in developing the disclosure indexes in Chapters 5 and 6.

4.5.2 Disclosure Studies

This section surveys prior disclosure research and looks at the different determinants studied. These determinants have drawn on positive accounting theory (agency theory, signalling theory, and capital need theory). This study builds on the prior research by incorporating many of the variables investigated in the following sections in the same model of corporate disclosure.

The majority of the earlier disclosure studies were conducted in developed countries, particularly the US, investigating the level of disclosure and its association with certain firms' attributes within a particular country (the US-Cerf 1961; Singhvi & Desai 1971; Buzby 1975; Stanga 1976; Imhoff 1992; Lang & Lundholm 1993; the UK-; Firth 1979; Gray et al. 1995; Canada-Belkaoui & Kahl 1978; Amernic & Maiocco 1981; Sweden-Cooke 1989a; Cooke 1989b; Spain- Inchausti 1993; Wallace et al. 1994; Inchausti 1997; Switzerland- Raffournier 1994; Japan-Cooke 1992).

A number of studies have adopted a comparative approach investigating information disclosure across two or more developed countries and linking it to country and firm specific factors (Barrett 1976; Zarzeski 1996; Camfferman & Cooke 2002). While both types of studies (single country and comparative studies) aim at identifying determinants of financial disclosure, the first strand focus is on the relationship between firm specific factors and corporate disclosure, and the second strand implies that national environments (e.g. culture, regulatory environment) have also an influential role in firm's financial disclosure (besides firm specific factors) (Diga 1996).

Recently, more attention has been devoted to developing countries investigating the association of information disclosure with firm attributes (India-Singhvi 1968; Czech Republic- Patton & Zelenka 1997; Mexico-Chow & Wong-Boren 1987; Nigeria-Wallace 1988; Hong Kong-Benjamin et al. 1990; Wallace & Naser 1994; Jordan- Naser 1998;

Naser & Al Khatib 2000; Naser et al. 2002; Bangladesh-Akhtaruddin 2005; Owusu-Ansah 1998; 2000; Egypt- Mahmood 1999).

Furthermore, with the emergence of IASC (currently IASB) and the adoption of IAS/IFRS by many companies, several studies have addressed the issue of disclosure compliance with IAS/IFRS and investigated the impact of different company attributes on levels of disclosure compliance with IAS/IFRS (Switzerland-Dumontier & Raffournier 1998; Murphy 1999; Germany-Leuz & Verrecchia 2000; Europe-Maria & Ana; the rest of the world-El-Gazzar et al. 1999).

In recent years, disclosure studies have started incorporating other factors to explain the varying levels of disclosure. The most important of these variables are corporate governance factors such as ownership structure, board of director's composition and the presence of audit committees (ownership structure-Craswell & Taylor 1992; McKinnon & Dalimunthe 1993; Hossain et al. 1994; Raffournier 1995; Ho & Wong 2001; Chau & Gray 2002; Eng & Mak 2003; board of directors composition-Forker 1992; Malone et al. 1993; Chen & Jaggi 2000; Haniffa & Cooke 2000; Gul & Leung 2004; audit committees-Forker 1992). The following sections will discuss the different disclosure studies.

4.5.2.1 Studies Relating Disclosure to Firm Specific Attributes

4.5.2.1.1 Developed Countries Studies

Most of the earlier studies to empirically investigate disclosure level and its association with certain firms' attributes were U.S. based. Cerf (1961) pioneered the empirical disclosure research followed by Copeland & Fredericks (1968), Singhvi & Desai (1971), Buzby (1975) and Cooke (1989a). Other studies examined the generalist disclosure in developed countries covering the US, UK and Continental Europe. In addition to the above-mentioned studies, very few examined mandatory disclosure solely. By contrast, voluntary disclosure research is abundant. One explanation for this special attention to voluntary disclosure in developed countries is that it was expected that firms in these countries would adhere to mandatory requirements; hence firms would augment their disclosures as they perceive that the benefits of this increased disclosure will exceed the

costs (Cooke 1992). Some of these studies are Firth (1979), McNally et al. (1982), Firth (1984), Cooke (1989b) and Lang & Lundholm (1993). Table B.1 (Appendix B) summarises some disclosure studies conducted in developed countries and their findings.

4.5.2.1.2 Developing Countries Studies

The globalisation of capital markets and harmonisation of accounting standards has created an increasing attention to developing markets. Further, information disclosure by companies from these countries deserved special attention since they have fewer incentives to exercise transparent disclosure practices compared to companies from developed countries. It is also expected that these companies would possess characteristics different from their developed counterparts and hence an assessment of their characteristics is warranted. Singhvi (1968) pioneered disclosure studies in developing countries investigating the extent of disclosure of Indian firms.

Four studies relate particularly to Jordan, hence these studies are discussed here. Naser (1998) empirically examined the effect of specific financial characteristics on the comprehensiveness of disclosure in the annual reports of 54 listed non-financial Jordanian companies at the end of 1994. The author used a weighted disclosure index of 74 items and tested the data using ranked OLS regression. The results showed that size, leverage, and return on equity were statistically associated with disclosure comprehensiveness. Naser & Al-Khatib (2000) assessed the depth of disclosure in the statement of the board of directors of 84 non-financial Jordanian companies in 1996 using a disclosure index of 30 unweighted items. Descriptive statistics, correlation and stepwise regression were used to analyse the data, and the analysis revealed that disclosure was positively associated with size, profitability and gearing ratio. The authors examined ownership structure in terms of government ownership and individual ownership as possible determinants of disclosure and found that individual ownership had a negative significant association with disclosure, while government ownership had a positive significant influence on the depth of disclosure by Jordanian listed firms.

The third study is Juhmani (2000) who examined the general level of disclosure by 40 non-financial Jordanian companies in the year 1997. Using an unweighted disclosure index of 33 discretionary items, the author examined the association of disclosure with size, audit firm, liquidity ratio and return on equity. He found that liquidity and return on equity had a significantly positive association with disclosure with the latter having the stronger significant influence on disclosure. The fourth study is Naser et al. (2002) examining the depth of disclosure of 84 non-financial companies listed in Amman Financial Market (AFM) for the year 1998/1999. They constructed an unweighted disclosure index of 86 items and reported that size; audit firm, liquidity, gearing ratio, and profitability were significantly associated with disclosure. The four studies failed to incorporate other governance mechanisms such as the presence of family members on the board of directors, presence of an audit committee, and the existence of dominant personalities (CEO/Chairman duality). Further, none of these studies investigated disclosure compliance with IAS/IFRS despite the early adoption by Jordanian companies to the IAS/IFRS.

Empirical studies investigating disclosure in developing countries have also targeted mandatory disclosure and its determinants. Examples of these studies are Tai et al. (1990) and Owusu-Ansah (1998). The study of voluntary disclosure and its determinants is relatively new in the context of developing countries. One of the earliest voluntary disclosure studies in developing countries is Chow & Wong-Boren (1987) examining voluntary disclosure by Mexican firms. Other studies followed such as Hossain et al. (1994), Ferguson et al. (2002) and Alsaeed (2005). Table B.2 (Appendix B) summarizes selected disclosure studies conducted in developing countries and their findings.

Disclosure studies both in developed and developing countries have explored determinants of disclosure levels (mandatory, voluntary or both) based on agency theory, signalling, political cost theory and capital needs theory. The results of these studies indicated that the most significant determinant was size, while the results concerning listing status, leverage, profitability and size of the audit firm were mixed. Reasons for the mixed results as suggested by Wallace et al. (1994, p.43) were:

> The changing features of prior studies, such as the number of firms included in the sample, the type and number of firm characteristics examined, the number of information items that formed the basis of the set of disclosure indexes as a dependent variable, the different statistical methodologies used to analyse the data and the different settings (i.e. countries) of the study, have jointly or severally contributed to the mixed results…

Moreover, these studies had a number of weaknesses. First, most of the above mentioned studies have focused on disclosure in annual reports since they are the main means for communication ignoring other means of disclosure. Second, these studies have suffered from the problem of omitted variables such as corporate governance mechanisms.

4.5.2.1.3 Comparative Studies

Previously, it was stated that comparative studies investigated a broader set of factors influencing firm disclosure levels. Among these factors were: economic development (Belkaoui 1983; Belkaoui & Maksy 1985; Adhikari & Tondkar 1992); culture (Zarzeski 1996; Archambault & Archambault 2003); legal system (Jaggi & Low 2000); and the political system (Belkaoui 1983; Williams 1999). The outcome of both strands of studies (single and comparative) implied that country specific factors and company specific factors were equally important in explaining disclosure levels (Diga 1996).

Other comparative studies targeting developed countries are Choi (1973), Barrett (1976), Belkaoui (1983), Meek & Gray (1989), Adhikari & Tondkar (1992), Gray et al. (1995), and Meek et al. (1995). Examples of comparative studies targeting developing countries are Diga (1996), Jaggi & Low (2000) and Ali et al. (2004). Table B.3 (Appendix B) summarizes selected comparative disclosure studies.

Despite the importance of comparative studies in highlighting the significance of a broader set of factors that could influence company disclosure levels, these studies suffered from a number of shortcomings. First, these studies focused on the largest publicly held firms neglecting the smaller and unlisted companies (Cooke 1989b; Adhikari & Tondkar 1992). Second, developing a construct to capture environmental variables was problematic. Third, constructing a suitable disclosure index was subjective,

and unlikely to be meaningful since there is no internationally agreed perception of disclosure items (Cooke & Wallace 1989).

4.5.2.2 Corporate Governance Studies

Disclosure studies that have been discussed so far, examined the association of firm attributes with disclosure levels. However, these studies reached inconsistent results due to the reasons discussed earlier and possibly to the failure to incorporate corporate governance mechanisms. A wide array of governance mechanisms has been investigated within the disclosure research, i.e. ownership structure (e.g. McKinnon & Dalimunthe 1993; Hossain et al. 1994; Raffournier 1995), board composition (e.g. Forker 1992; Malone et al. 1993; Haniffa & Cooke 2002), management compensation and the presence of audit committees (e.g. Forker 1992; Ho & Wong 2001).

One of the earliest developed countries' studies to investigate governance variables was Forker (1992). Other examples are Malone et al. (1993) McKinnon & Dalimunthe (1993), Schadewitz & Blevins (1998), and Bujaki & McConomy (2002). Recently, several studies started to examine the influence of governance mechanisms on corporate disclosure in developing countries. Examples of these studies are Chen & Jaggi (2000), Ho & Wong (2001), Haniffa & Cooke (2002), Chau & Gray (2002), Eng & Mak (2003), and Gul & Leung (2004). Table B.4 (Appendix B) summarizes these studies and their findings.

4.5.2.3 Studies Examining Disclosure Compliance with IAS/IFRS

An important and complementary part of empirical disclosure studies are those examining disclosure compliance with IAS/IFRS. These studies were driven by the need to advocate for and ascertain compliance with IAS/IFRS, due to the significance of complying with IAS/IFRS to the quality of financial disclosure and reflecting the concerns of standard setters, regulators and investors (Ali 2005). Extending the disclosure literature, these studies investigated the degree of compliance/non-compliance with IAS/IFRS to assist the IASB, IFAC and other interested parties in identifying factors hindering the adoption of IAS/IFRS (Street & Gray 2001).

Extensive research has explored compliance with IAS/IFRS and the factors associated with non-compliance. Much of this research is reviewed by Ali (2005). Earlier studies have examined compliance levels with IAS/IFRS without exploring the factors driving non-compliance. Examples of these studies are Evans & Taylor (1982), Nobes (1990) and Street et al. (1999). Research in this area has been extended to developing countries examining compliance/ non-compliance levels on Zimbabwean companies (Owusu-Ansah 2000; Chamisa 2000) and Bahraini companies (Joshi & Ramadhan 2002). These studies concluded that developing countries have adopted the IAS/IFRS and are complying in varying degrees from one standard to another. Another major and important conclusion is that the adoption of IAS/IFRS has helped achieve the objectives and improved the effectiveness of financial reporting.

Another stream of studies have sought to investigate the association between compliance with IAS/IFRS and firm characteristics (Solas 1994; Dumontier & Raffournier 1998; El Gazzar 1999; Murphy 1999; Street et al. 1999; Tower et al. 1999; Street & Bryant 2000; Street et al. 2000; Street & Gray 2001; Abd-Elsalam & Weetman 2002; Glaum & Street 2003; Susilowati et al. 2005). Table B.5 (Appendix B) provides a summary of these studies. One study, of significance to Jordan, is Solas (1994) investigating compliance with IAS/IFRS by Jordanian listed companies; hence the study and its findings are discussed below.

Solas (1994) examined the extent of disclosure compliance with IAS 1 and IAS 5 in the year 1988 (one year before the recommendation of Jordan Association of Certified Public Accountants (JACPA) in 1989 to adopt IAS, taking effect from January 1990). He also examined the association of a number of company characteristics (number of shareholders, size of the company assets, rate of return, and earnings margin) with the extent of disclosure. Forty-five non-financial Jordanian companies were surveyed. The author developed a weighted disclosure index of 31 items based on the requirements of the two standards. The weights of the index were determined based on the results of a questionnaire sent to Jordanian auditors. The study showed that compliance was not at an acceptable level (46.35%) and no significant association was reported between the corporate characteristics examined and compliance levels. Despite the importance of the

study to regulators and international accounting bodies pressing for harmonisation, the study suffered from a number of deficiencies. First, at the time of the study Jordanian companies had not adopted IAS. Hence, many of the items considered by the study were not part of the reporting and disclosure practices of Jordanian companies justifying by that another recent study particularly after the mandatory adoption of IAS. Second, the use of low explanatory power univariate statistics to test the association between disclosure and the hypothesised variables might have led to the non-significance of any of the variables.

Overall, the evidence provided by the above discussed disclosure studies indicated that different variables could be incorporated as determinants to disclosure levels, proposing a potential influence of other unexplored factors. Hence, the search for other factors explaining the variance in levels of disclosure is not confined by positive accounting theory; rather the door is open to other theoretical explanations.

4.6 Summary and Conclusion

This chapter discussed corporate disclosure, its determinants and motivations and provided an overview of the literature investigating corporate disclosure. Two forces have been identified to influence corporate disclosure, accounting regulation and market forces. These two forces lead to two main types of corporate disclosure, mandatory and voluntary. Hence, the production of information could be compulsory in response to accounting requirements, and voluntary in response to stock market motives. These motives have been categorised into incentives and constraints, such that the decision to voluntarily disclose supplementary information depends on balancing the incentives (benefits) and the constraints (costs).

An overview of the abundant disclosure literature was provided. Empirical disclosure studies have examined disclosure levels and attempted to identify company specific variables that would explain variance in disclosure levels. These company specific variables were based on agency theory, political cost theory, signalling theory, and

capital needs theory. Disclosure levels were measured by quantifying the disclosed items within surveyed companies' annual reports into a disclosure index.

Recently, empirical disclosure studies have started incorporating other variables as possible determinants of disclosure levels such as environmental factors and corporate governance variables. Another important part of disclosure literature was the studies examining disclosure compliance with IAS and factors associated with compliance/non-compliance with IAS. This study complements previous literature by using variables utilized by previous research and adds other factors influencing disclosure practice particular to certain countries, in this case Jordan.

Chapter 5

The Impact of Privatization through Changes in Ownership Structure and Governance Reforms on Voluntary Disclosure: Empirical Evidence

5.1 Introduction

This chapter analyses the impact of privatization on the extent of voluntary disclosure by listed Jordanian companies. It provides evidence regarding the level of voluntary disclosure in Jordan and its determinants for the year 1996 (before privatization) and the year 2004 (after privatization) using cross-sectional regression models. It further furnishes empirical evidence regarding the influence of changes in ownership structure resulting from privatization and governance reforms on voluntary disclosure using panel data estimation techniques. Almost all the disclosure studies discussed in the previous chapter assessed the static effects of different types of ownership and governance on voluntary disclosure. This study extends the research on voluntary disclosure by developing a dynamic model using panel data estimation techniques so as to examine the influence of privatization on the extent of voluntary disclosure. This study is the first to examine the impact of privatization on corporate disclosure.

While the static models used by previous research were consistent, these models suffered from misspecification and omitted variable bias. Econometrically, the problem with static models is that they are likely to be simplified formulations of more accurate, dynamically specified models of the true underlying economic processes. Hence, the next section discusses panel data analysis used to model the dynamic effects (section 5.2). Section 5.3 presents the development of hypotheses. Section 5.4 presents the research design including data selection, developing the voluntary disclosure index and the measurement of independent variables. Section 5.5 reports the descriptive statistics and the univariate tests. Section 5.6 provides the evidence regarding voluntary disclosure using cross-

sectional and panel data models and their results. Section 5.7 provides a summary of the results. Finally, section 5.8 presents conclusions for the empirical analysis.

5.2 Panel Data Analysis

Static regression models employ cross sectional data in which the values of the data points have meaning. In panel data analysis both the values and ordering of the data points have meaning. Hence, panel analysis permits the study of the dynamics of change across time, and enhances the quality and quantity of data since it combines both the cross-sectional and time dimensions of data allowing an examination of a larger number of observations. In addition, panel data analysis has the advantage of providing more accurate inferences of model parameters since it contains more degrees of freedom and less multicollinearity than cross sectional data (Hsiao 2005).

Panel data analysis is advantageous in constructing and testing hypotheses regarding the impact of privatization on voluntary disclosure. The evaluation of the impact of privatization using a cross-sectional sample does not provide the possibility of observing what happens when a company is privatized. A company is observed as either privatized or not privatized. Panel data has the advantage that it is possible to observe the before and after effects of privatization as well as providing the possibility of isolating the effects of privatization from other variables affecting voluntary disclosure (Hsiao 2003). Therefore, panel data estimation is the most suitable method of capturing the variation over time of corporate disclosure, since it is able to control for temporal changes in the firms' operating environment.

5.3 Development of Hypotheses of Control Variables

It is argued that privatization leads to the transfer of ownership from the state to private owners (Megginson & Netter 2001). These owners place greater emphasis on profit and efficiency (Boycko et al. 1996; Shleifer & Vishny 1997) and require more information disclosure. For instance, foreign investors have a reputation of their strict monitoring of

management actions and demand high standard comparable information disclosure (Dyck 2001). Also, institutional investors are known to exert close control over management so as to guarantee superior returns (Boutchkova & Megginson 2000). Further, individual investors are associated with more information disclosure to educate themselves about the company they invest in (Susilowati et al. 2005). For privatization to be effective in influencing the extent of voluntary disclosure, these owners must be effective in influencing voluntary disclosure.

In chapter two, several corporate governance variables have been discussed and their related hypotheses regarding their influence on voluntary disclosure were examined. In addition to the ownership and governance variables, the study incorporates a number of control variables. These are: firm size, leverage, profitability, size of auditor, listing, industry type, liquidity, and age. The choice of these variables was based on their relevance to the socio-economic environment of Jordan, the ease of measurement and the availability of data relating to these variables.

5.2.1 Firm Size

The most prominent variable to feature in almost all previous disclosure studies is the size of the firm. Arguments explaining the significance of this variable were drawn on agency theory and political cost theory. Based on agency theory, as the firm size increases, agency costs increase compelling management to disclose more information to ease agency conflicts (Chow & Wong-Boren 1987). Political cost theory hypothesizes that larger firms are exposed to political visibility since they account for a great proportion of goods and services, number of employees, and due to the enormity of their activities. Hence, large firms respond to political pressure by voluntarily increasing their disclosure (Diga 1996). Another argument that justifies more information disclosure by large firms is their superiority and expertise in producing comprehensive and detailed information. Additionally, the high costs of the generation and dissemination of information and the complexity of the business of large firms, puts them in a better position to produce more information.

This study will use a number of variables that have been utilized as a measure of the firm size, namely; total assets (Cerf 1961; Buzby 1975; Firth 1979; Chow & Wong-Boren 1987; Cooke 1989a; 1989b; Hossain et al. 1994; Inchausti 1997; Chen & Jaggi 2000; Naser et al. 2002; Archambault & Archambault 2003; Owusu-Ansah & Yeoh 2005; Barako et al. 2006) , market capitalization (Belkaoui & Kahl 1978; Chow& Wong-Boren 1987; Lang & Lundholm 1993; Hossain et al. 1994; Wallace & Naser 1995; Naser 1998; Naser et al. 2002) , and net sales (Wallace & Naser 1995; Inchausti 1997; Chen & Jaggi 2000; Naser et al. 2002). The use of these measures as proxies for size is in accordance with previous research and to compare the results of this study with the results of previous studies. Company size was found to be the most important determinant of disclosure by the majority of disclosure studies. Therefore it is hypothesized that:

Hypothesis 5.1: Firm size (whether measured by total assets, market capitalization or net sales) is positively associated with the level of voluntary disclosure.

5.2.2 Leverage

Agency theory postulates that as firm debt increases, bondholders' interests are protected by restrictive covenants in debt contracts. Hence, management would increase its disclosure to ensure that the terms of the covenants are not violated (Watts & Zimmerman 1990). It is also suggested that highly leveraged firms incur higher monitoring costs (Jensen & Meckling 1976). Further, Ahmed & Nicholls (1994) argued that in countries where financial institutions are a source of company funds, companies with high debts are expected to disclose more information. This is similar to the Jordanian environment in which listed firms largely depended on borrowing from financial institutions. As with the firm size variable, a number of measures for leverage have been utilized through out the literature. These are total liabilities to shareholders' equity (Diga 1996; Inchausti 1997; Haniffa & Cooke 2002), long-term liabilities to shareholders' equity (Hossain et al 1994; Wallace & Naser 1995; Naser 1998; Chau & Gray 2002; Gul & Leung 2004) and total liabilities to total assets (Dumontier & Raffournier 1998; Chen & Jaggi 2000; Naser et al. 2002; Alsaeed 2005; Barako et al. 2006). Results of these studies were mixed. While Hossain et al. (1994), Naser (1998),

Naser & Al-Khatib (2000) Naser et al. (2002), Barako et al. (2006) found a significant positive association between leverage and disclosure, Chow & Wong-Boren (1987), Ahmed & Nicholls (1994), Wallace et al. (1994), Diga (1996), Inchausti (1997), Cheng & Courtenay (2006) did not find any association. Therefore, the study uses all measures as proxies for leverage and hypothesizes that:

Hypothesis 5.2: Leverage whether measured by total liabilities to equity (leverage), long-term liabilities to equity (long term leverage) or total liabilities to total assets (gearing ratio) is positively associated with the level of voluntary disclosure.

5.2.3 Profitability

Prior disclosure studies have drawn on agency theory and signalling theory to explain the association between profitability and disclosure. Agency theory postulates that managers of profitable firms disclose detailed information to increase investors' confidence, and support their positions and compensation arrangements (Inchausti 1997). Signalling theory suggests that high performing firms disclose more information so as to signal to the market its superior performance (Wallace & Naser 1995). Moreover, Lang & Lundholm (1993) argue that when information asymmetry exists, profitable firms are likely to increase their disclosure. On the other hand, Owusu-Ansah (1998) argued that poor performing companies may disclose more information to justify their unsatisfactory performance. Empirical evidence regarding profitability is mixed implying that the direction of the relationship between profitability and disclosure is not clear (Lang & Lundholm 1993). Two variables are used in this study to measure profitability; return on equity (ROE) and profit margin. Hence, it can be hypothesized that:

Hypothesis 5.3: Profitability whether measured by ROE or profit margin is positively associated with the level of voluntary disclosure.

5.2.4 Size of Auditor

Previous research suggested that the size of the auditor firm is an important determinant of disclosure. This is because small audit firms are sensitive to their clients' demands,

while large audit firms are less likely to depend on a few clients leading to less bonding between them and their clients, hence, demanding the disclosure of more information from their clients (DeAngelo 1981). Also, Firth (1979) contends that large audit firms need to maintain their reputation by providing high quality audit resulting in more information disclosure. In addition, large audit firms are pressured by the World Bank not to sign their names as auditors to any annual report not complying with the IAS (Street & Gray 2001). Dumontier & Raffournier (1998) contend that large audit firms compel their clients to adopt the IAS because of the superior training of their employees and the existence of economies of scale in the development of competence in IAS/IFRS.

Therefore, this variable is measured based on the size of the auditing firm such that Jordanian listed companies are categorized into two groups. The first group includes companies utilizing the services of one of the big audit firms (6 big audit firms in 1996 and 4 in 2004) or a local firm with international affiliations to one of the big audit firms. The second group includes companies using the services of local audit firms without affiliations to the big audit firms. Empirical evidence on the influence of size of audit firm on disclosure practice is far from obvious. While a number of studies reported a positive significant association (Singhvi & Desai 1971; Ahmed & Nicholls 1994; Patton & Zelenka 1997), another group of studies did not find any association (Firth 1979; Wallace et al. 1994; Owusu-Ansah 1998) and a third group of studies found a negative association (Wallace & Naser 1995). Naser et al. (2002) reported a significant negative relationship between the size of the audit firm and the depth of corporate disclosure by Jordanian listed firms. Therefore, it is hypothesized that:

Hypothesis 5.4: Using the services of Big audit firm (6 in 1996; 4 in 2004) is positively associated with the level of voluntary disclosure.

5.2.5 Liquidity

Liquidity ratio tests the ability of the firm to meet short term commitments. As such, a high liquidity ratio is an indicator of good management performance. Accordingly, companies with higher liquidity ratios are expected to disclose more information

(Belkaoui & Kahl 1978). Again the empirical evidence regarding liquidity is ambiguous. While Belkaoui & Kahl (1978) found no association between liquidity and disclosure, Wallace et al. (1994) and Naser et al. (2002) both reported a significant negative relationship between liquidity and the extent of disclosure. Thus, it is hypothesized that:

Hypothesis 5.5: Liquidity is positively associated with the level of voluntary disclosure.

5.2.6 Industry Type

It is postulated that firms in the same industry disclose similar information to third parties (Wallace et al. 1994). Meek et al. (1995) suggested that proprietary costs (competitive disadvantage and political costs) vary across industries making certain disclosed information items more relevant for certain industry group, hence industry membership influences voluntary disclosure. In addition, it was argued that companies belonging to the manufacturing sector may have more information to disclose than companies in non-manufacturing ones (Cooke 1992).

In Jordan, the Amman Stock Exchange divides companies into four sectors; banks, insurance, manufacturing and services. Since this study is interested only in the non-financial companies the latter two are considered. Also, some companies in utilities and manufacturing sectors are infrastructure companies, and are expected to disclose more information since they are larger and are more politically sensitive than the others. Therefore, the three types of industry considered in this study are: infrastructure (Industry type1), manufacturing (Industry type 2 = default level) and services (Industry type 3).

Empirically, the influence of industry type on disclosure is mixed. Stanga (1976); Belkaoui & Kahl (1978); Cooke (1989); Wallace & Naser (1995) all reported a significant association between industry type and disclosure, Raffournier (1995); Inchausti (1997); Naser (1998); Naser & Al-Khatib (2000); and Naser et al. (2002) reported insignificant relationships between industry type and disclosure. Therefore, the following hypothesis is formulated:

Hypothesis 5.6: Industry type is positively associated with the level of voluntary disclosure.

5.2.7 Listing

The firms selected for this study are listed Jordanian firms. In 1996, the Amman Stock Exchange (ASE) had two markets a first market and an over the counter market. Recently, Amman Stock Exchange-ASE has been divided into three markets according to the following criteria; Paid-in capital, market value, per annum earned profits, distributed profits, shareholders' equity, turnover ratio and trading days. This system is established so that investors can readily know the status of the company they want to invest in and the requirements it has fulfilled (ASE 2007). The third market is the market where a new company trades its shares. After a full year elapses, the company can trade its shares through the second market provided that the company's net shareholders' equity is not less than 50% of its paid in capital. For a company to progress to the first market the company must be listed for a full year on the second market, the company's capital must not be less than JD 2 million, its net shareholders' equity not less than its paid in capital, the company turnover ratio of shares over the last twelve months must not be less than 10%, and the company's trading days of shares must not be less than 15% of overall trading days for the same period.

Previous research examined international/regional listing versus local listing, or unlisted versus listed companies based on capital needs theory and agency theory. For instance, Cooke (1989) contended that multiple listed companies (versus locally listed ones) might increase their disclosure to demonstrate that they act responsibly and hence be able to attract new funds. Also, agency theory suggests that companies with multiple listing have more shareholders increasing by that the potential for conflict between owners and management and increasing monitoring costs compelling these companies to disclose more information in their annual reports to reduce monitoring costs. Empirically, Malone et al. (1993) hypothesized that the extent of financial disclosure for firms listed on a major stock exchange (New York Stock Exchange NYSE or American Stock Exchange

AMEX) is greater for firms whose stock is traded over the counter markets (NASDAQ) and their results supported their hypothesis. This study investigates the disclosure of firms listed on the first market versus those listed on the over the counter market (or second and third markets in 2004). In this study it is expected that Jordanian companies listed on the first market might increase their disclosure to increase their ability to raise funds and reduce monitoring costs as they have more shareholders than companies listed on the second and third markets. Therefore, it is hypothesized that:

Hypothesis 5.7: Listing status is positively associated with the level of voluntary disclosure.

5.2.8 Company Age

Owusu-Ansah (1998) suggests that company age is an important determinant of disclosure practice. He contends that older firms are more likely to disclose more information because their disclosure would not endanger their competitive status as opposed to younger firms, and because younger firms would not have any past operating history to disclose information about. Courtis (1979) did not find an association between firm age and disclosure, while Owusu-Ansah (1998) reported a positive significant association suggesting that the longer the age of the firm the higher the extent of its information disclosure. Hence, it is hypothesized that:

Hypothesis 5.8: Firm age is positively associated with the level of voluntary disclosure.

5.2.9 Voluntary Disclosure Changes of Privatized Firms Compared to Non-Privatized Ones

Privatization studies concluded that almost always privatized firms became more efficient, more profitable and financially healthier (Megginson & Netter 2001). It is also suggested that privatized firms were capable of bridging the pre-privatization performance gap with private firms and achieving higher performance than their private counterparts (La Porta & Lopez-De-Silanes 1999). Similarly, if privatization is effective

in influencing firms' disclosure, then it is expected that privatized firms might have better disclosure than non-privatized ones. Hence, the study introduces a dummy variable (PR) that takes the value of 1 for privatized firms and 0 for non-privatized ones. This variable is intended to capture whether privatized firms disclosure levels is better than those for non-privatized firms after privatization. Also, privatization studies reported improvements in the performance of firms that were about to be privatized in preparation for privatization and attempting to attract investors. Therefore, this variable is also used to detect whether firms that were about to be privatized have better disclosure levels than private ones. Hence, it is hypothesized that:

Hypothesis 5.9.1: Firms that were about to be privatized exhibit higher levels of voluntary disclosure than their counterparts before privatization (in 1996).

Similarly, it is hypothesized

Hypothesis 5.9.2: Privatized firms exhibit higher levels of voluntary disclosure than the non-privatized ones after privatization (in 2004).

5.3 Research Design
5.3.1 Data Selection

Public non-financial companies listed on Amman Stock Exchange represent the population for this study. Financial companies such as banks and insurance companies were not included since they follow specific disclosure requirements (Naser et al. 2002). Annual reports for the years 1996 and 2004 were used, one year before privatization took place and one year after. Annual reports for listed companies in 1996 were used as a basis for the annual reports of the 2004. A total of 108 non-financial companies were listed on the Amman Stock Exchange (ASE) in 1996. To ensure that the maximum number of annual reports were obtained, a letter was sent to the Company Controller at the Ministry of Industry and Trade in Jordan (where all annual reports are filed) requesting the 108 annual reports. However, 98 annual reports were received of which 4 annual reports had missing data leaving the sample at 94 annual reports. Annual reports for the year 2004

were available at the Jordan Securities Commission website (www.jsc.gov). Of the 94 non-financial listed companies, the annual reports of 24 companies in the 2004 were not available. The remaining 24 annual reports were requested from the Company Controller at the Ministry of Industry and Trade and only 10 were received. The remaining 14 annual reports could not be obtained due to bankruptcy, mergers or were subject to a take over. Consequently, the study is based on 80 matched pairs of companies (7 infrastructure companies, 46 manufacturing and 27 services). In the final sample of 80 companies (Table C.1, Appendix C), 27 companies were privatized, while the remaining 53 companies are either privately owned or the state still holds a substantial stake in them (the term non-privatized will be used to distinguish these companies from the privatized ones in the following sections of the chapter). While this procedure limits the sample size, it is preferred since every company serves as its own control (Owusu-Ansah & Yeoh 2005).

5.3.2 Voluntary Disclosure Indices (VOLDIS)

Consistent with prior disclosure studies, this study develops a disclosure index to measure the extent of voluntary disclosure (the dependent variable) by Jordanian companies. Other methods of measuring the dependent variable were suggested such as content analysis. Whether a disclosure index is used or content analysis, the regression analysis produces similar results (Barako et al. 2006). Before establishing the disclosure index, a voluntary disclosure checklist is prepared based on information firms provide in their annual reports. While there are other means of reporting, the annual report serves as a good proxy for voluntary disclosure since annual report disclosure levels are positively correlated with the amount provided by other means (Botosan 1997). To arrive at the items of the checklist the following steps were followed. First, an extensive review of previous voluntary disclosure studies, particularly developing countries' studies, was undertaken as a guide in selecting the most common items across those studies (Buckland et al. 2000; Hossain et al. 1994; Haniffa & Cooke 2002; Eng & Mak 2003; Barako et al. 2006). Second, the study needs to develop a comprehensive disclosure list encompassing all voluntary items disclosed by the companies so as to capture the influence of changes in voluntary disclosure over time (Marston & Robson 1997), thus room was provided for

more items in the checklist by screening the annual reports. Third, since the items must not be mandatory, that is over and above what is required by the Jordanian Company Law (1997) and the Securities Law (2002), the two sources for disclosure regulation in Jordan, the list was modified by eliminating mandatory items. Fourth, and consistent with previous disclosure studies[11], the list was sent to three auditing professionals in Jordan to consult them on the relevance and extensiveness of the voluntary disclosure items. Their feedback resulted in a final list of 86 voluntary items reported in Table C.2 (Appendix C). The final list contains background information, strategic information, information about directors, capital market data, product/services information, financial data, employees' information and segments and research information.

An important issue often featuring in disclosure literature is whether to use a weighted or an unweighted disclosure index. Both approaches have their weaknesses. Using an unweighted index is criticized on its assumption that each item of disclosure is equally important. Under this approach dichotomous scores are used, where an item is rewarded 1 when it is disclosed, and 0 is rewarded when it is not (Alsaeed 2005). On the other hand, a weighted index which is based on a subjective importance rating either by the researcher or by a group of surveyed financial statement users, may introduce bias towards a certain group of users. Nevertheless, evidence from previous research supported the notion that there is no significant difference between the results produced by the weighted and the unweighted disclosure indexes (Chow & Wong-Boren 1987). Thus, this study uses an unweighted scoring approach.

Another vital issue in disclosure research is whether to penalize a firm when an item is not disclosed. One way of dealing with this issue is not to penalize a firm for non-disclosure if the item is not relevant to the firm. Such a judgment can be made after reading the entire annual report (Cooke 1992). Accordingly, the annual report for each

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[11] Wallace and Naser (1995, p.330, footnote no. 11) argue that researcher created disclosure indexes suffer from external validity. Hence it is preferable "to use disclosure scores issued by those who evaluate annual reports on a regular basis such as the annual ratings of the level of disclosure in the CARs of US firms listed on the New York Stock Exchange (FAF Reports) published by the Financial Analysts Federation Information Committee in the United States". However, when there are no such ratings, the disclosure list should be pre-tested before usage by accounting and/or auditing professionals in the country under study.

company is awarded a score of 1 if a voluntary item is disclosed and 0 if it failed to disclose it provided it is relevant. Therefore, the voluntary disclosure index (denoted VOLDIS) for each company is measured as the ratio of the actual score awarded to the maximum possible score, defined as follows

Equation 5.1

$$\text{VOLDIS}_{jt} = \frac{\sum_{i=1}^{n_{jt}} x_{ijt}}{n_{jt}}$$

Where

VOLDIS $_{jt}$ = the voluntary disclosure index for the jth company in the year t, where t is either 1996 or 2004

n_{jt} = number of voluntary items that were relevant for the jth firm in the year t, $n_{jt} \le 86$

x_{ijt} = 1 if ith (relevant) item disclosed by the company j in the year t

= 0 if ith (relevant) item not disclosed

Such that $0 \le \text{VOLDIS}_{jt} \le 1$.

5.3.3 Measurement of Independent Variables

The independent variables in this study are categorized into three groups: ownership variables, corporate governance variables, and company-specific variables (control variables). Information for the variables was sought from two main sources, the annual reports and the Annual Jordanian Shareholding Company Guide for the years 1997 and 2005 available at the web site of Amman Stock Exchange (ASE). Table C.3 (Appendix C) summarizes the definitions and measurement of the independent variables.

5.4 Descriptive Statistics and Univariate Tests
5.4.1 Dependent Variable

Table 5.1 offers a summary of the companies' voluntary disclosure scores for the years 1996 and 2004 for privatized firms. Comparing the data for the two years, the Table

shows an increase in the extent of voluntary disclosure over the time period of the study. By the year 2004, four companies disclosed more than 50% of the items included in the disclosure index. Also, in 1996, 7 companies scored less than 10% of the voluntary disclosure index, by 2004 only one company was in that category pointing to a noticeable increase in the voluntary disclosure of the privatized firms. Table 5.2 compares the voluntary disclosure scores of non-privatized firms showing an increase in the extent of voluntary disclosure with less companies disclosing in the 10% category and more companies disclosing in the other categories. Also, the Table shows a remarkable increase in the 30% category from 3 to 17 companies, while 5 disclosed more than 40% in 2004 compared to 1 in 1996. Finally, Table 5.3 compares the data for the whole sample showing the same trend as in Tables 5.1 and 5.2. While none of the companies disclosed over 50% in 1996, 6 disclosed in that category in 2004. Also, 36 companies disclosed below the 10% margin in 1996, this number reduced to only 7 in 2004.

Table 5.1 Voluntary Disclosure Scores: A Comparison 1996-2004 for Privatized Firms

Disclosure Score (%)	1996		2004	
	No. of Companies	%	No. of Companies	%
<=0.1	7	26	1	4
0.11-0.2	14	52	12	44
0.21-0.3	3	11	7	26
0.31-0.4	0	0	3	11
0.41-0.5	3	11	0	0
0.51-0.6	0	0	2	7.5
> 0.6	0	0	2	7.5

Table 5.2 Voluntary Disclosure Scores: A Comparison 1996-2004 for Non-Privatized Firms

Disclosure Score (%)	1996		2004	
	No. of Companies	%	No. of Companies	%
<=0.1	29	54.7	6	11.3
0.11-0.2	18	34	20	37.7
0.21-0.3	3	5.7	17	32.1
0.31-0.4	2	3.8	5	9.4
0.41-0.5	1	1.8	2	3.8
0.51-0.6	0	0	2	3.8
> 0.6	0	0	1	1.9

Table 5.3 Voluntary Disclosure Scores: A Comparison 1996-2004 for the Whole Sample

Disclosure Score (%)	1996		2004	
	No. of Companies	%	No. of Companies	%
<=0.1	36	45	7	8.75
0.11-0.2	32	40	33	41.25
0.21-0.3	6	7.5	23	28.75
0.31-0.4	2	2.5	8	10
0.41-0.5	4	5	3	3.75
0.51-0.6	0	0	3	3.75
> 0.6	0	0	3	3.75

These findings are confirmed by the descriptive statistics for the dependent and the independent variables reported in Tables C.4, C.5 and C.6 (Appendix C). Table C.4 (Appendix C) presents the descriptive statistics for privatized firms for the year 1996 (Panel A), the year 2004 (Panel B), and for the pooled sample (years 1996 and 2004 shown in Panel C). It can be seen from the Table that the level of voluntary disclosure is generally lower in 1996 than in 2004, with a mean of 0.1677 in 1996 and a mean of 0.2635 in 2004 showing an increase in the extent of voluntary disclosure in the annual reports of listed privatized Jordanian companies. Also, Tables C.5 and C.6 present descriptive statistics for the dependent and the independent variables for the non-privatized and the whole sample respectively for the year 1996 (Panel A), the year 2004 (Panel B) and for the pooled sample (Panel C). The Tables show the same trend as in Table C.4, pointing to an increase in the mean voluntary disclosure of listed non-privatized Jordanian firms from 0.1189 in 1996 to a mean of 0.2224 in 2004 (from a mean of 0.135 in 1996 to a mean of 0.236 in 2004 for the whole sample).

These findings are further confirmed by the results of the univariate testing reported in Table 5.4 below. As the Table shows, the Wilcoxon matched pair test is used to examine whether statistically significant differences exist between the extent of voluntary disclosure of the years 1996 and 2004 for privatized firms, non-privatized firms and the whole sample. This test is used for the untransformed variables since it does not require

the assumption of normality (Cooper & Schindler 2003). For the transformed variables, the paired t test is used.

Table 5.4 Test of Differences in the Means of Voluntary Disclosure

Variable	Wilcoxon matched pair test (untransformed data)		Paired t-test (transformed data)[12]	
	Test statistic: w	p value*	Test statistic: t	p value*
Privatized firms (n=27) VOLDIS 1996 versus VOLDIS 2004	907.5	0.0044	6.57	0.000
Non-privatized firms (n=53) VOLDIS 1996 versus VOLDIS 2004	1991	0.0000	9.85	0.000
Whole sample (n=80) VOLDIS 1996 versus VOLDIS 2004	4695.5	0.0000	11.47	0.000

* All probabilities are two tailed

As shown by the Table, the mean differences in the extent of voluntary disclosure in 1996 against 2004 are significant for privatized firms, non-privatized firms and the whole sample. These results support the earlier observations that voluntary disclosure for Jordanian firms (privatized and non-privatized) has increased. These findings suggest that in the year 2004 Jordanian listed firms are disclosing significantly more voluntary information than they did in 1996.

5.4.2 Independent Variables
5.4.2.1 Ownership Variables

Tables C.4, C.5 and C.6 (Appendix C) provide descriptive statistics for the independent variables. It is seen that in 1996 the mean state ownership was 13.67% of total shares, declining substantially to a mean of 2.4% in 2004. On the other hand, the ownership of government agencies, foreigners, Arabs and institutions increased from 10.88%, 0.842%, 7.44%, 20.88% to 11.09%, 3.86%, 11.11%, and 27.45% respectively. Surprisingly, individual ownership has dropped after privatization from 39.98 in 1996 to 32.20 in 2004. This is contradictory to the results of privatization studies which reported an increase in individual ownership (Megginson & Netter 2001; Boubakri et al. 2005). This can be

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[12] The data is transformed using the normal scores approach which is discussed in the coming sections

explained in light of the changes that Jordan experienced in the mid nineties as it witnessed a period of economic growth with the return of Jordanians during and after the 1990 Gulf War investing their savings in the capital market. This growth was down turned with the break out of the Palestinian appraisal in 2000 and the war on Iraq in 2001 resulting in the reluctance of many small individuals to trade in the capital market. The univariate tests reported in Table 5.5 below support these findings pointing to a significant decline in state ownership, a significant increase in foreign ownership (both at the 0.01 levels), an increase in Arab ownership and a drop in individual ownership (both at the 0.1 level).

Non- privatized firms ownership variables exhibit slight differences compared to the privatized firms. For instance, the average percentage of state ownership for non-privatized firms increases from 4.56% in 1996 to 4.87% in 2004, while the average percentage of government agencies ownership, Arab and institutions increase slightly, individual ownership shows a decrease from an average of around 49% in 1996 to around 40% in 2004. However, the average percentage of foreign ownership increases notably from 0.872% in 1996 to 3.15% in 2004. This noticeable increase is due to the attraction of foreign investors caused by privatization as Jordan's commitment to privatization and the liberalization associated with it generated interest in Jordanian companies in general. The univariate tests reported in Table 5.6 below support these findings and show that there is an insignificant increase in state ownership from the year 1996 to 2004. It also shows a significant increase in foreign ownership at the 0.01 level, and a significant drop of individual ownership at the 0.01 level due to the changes that Jordan experienced as explained above.

As for the overall sample, there is a significant drop in the state ownership as evident from the univariate tests as shown by Table 5.7. On the other hand, there is a significant increase in foreign ownership (at the 0.001 level as apparent from the univariate tests), a significant increase in Arab ownership (at the 0.05 level) and a significant drop in individual ownership (at the 0.001 level). The other ownership variables did not change significantly.

5.4.2.2 Governance Variables

As shown in Table C.4 (Appendix C) and Table 5.5 below (univariate tests) that most governance variables did not change significantly for privatized firms. While the ratio of non-executive directors declined slightly (0.6157 in 1996 and 0.6096 in 2004), these ratios are relatively high indicating that most companies have a majority of non-executive directors on the board. However, the independence of those directors is in doubt since it is required by the 1997 Company Law that all directors must be shareholders (ROSC 2005). Also, family ownership did not exhibit significant changes (0.1069 to 0.121) while the size of the board declined significantly at the 0.05 level (from 10.333 to 9.556). Regarding dual leadership, the Table indicates that by 2004 the number of companies adopting a dual leadership structure has reduced (0.2963 to 0.1481). Finally, audit committees were not mandatory in 1996, no company appointed one, while 66.67% (18 companies out of 27) of the privatized companies had audit committees in 2004.

Regarding the governance variables for non-privatized firms, and as shown by Table C.5 (Appendix C) and Table 5.6 below, the ratio of non-executive directors on boards dropped insignificantly from 0.5899 in 1996 to 0.5795 in 2004, the ratio of family members on the board showed a significant increase at the 0.1 level (from 0.1859 to 0.2281), the size of the board exhibited a significant decrease from an average of 9.509 to an average of 8.981 in 2004 (at the 0.1 level), while the adoption of a dual leadership remained the same at 0.3962. With respect to the presence of audit committees, and as with the privatized firms, the number of companies having an audit committee increased noticeably from 0 (since audit committees were not mandatory) to 71.7% representing 38 companies out of the non-privatized firms of 53.

For the overall sample, and as seen from Table C.6 (Appendix C) and Table 5.7 below, the ratio of non-executive directors on boards dropped insignificantly from 0.5986 in 1996 to 0.5896 in 2004, the ratio of family members on the board showed a significant increase at the 0.1 level (from 0.1592 to 0.1919), the size of the board exhibited a significant decrease from an average of 9.788 to 9.175 in 2004 (at the 0.01 level), while

the adoption of a dual leadership dropped from 0.3625 to 0.3125. Regarding audit committees, the number of companies having an audit committee increased markedly from 0 to 70% representing 56 companies out of the whole sample of 80.

5.4.2.3 Control Variables

With respect to the control variables, it is apparent from Table C.4 (Appendix C) that the average of the size of privatized companies measured by total assets, market capitalization and net sales has increased markedly, particularly the market capitalization values indicating an increase in the market values of the shares of privatized companies after privatization. These findings are supported by the results of the univariate tests showing a significant increase in market capitalization at the 0.05 levels. This increase is explained as a result of privatization leading to an increase in the size of the capital market. Boutchkova & Megginson (2000) conclude that privatization have considerably increased the total capitalization of the world stock's markets. In turn, the size of the capital market has an influence on the average size of companies (Diga 1996).

While the degree of leverage of the privatized companies as measured by total debt to equity and the long term debt to equity has declined, this decline is not significant as shown by Table 5.5. Privatization studies have supported the proposition that privatized firms become financially healthier and their leverage declines. This decline results as privatized companies become more efficient and cut unnecessary employment, reducing by that their financial burdens and hence reducing leverage. The table also reveal that the companies have become more profitable after privatization as measured by return on equity and profit margin, nevertheless, this increase is not significant. However, the value of liquidity exhibits a slight decline. Finally, Table C.6 (Appendix C) shows a noticeable increase in the number of companies utilizing the services of international auditing firms, with the proportion of firms utilizing their services increasing from 48.15% to 81.48% of the total privatized companies.

Control variables for non-privatized firms also show the same trend as for privatized firms. The size variable as measured by total assets, market value and net sales all show a significant increase in their average values at the 0.001 level as shown by Table 5.6. This increase in the size of companies reflects the influence of the increase in the size and development of the Jordanian capital market resulting from privatization. Another explanation for this considerable increase in size compared to privatized firms is that most of the non-privatized firms were established in the late 1980s and early 1990s, compared to privatized firms which are older firms. Hence, non-privatized firms had the chance to grow and for its size and sales to increase. Leverage, on the other hand, measured by total debt to equity for non-privatized companies increased from an average of 61.5 in 1996 to an average of 73.4 in 2004, while long term leverage increased from an average of 7.3 to 7.8, both insignificantly. These results are opposite to the results of privatized firms and could be explained in light of the growth opportunities available for these firms resulting in higher borrowing. Univariate tests (Table 5.6) show that return on equity and profit margin both increased significantly for non-privatized firms. However, the average liquidity of non-privatized firms dropped insignificantly.

For the whole sample, Table C.6 (Appendix C) shows the same trend for the size variables which increased significantly as evident from Table 5.7 below. However, the leverage variables do not show any significant changes. Profitability in terms of ROE increased significantly as seen from the univariate tests in Table 5.7. Finally, Tables C.4, C.5 and C.6, imply that most of the continuous variables are skewed, therefore transformation is needed. Non-normality is further confirmed using the Anderson-Darling normality test[13].

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[13]The null hypothesis for this test is that the data follow a normal distribution. If the p-value of the test is less than α, the null is rejected. For example, in the year 1996, the following variables are normally distributed: individual ownership, institutional ownership, proportion of non-executive directors, and the size of the board with p= 0.741, 0.179, 0.411 and 0.391 all > 0.05 respectively.

Table 5.5 Tests of Differences in the Means of Continuous Variables in 1996 versus 2004 of Privatized Firms

Variable	Wilcoxon matched pair test (untransformed data)		Paired t-test (transformed data)[14]	
	Test statistic: w	p value*	Test statistic: t	p value*
STO	558.5	0.0009	-4.47	0.000
GAO	741.5	0.9931	-0.13	0.895
FOW	809.5	0.2437	2.81	0.009
Arab	813	0.2259	2.03	0.053
INDOW	679	0.2758	-1.9	0.068
IOW	802	0.3074	1.41	0.171
PNED	733	0.8758	-0.22	0.825
FAM	742.5	1.000	0.33	0.744
SBoard	670	0.2078	-2.22	0.035
SIZE	779	0.5334	1.45	0.158
MC	810	0.2464	2.53	0.018
NS	769	0.6529	1.48	0.152
LEV	611	0.1611	-1.7	0.101
LLev	723	0.7273	-0.47	0.64
GR	822	0.1717	1.68	0.104
LIQ	818	0.1945	1.64	0.113
PROF	758	0.7952	0.48	0.638
PM	781	0.5109	1.03	0.311
Age	850	0.064	16.31	0.000

* All probabilities are two tailed

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[14] The data used is transformed using the normal scores approach as will be discussed in the coming sections

Table 5.6 Tests of Differences in the Means of Continuous Variables in 1996 versus 2004 of Non-Privatized Firms

Variable	Wilcoxon matched pair test (Untransformed data)		Paired t-test (transformed data)[15]	
	Test statistic: w	p value*	Test statistic: t	p value*
STO	2881	0.7762	0.82	0.414
GAO	3000.5	0.2986	1.82	0.074
FOW	3263.5	0.0069	3.98	0.000
Arab	2917.5	0.6066	1.14	0.258
INDOW	2456.5	0.9396	-3.17	0.003
IOW	2848	0.9396	0.05	0.959
PNED	2837.5	0.9924	0.09	0.927
FAM	2961.5	0.4278	1.74	0.087
SBoard	2610	0.1551	-1.94	0.058
SIZE	3150	0.0473	4.3	0.000
MC	3257.5	0.0077	5.1	0.000
NS	3369	0.0008	5.64	0.000
LEV	2841	0.9748	0.55	0.587
LLev	2895	0.7093	0.45	0.654
GR	2810.5	0.877	-0.79	0.434
LIQ	2820	0.9245	-0.37	0.71
PROF	3246	0.0096	2.23	0.03
PM	3140	0.0547	2.06	0.044
Age	3536	0.000	17.27	0.000

* All probabilities are two tailed

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[15] The data used is transformed using the normal scores approach as will be discussed in the coming sections

Table 5.7 Tests of Differences in the Means of Continuous Variables in 1996 and 2004 for the Whole Sample

Variable	Wilcoxon matched pair test (untransformed data)		Paired t-test (transformed data)[16]	
	Test statistic: w	p value*	Test statistic: t	p value*
STO	6836.5	0.0907	-2.6	0.006
GAO	6247	0.5038	-1.18	0.88
FOW	5567	0.0029	5.03	0.000
Arab	6112.5	0.2645	2.23	0.029
INDOW	7185.5	0.011	-3.77	0.000
IOW	6232	0.4789	1.08	0.285
PNED	6441	0.9986	0.07	0.941
FAM	6251	0.4997	1.69	0.095
SBoard	5913.5	0.0694	-2.85	0.006
SIZE	5877	0.0549	4.52	0.000
MC	5522.5	0.0018	6.32	0.000
NS	5594	0.0039	5.37	0.000
LEV	6662	0.4497	-0.17	0.862
LLev	6480.5	0.8914	-0.31	0.76
GR	6256.5	0.5323	-0.04	0.967
LIQ	6251	0.52	0.33	0.744
PROF	5797	0.0283	2.03	0.046
PM	5828	0.0369	-2.4	0.019
Age	5235.5	0.0000	18.78	0.000

* All probabilities are two tailed

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[16] The data used is transformed using normal scores as will be discussed in the coming sections

To further confirm these results and to test if the other variables suggested earlier in the hypotheses section influence the extent of voluntary disclosure in Jordan, multiple regression analysis is conducted in the next section. However, in order to conduct regression analysis, several assumptions must be satisfied. These assumptions are; linearity of relationships, absence of multicollinearity, the values of the dependent variable are normally distributed for the values of each of the independent variables; and the residuals are dispersed randomly throughout the range of the estimated dependent (homoscedasticity).

The descriptive statistics reported in Tables C.4, C.5 and C.6 (Appendix C) show that most of the continuous variables are skewed and the normality tests confirmed these findings. Hence, and as a first step to satisfy the regression assumptions the variables must be transformed. Different transformation approaches have been suggested in disclosure studies such as rank transformations and normal scores transformations. Cheng et al. (1992) and Wallace et al. (1994) used rank regression and argued that it seemed to be a powerful approach to use when the data is not linear, and that it produced higher R^2. Rank transformation was advocated by Iman & Conover (1979) stating that this approach has great advantages when the data is monotone and non-linear in nature. It was utilized by many disclosure studies; Beaver et al. (1979), Cheng et al. (1992), Lang & Lundholm (1993), Wallace et al. (1994), Wallace & Naser (1995), Haniffa & Cooke (2002), and Abd-Elsalam & Weetman (2003).

Nevertheless, Cooke (1998) contends that the testing for significance using the F and t-tests when data is ranked is not appropriate since it is distribution free. Also, the author asserts that a concern when using rank regression is that the error structure is not normal and the ßi coefficient is difficult to interpret. Another major weakness in rank transformation is that the transformation of the data is made to an ordinal form rather than interval reducing by that the power-efficiency of the test to a non-parametric one which is less powerful than parametric tests (Cooke 1998). Alternatively, the author advocates for the normal scores approach perceived as an extension of the rank approach retaining its advantages while eliminating some of its weaknesses. In this approach, the

ranks are being substituted by scores on the normal distribution. The normal scores approach has a number of advantages over the rank approach, namely

> (a) that a normally distributed dependent variable implies the same property for the distribution of the errors (b) that the significance tests are meaningful and have greater power than when using ranks (c) the coefficients obtained when using normal scores approach are more meaningful than for Rank Regression (Cooke 1998, p.223).

5.5 Multiple Regression Models

Multiple regression is used to model the relationship between the dependent and independent variables. In light of the above discussions, the study uses two alternative specifications of the following regression equation

Equation 5.2

VOLDISjt = $\beta_0 + \beta_1$ STO + β_2 GAO + β_3 FOW + β_4 ARAB + β_5 INDOW + β_6 IOW + β_7 PNED + β_8 FAM + β_9 SBoard + β_{10} CEO + β_{11} AC + β_{12} Asset + β_{13} MC + β_{14} NS + β_{15} LEV + β_{16} LLev + β_{17} GR + β_{18} LIQ + β_{19} PROF + β_{20} PM + β_{21} AUD + β_{22} Age + β_{21} List + β_{22} IND1 + β_{23} IND2 + β_{24} IND3 + β_{25} PR + β_{26} Y + ε_i.[17]

Where β_0, β_1, β_2 ....β_{26} are the regression estimates, and ε_i is the stochastic disturbance term. A definition of the independent variables is provided in Table 5.8 below, while the measurement basis of the independent variables is provided in Table C.3 (Appendix C).

Since this chapter is concerned with the influence of privatization and corporate governance reform on the extent of voluntary disclosure of privatized and non-privatized listed firms, several regressions are run utilising cross-sectional and panel data techniques using data of the two years (1996 and 2004). The study uses one technique of panel data which is the Least Squares Dummy Variables estimator (LSDV). This technique includes

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[17] Note that the variable PR is incorporated in the cross-sectional models, while the variable Y is incorporated in the pooled models.

using a dummy variable for the year and estimating a pooled OLS model to control for omitted variables that vary across the years but remain constant from observation to observation (Hsiao 2003; Dougherty 2006).

Table 5.8 Definition of Independent Variables

Variable	Definition	Variable	Definition	
Ownership Variables		**Control Variables**		
STO	State Ownership	Asset	Total assets	
GAO	Government Agencies Ownership	MC	Market capitalization	
FOW	Foreign Ownership	NS	Net Sales	
Arab	Arab Ownership	LEV	Leverage	
INDOW	Individual Ownership	LLev	Long-term Leverage	
IOW	Institutional Ownership	GR	Gearing Ratio	
Corporate Governance Variables		LIQ	Liquidity ratio	
PNED	Proportion of non-executive directors	PROF	Profitability	
FAM	Family Control	PM	Profit margin	
SBoard	Size of the Board	AUD	Size of auditor	
CEO	Role Duality	Age	Company age	
AC	Audit Committee	Industry types	IND1	Industry 1
PR	Privatized		IND2	Industry 2
Y	Year, a proxy for the regulatory reforms		IND3	Industry 3

To test for the impact of privatization through changes in ownership variables and governance reforms, both internal and external, three pooled regression models based on the LSDV technique are run using the data for privatized firms in the first, the data for the non-privatized firms in the second, and finally the whole sample of firms. As explained earlier, privatized firms are those that exhibited changes in their ownership structure due to privatization transferring the state ownership to new private owners. Non-privatized firms include private and state owned firms that were not subject to privatization. Private firms are those firms that the state does not own any stake or its stake in them is insignificant.

Of importance to this study is the first pooled regression model which is based on data from privatized firms. This is because these firms were exposed to changes in ownership due to privatization; hence this model would capture the influence of these changes. The second and third pooled regression models would show whether there are differences between privatized firms on one hand and non-privatized and private firms on the other in terms of the influence of changes in ownership resulting from privatization on voluntary disclosure. The final pooled regression model captures the influence of privatization through the changes in ownership and governance on the whole sample of Jordanian listed firms.

Cross-sectional regression models are run for each year separately, so as to identify the variables that influenced the extent of voluntary disclosure in each year, and to test for the impact of privatization. As explained earlier, when running cross-sectional regressions, the privatized variable (PR) is used to capture the influence of privatization (if any) on the extent of voluntary disclosure in each year separately hypothesizing that firms that were about to be privatized in 1996 might have improved their voluntary disclosure so as to attract investors. Similarly, it is hypothesized that privatized firms' voluntary disclosure might have improved compared to their counterparts as a result of privatization in 2004. The following sections offer the regression models (cross-sectional and pooled regression) and their results.

5.5.1 The 1996 Cross-Sectional Regression Model

This model uses the data for the whole sample of 80 Jordanian listed firms' annual reports of the year 1996. As argued earlier, the dependent variable and most of the independent variables are skewed as evident from the skewness values and the normality tests using the Anderson-Darling test shown in Table C.6 (Appendix C). Also, Figure 5.1 shows a normality plot for the dependent variable indicating deviation from normality. Non-normally distributed variables can distort relationships and significance tests. To improve normality, the dependent variable as well as the continuous independent

variables must be transformed. The two models tested in this study use two types of transformations; rank transformation and normal scores transformations.

Figure 5.1 Normality Plot for the Untransformed Dependent Variable
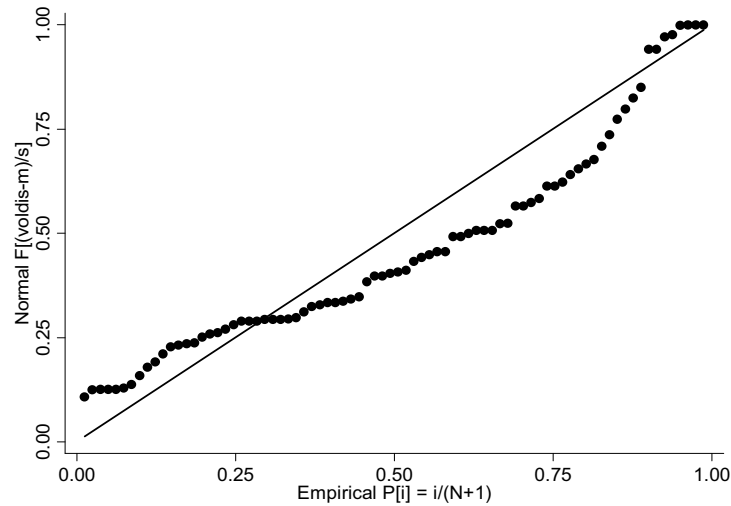
5.5.1.1 Model A

The A model is based on the rank transformation where both the dependent and independent variables are replaced by their corresponding ranks and the usual least square regression is performed entirely on these ranks (Iman & Conover 1979). Table 5.9 below gives a comparison between skewness values for both untransformed and rank transformed continuous variables. As the Table suggests, the skewness values for the rank transformed variables have been reduced dramatically. The model is subjected to a number of tests so as to satisfy the assumptions of regression analysis. Tests of multicollinearity are conducted using the Pearson correlation matrix as shown in Panel A, Table C.7 (Appendix C). As a rule of thumb, when several correlation coefficients exceed 0.7 in the correlation matrix formed by all the independents, multicollinearity may be a problem (Cooper & Schindler 2003). The Table shows the Pearson correlation coefficients between voluntary disclosure and all independent variables indicating that the highest correlation are with state ownership, market capitalization and long term

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leverage. Also, the Table gives correlation coefficients between independent variables showing that the highest absolute correlation coefficients are between leverage and gearing (0.931), market capitalization and total assets (0.879), liquidity and gearing (0.737), and return on equity and profit margin (0.703). These values indicate that there are multicollinearity problems. Hence, further investigation must be conducted using the variance inflation factor (VIF). A VIF value of 10 represents a severe multicollinearity problem (Street & Bryant 1999; Naser et al 2002). As shown in Table 5.10, the variables gearing ratio (19.73) and leverage (17.48), total assets (8.7), market capitalization (8.13), return on equity (7.49) may constitute multicollinearity problems. One way of dealing with this problem is to fit highly correlated variables in separate regression models, selecting the variable that provides the greatest explanatory power (Cooke 1991; Ahmed & Nicholls 1994; Wallace & Naser 1995). The final model drops gearing ratio and total assets. Table 5.10 shows the new VIF values for the remaining variables.

The model is further tested for homoscedasticity (constant variance of the residuals), and normality of residuals. To test for homoscedasticity, studentized residuals are plotted against the predicted values of the dependent variable as shown by Figure 5.2. The plot largely shows a cloud of dots scattered randomly supporting the absence of heteroscedasticity. The Breusch-Pagan / Cook-Weisberg test for heteroscedasticity supports a hypothesis that the regression residuals have constant variance ($\chi^2 = 1.16$, $p -$ value = 0.281). Also, a Cooke distance plot versus predicted values (shown in Figure 5.2) reveals no outliers problem since the highest distance is 0.13, while it has been suggested that D>1 constitutes an outliers' problem (Statistics Solutions 2006).

To test for the assumption of a normally distributed residual error, histograms of the studentized residuals and normal plots are used. Figure 5.3 gives two plots indicating normally distributed residuals. The first plot shows a histogram of the residuals and indicates that the distribution of the residuals is not distinctly different from a normal distribution, and the second shows an approximately linear pattern that is consistent with normally distributed residuals. Table 5.12 shows the results of the regression model.

Table 5.9 Skewness Values for Untransformed and Transformed Continuous Variables (1996)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
VOLDIS	1.77963	0.0003043	0.0048869
STO	3.06652	0.869906	1.21529
GAO	2.50740	0.157444	0.508879
FOW	4.29310	0.431508	0.812492
ARAB	2.53807	0.0020110	0.0955424
INDOW	-0.300361	-0.0000000	0.0000000
IOW	0.608205	0.0000388	0.0181290
PNED	-0.855324	-0.0001903	-0.0022099
FAM	0.751627	0.281789	0.649852
SBoard	0.188943	0.0105111	0.0162716
Age	1.04664	0.0225975	0.0000000
Asset	4.08142	0.0000000	0.0000000
LEV	5.43023	0.0000000	0.0002910
PROF	2.06366	0.0006055	0.0008353
LIQ	5.93522	0.0000621	0.168065
MC	6.24080	0.0000000	0.0003178
NS	5.98274	0.0020110	0.0955424
PM	-2.23218	0.0017073	0.0008245
GR	-0.6921	-0.0000000	0.0000000
LLEV	2.82103	0.553103	0.928075

Table 5.10 VIF Values for Rank Transformed Model, 1996 Data, N = 80

Initial Model		Final Model	Initial Model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	19.73	-	IND1	2.35	2.28
Lev rank	17.48	3.50	List	2.20	1.92
Asset rank	8.70	-	AUD	2.10	1.97
MC rank	8.13	3.00	IOW rank	2.05	2.04
Prof rank	7.49	4.68	GAO rank	2.01	2.00
NS rank	5.28	4.82	FAM rank	1.88	1.86
Pm rank	5.21	3.20	SBoard rank	1.83	1.70
Age rank	4.08	3.96	FOW rank	1.68	1.67
LIQ rank	3.04	2.60	IND3	1.63	1.61
INDOW rank	2.62	2.58	CEO	1.58	1.57
LLEV rank	2.60	2.39	PNED rank	1.54	1.35
STO rank	2.57	2.56	Arab rank	1.53	1.46
PR	2.44	2.43			

Figure 5.2 Tests of Homoscedasticity Residuals for the Cross-Sectional Regression Model 1996 (Rank Transformation)

Plot of Studentized Residuals against Predicted Values
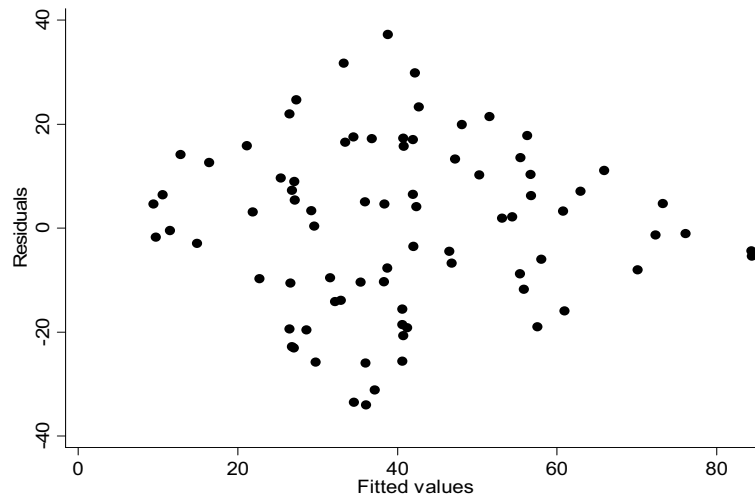
Plot of Cooke's Distance versus Predicted Values
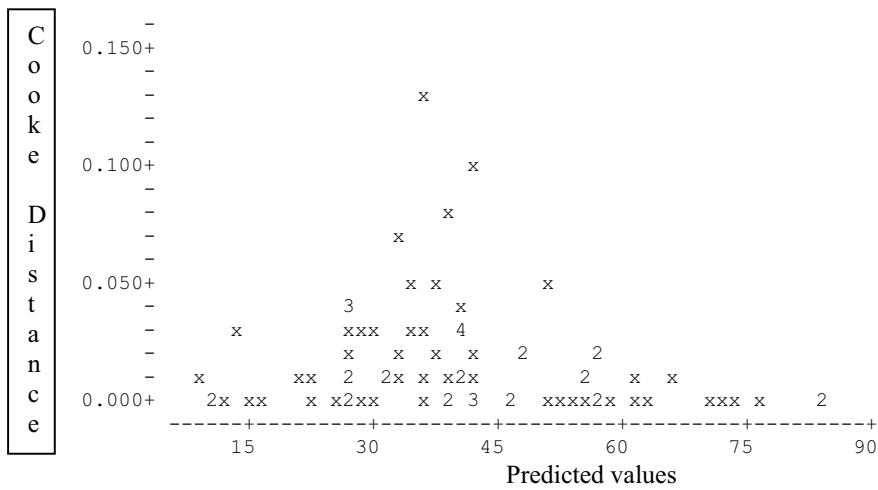
Figure 5.3 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 1996 (Rank Transformation)

Histogram of the Residuals

(response is Vol Dis)

Normal Probability Plot of the Residuals

(response is Vol Dis)
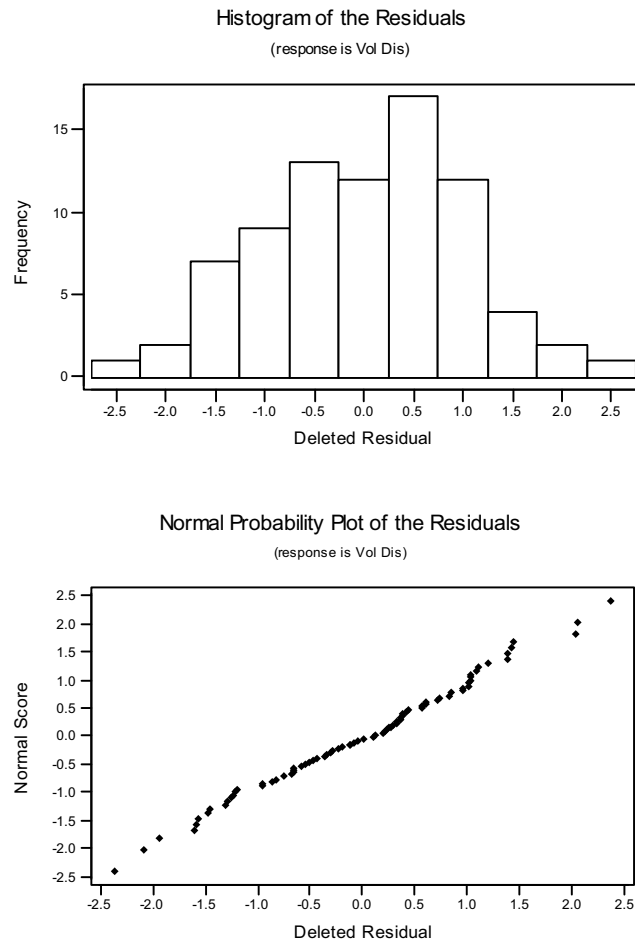
5.5.1.2 Model B

While rank transformation has a considerable influence in mitigating many problems associated with correcting normality and homoscedasticity of continuous variables, it jeopardizes the significance of the resulting model (Cooke 1998). Hence, model B is based on transformation using the normal scores approach. Cooke (1998) proposed transforming the actual values to the normal distribution by dividing the distribution into the number of observations plus one region on the basis that each region has equal

probability. Consequently, the regression analysis uses the normal scores approach for both the dependent variable and continuous independent variables and thereby transforms to normality.

As apparent from Table 5.9 above the skewness values for the transformed variables using the normal scores approach has been noticeably reduced. The model is subjected to the same tests as with model A. Tests of multicollinearity are conducted using the Pearson correlation matrix shown in Table C.7 (Appendix C) and the VIF values shown in Table 5.11. Panel B of Table C.7 (Appendix C) shows the Pearson correlation coefficients between the dependent variable and all independent variables indicating that the highest correlations are with the size variables, long term leverage, age, industry type 1 and state ownership. The Table also reports the highest absolute correlation coefficients between independent variables being 0.897 between leverage and gearing ratio, 0.868 between total assets and market capitalization, and 0.728 between liquidity and gearing ratio. Table 5.11 gives the VIF values for the variables, the highest VIF values being of gearing ratio (15.29), leverage (13.94), total assets (9.25) and market capitalization (9.09) indicating multicollinearity problems. To deal with this problem the same procedure as above is utilized. The final model excluded GR (gearing ratio) and Asset (total assets).

The model is further tested for homoscedasticity (constant variance of the residuals), and normality of residuals. The same tests are performed as above using a plot of the studentized residuals against the predicted values of the dependent variable as shown by Figure 5.4 and the resulting scatter plot does not show any unusual trend. Also, the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity supports a hypothesis that the regression residuals have constant variance (χ^2 = 2.15, p – value = 0.143). A Cooke distance plot versus predicted values (shown in Figure 5.4) reveals no influential outliers problem since the highest computed distance is 0.234 <1.

To test for the assumption of a normally distributed residual error, histograms of the studentized residuals and normal plots are used. Figure 5.5 gives two plots indicating normally distributed residuals. The first plot shows a histogram of the residuals and

indicates that the distribution of the residuals is not distinctly different from a normal distribution, and the second shows an approximately linear pattern that is consistent with normally distributed residuals. Table 5.12 shows the results of the regression model.

Table 5.11 VIF Values for Normal Scores Transformed Model, 1996 Data, N = 80

Initial Model		Final Model	Initial Model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
GR nor	15.29	-	FAM nor	2.39	2.31
LEV nor	13.94	4.62	PNED nor	2.35	2.30
Asset nor	9.25	-	IOW nor	2.20	2.20
MC nor	9.09	2.97	AUD	2.18	2.10
PROF nor	5.84	3.85	PR	2.14	2.08
NS nor	5.67	5.35	List	2.08	1.83
PM nor	4.13	2.88	GAO nor	2.04	2.02
Age nor	4.05	3.99	SBoard nor	1.96	1.87
INDOW nor	3.24	3.17	CEO	1.70	1.67
LLev nor	3.20	2.71	Arab nor	1.66	1.63
LIQ nor	3.15	2.58	FOW nor	1.65	1.64
STO nor	3.13	3.06	IND3	1.65	1.63
IND1	3.05	3.04			

Figure 5.4 Tests of Homoscedasticity for the Cross-Sectional Regression Model 1996
(Normal Scores Transformation)
Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values

```
         -
C   0.240+                        x
o        -
o        -
k        -
e        -
e   0.160+
         -                       x
D        -
i        -
s        -
s   0.080+                              x    x
t        -                                 x
a        -    x          x x x   x
n        -          2xx      x x      x
n        -          xxxx x     x3 3x    xxx x        x    x
c   0.000+    x  3   22 x32 x223xx x2x3  222 xx    x       xxx        x
e        +---------+---------+---------+---------+---------+------FITS3
           -1.40     -0.70      0.00      0.70      1.40      2.10
                              Predicted values
```

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Figure 5.5 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 1996 (Normal Scores Transformation)

Histogram of the Residuals
(response is Vol Dis)

Normal Probability Plot of the Residuals
(response is Vol Dis)

5.5.1.3 Model C: Reduced Regression

Consistent with earlier studies, and due to the inclusion of too many variables, a reduced regression model is conducted based on the selection of variables found significant in both the univariate tests and the full regression model (Haniffa & Cooke 2002). Table 5.12 shows the results of the reduced model labelled C.

Table 5.12 Regression Analysis of Determinants of Voluntary Disclosure in 1996

Variable	Predicted Sign	Model A#	Model B	Model C	VIF$
Constant	None	7.48 0.37	0.037 0.12	-0.126 -0.61	-
State Ownership	?	0.34 1.95*	0.367 1.8*	0.307 1.87*	2.32
Government Agencies Ownership	?	-0.128 -0.96	-0.049 -0.34	-	-
Foreign Ownership	+	0.087 0.68	0.157 1.14	0.153 1.32	1.36
Arab Ownership	?	-0.051 -0.46	-0.049 -0.41	-	-
Individual Ownership	?	-0.173 -1.17	-0.143 -0.88	-0.07 -0.63	1.73
Institutional Ownership	+	-0.108 -0.82	-0.115 -0.85	-0.135 -1.25	1.62
Percentage Non-executive directors	+	0.085 0.79	0.098 0.71	-	-
Family Control	-	0.058 0.44	0.067 0.42	-	-
Size of the Board	-	0.043 0.35	0.037 0.29	-	-
Role Duality	-	-1.775 -0.32	-0.092 -0.38	-0.064 -0.34	1.18
Market Capitalization	+	0.233 1.46	0.308 1.97*	0.221 2.19**	1.42
Net Sales	+	0.055 0.27	0.007 0.03	-	-
Leverage	+	-0.069 -0.4	-0.121 -0.62	-	-
Long term Leverage	+	0.364 2.32**	0.365 2.02**	0.311 2.62**	1.36
Liquidity	+	0.032 0.22	-0.055 -0.38	-	-
Return on Equity	+	-0.13 -0.65	-0.167 -0.93	-	-
Profit Margin	+	0.016 0.1	-0.017 -0.11	-	-
Auditor Type	+	-5.106 -0.8	-0.171 -0.62	-	-
Age	+	0.139 0.85	0.226 1.2	0.124 0.99	2.07
Listing	+	7.545 1.17	0.161 0.58	0.123 0.93	1.42
Industry 1	+	2.397 0.21	-0.071 -0.13	-	-
Industry 3	-	-2.919 -0.51	-0.134 -0.56	-	-
Privatized	+	-5.012 -0.72	-0.239 -0.88	-0.187 -0.86	1.55
Std. Error		18.982	0.799	0.742	

R-Sq		52.69%	53.52%	50.59%	
R-Sq (adj)		33.26%	34.42%	43.43%	
F		2.71***	2.8***	7.07***	

*** Significant at the 0.01 level (all probabilities are two tailed)
** Significant at the 0.05 level
* Significant at the 0.1 level
\# The top values are the regression coefficients, the bottom are the t-statistics
? The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known
$ VIF values of the reduced model

5.5.1.4 Results

Table 5.12 shows the results of the regression models. The rank regression model produced an adjusted R^2 of 33.26% and only two variables were found to be significant. Long term leverage is the only significant control variable (at the 0.05 level). Also, the state ownership variable appears as a significant variable at the 0.1 level. None of the corporate governance variables appeared to influence the extent of voluntary disclosure. Further, the variable PR has a negative insignificant coefficient implying that the voluntary disclosure of firms that were about to be privatized is not significantly different from that of non-privatized ones.

Regarding the results of the regression model based on the normal scores transformation, the model produced an adjusted R^2 of 34.42% slightly improving on the previous model. Three variables are significant in this model. The two control variables that are significant are long term leverage and market capitalization at the 0.05 and 0.1 levels respectively. Also, the state ownership variable appears as a significant variable at the 0.1 level supporting the argument that the weak governance of state owned companies leads to agency problems which, in turn, lead to higher disclosure to mitigate the higher agency costs and weak governance. This result is consistent with the findings of Naser & Al-Khatib (2000) who reported a positive significant relationship between government ownership and voluntary disclosure in the board of director's statements of non-financial listed Jordanian companies. Surprisingly, foreign ownership had a positive but insignificant coefficient. The Jordanian evidence provided by Naser et al. (2002) is consistent with the findings of this study. However, the other ownership variables were

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all negatively associated with voluntary disclosure including institutional ownership suggesting that Jordanian firms that have more institutional owners do not increase their voluntary disclosure. This result might be due to the fact that institutional investors are block owners. Therefore, they rely on insider provided information, reducing by that the need for public disclosure. The results for individual and Arab ownerships are consistent with the findings of Naser & Al-Khatib (2000) who reported negative relationship between disclosure by Jordanian listed firms and individual and Arab ownerships. They argued that individual Jordanians are not sophisticated and their investment decisions are influenced by advices from friends and relatives. Also, their results regarding Arab ownership were similar to this study arguing that Arab investors had little experience of dealing with stock exchanges.

Similar to model A, none of the corporate governance variables appeared to influence voluntary disclosure, which suggests that the extent of voluntary disclosure in Jordan might not be influenced by governance mechanisms, particularly in 1996 before the governance reforms. The ratio of outside directors (PNED) and role duality (CEO) were in the correct hypothesized direction, but produced insignificant coefficients, while family control (FAM) and size of board (SBoard) produced coefficients that are insignificant and opposite to the hypothesized direction. The PR variable produced a negative insignificant coefficient indicating no significant difference between voluntary disclosure of privatized and non-privatized firms. Finally, as noted from the results of models A and B, that both models' results were identical providing more confidence in the statistical results.

As for the reduced model, it produced an adjusted R^2 of 43.43% and three variables were found to be significant as shown in Table 5.12. The model insists on the significance of the state ownership as a factor influencing the level of voluntary disclosure in Jordan. Regarding control variables, MC (market capitalization), and LLev (long term leverage) are significant at the 0.05 level, consistent with many disclosure studies (Naser 1998; Naser & Al-Khatib 2000; Naser et al. 2002; Hossain et al.1994; Eng & Mak 2003; Barako et al. 2006).

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5.5.2 The 2004 Cross-Sectional Regression Model

5.5.2.1 Model A

As in the 1996 cross-sectional regression above, two models are tested, using rank and normal scores transformations. Model A is based on rank transformation. Table 5.13 below shows the skewness values of the rank transformed continuous variables pointing to the remarkable reduction in skewness as a result of the transformation. The model is subjected to the same tests as above. The Pearson correlation matrix presented in Panel A of Table C.8 (Appendix C) indicates that the highest correlations between the dependent variable and the independent variables are with the size variables, industry type 1, size of the board and foreign ownership. The Table also shows that the highest absolute correlation coefficients between the independent variables are 0.944 (leverage and gearing ratio), 0.907 (total assets and market capitalization), 0.824 (total assets and net sales), 0.723 (long term leverage and gearing ratio), 0.754 (market capitalization and net sales), and 0.722 (liquidity and gearing ratio). These results are supported by the VIF values presented in Table 5.14 below. The Table shows the values of the variance inflation factors indicating the presence of multicollinearity problems. The same procedure used in the previous cross-sectional regression model is used here, and the new model excluded gearing ratio, profit margin and total assets.

To test for homoscedasticity, an analysis of the residuals is conducted using a plot of the studentized residuals against predicted values, and computation of the Cooke's distance to detect outliers shown in Figure 5.6. The first plot in the Figure does not show any unusual pattern in the distribution supporting the assumption of constant variance in the error distribution. This is further supported by the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.11$ p – value = 0.74). Finally, the test of outliers gives the highest Cooke's Distance D = 0.235, supporting the absence of outliers.
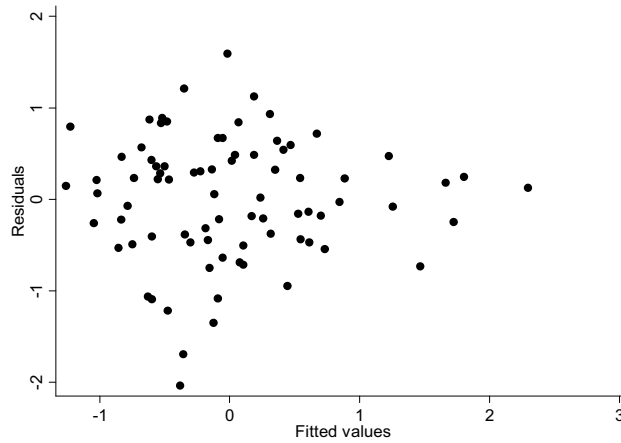
To test for the assumption of a normally distributed residual error, histograms of the studentized residuals and normal plots are used. These are shown in Figure 5.7 implying

that the distribution of the residuals is not different from a normal distribution. The cross-sectional regression model results are offered by Table 5.16.

Table 5.13 Skewness Values for Untransformed and Transformed Continuous Variables (2004)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
VOLDIS	1.45415	0.0001785	0.0009541
STO	4.84771	1.34230	1.63742
GAO	2.78882	0.104125	0.429188
FOW	5.95147	0.0406716	0.297841
ARAB	3.22842	0.0005836	0.0571215
INDOW	0.0171699	0.0000000	0.0000000
IOW	0.457949	0.0000605	0.0181356
PNED	-0.569670	-0.0016350	0.0144661
FAM	1.12877	0.328039	0.708533
SBoard	0.154328	0.0078379	-0.0195306
Age	1.04663	0.0225975	0.168065
Asset	3.08538	0.0000000	0.0000000
LEV	5.58625	-0.0000000	0.0000000
PROF	-4.27931	-0.0000155	-0.0000040
LIQ	4.59118	0.0002856	0.0002189
MC	5.31420	0.0000000	0.0000000
NS	6.74853	-0.0000326	-0.0000180
PM	-8.17151	0.0000217	0.0000068
GR	-0.847847	0.0000310	0.0000155
LLEV	1.96690	0.622105	0.991801

Table 5.14 VIF Values for Rank Transformed Model, 2004 Data, N = 80

	Initial Model	Final Model		Initial Model	Final Model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	18.14	-	STO rank	2.49	2.40
Asset rank	16.91	-	CEO	2.40	2.00
LEV rank	11.97	3.60	IND3	2.32	1.62
MC rank	9.42	4.43	SBoard rank	2.22	2.18
PM rank	9.25	-	GAO rank	2.19	2.03
NS rank	8.37	3.32	Age rank	2.17	1.95
FAM rank	5.20	4.75	INDOW rank	2.13	2.11
PROF rank	4.80	2.11	IOW rank	2.10	1.99
LIQ rank	3.44	2.50	PR	2.09	1.96
LLEV rank	3.40	2.67	FOW rank	1.96	1.74
PNED rank	3.28	3.27	AUD	1.86	1.77
IND1	3.15	3.11	AC	1.73	1.70
List	2.70	2.09	ARAB rank	1.64	1.46

Figure 5.6 Tests of Homoscedasticity for the Cross-Sectional Regression Model 2004
(Rank Transformation)

Plot of Studentized Residuals against Predicted Values
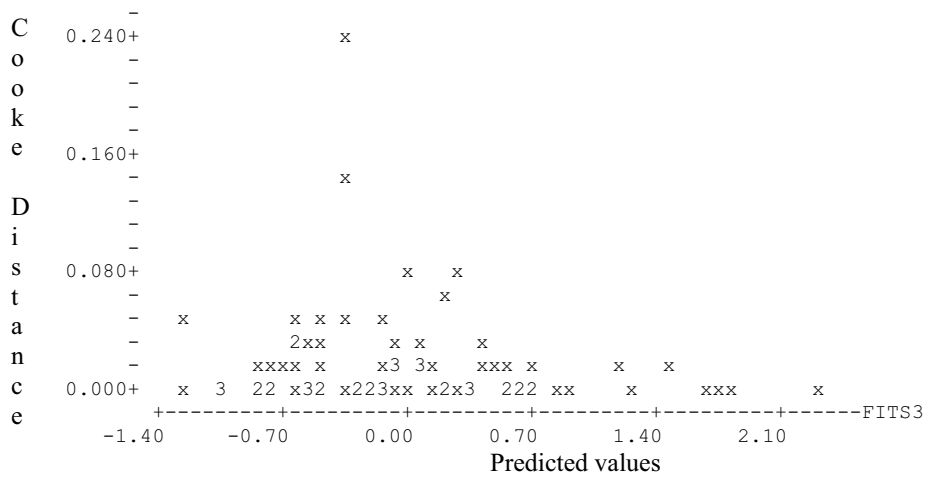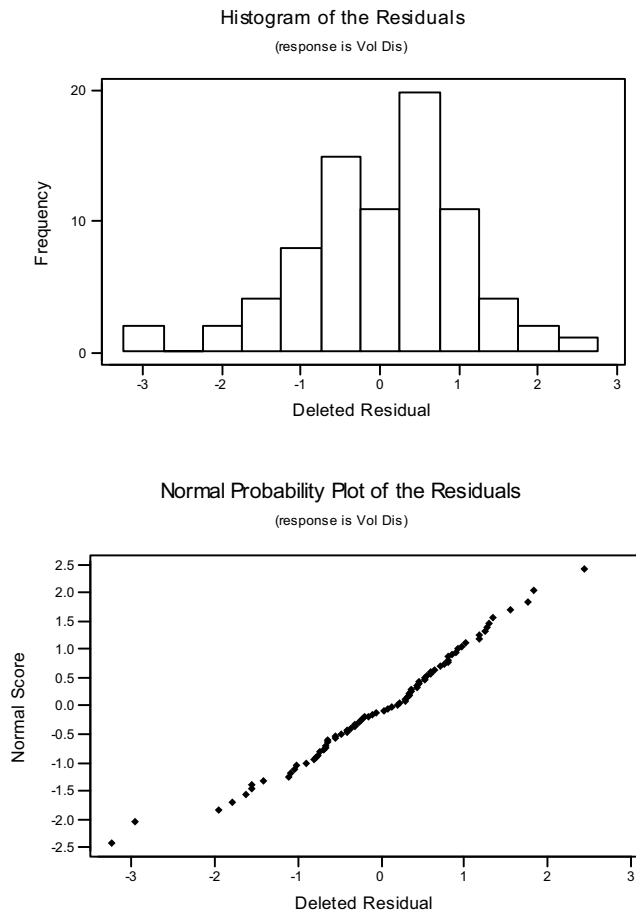

Plot of Cooke's Distance versus Predicted values

```
        -
C  0.240+                              x
o       -
o       -
k       -
e       -
   0.160+
D       -
i       -
        -
s       -                     x
t  0.080+                    xx
a       -                             x
n       -              x          xx    x
        -      x    x xxx x3 2     x    xx
c       -         x   x2  x x22x x x   xx              x
e  0.000+    xxx 2x  222xx  352xxx2xx3x xx      x x xx
        +---------+---------+---------+---------+---------+------
         0        20        40        60        80       100
                          Predicted Values
```

135
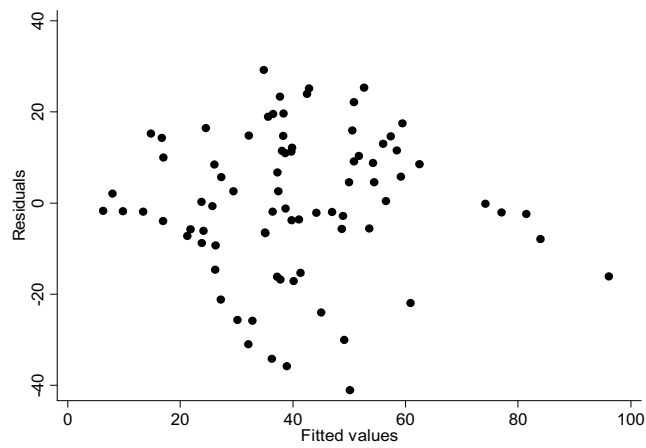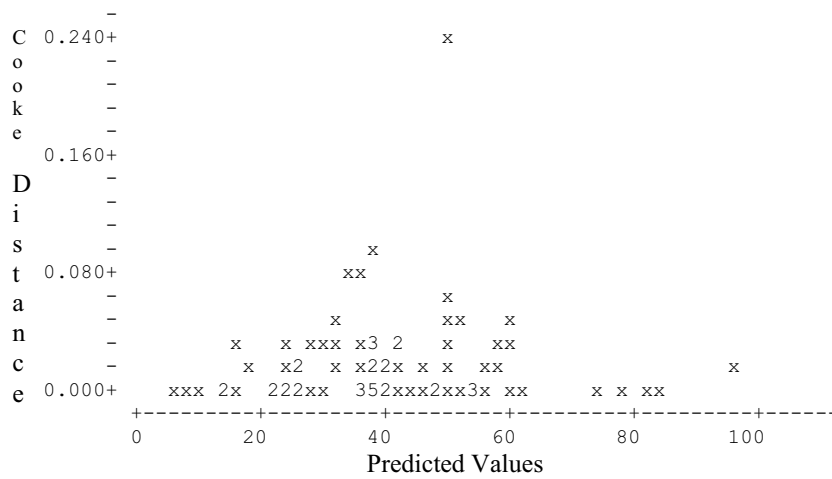
Figure 5.7 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 2004 (Rank Transformation)

Histogram of the Residuals

(response is voldisra)

Normal Probability Plot of the Residuals

(response is voldisra)
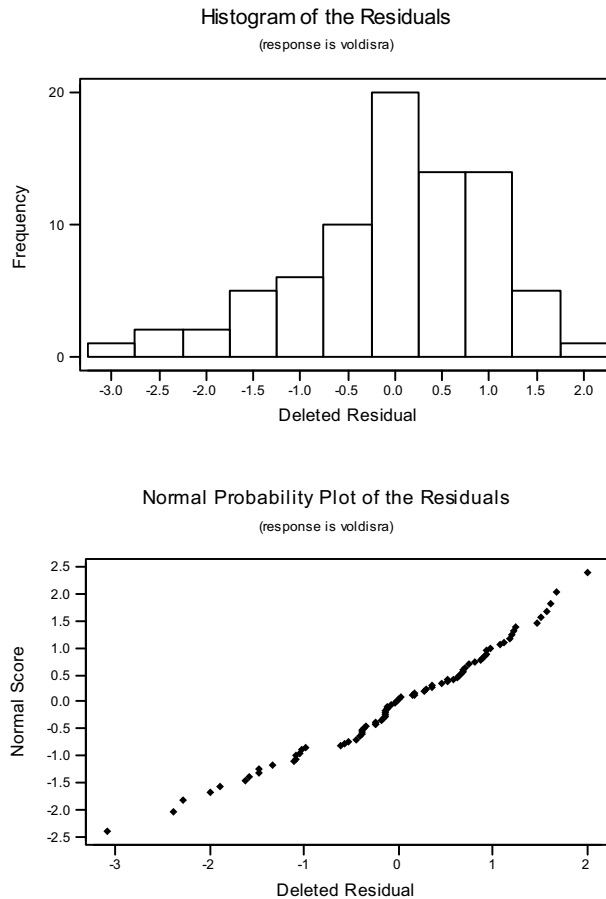
5.5.2.2 Model B

As apparent from Table 5.13 above, the skewness values for the transformed variables using the normal scores approach has been markedly reduced. The model is subjected to the same tests as above. Tests of multicollinearity are conducted using the Pearson correlation matrix shown in Panel B of Table C.8 (Appendix C) and the VIF values shown in Table 5.15. Table C.8 shows that the highest correlation coefficients between the dependent variable and the independent variables are with the size variables, industry type 1, size of the board, foreign ownership, state ownership and leverage. Also, the highest absolute correlation coefficients between the independent variables are between

leverage and gearing ratio (0.903), total assets and market capitalization (0.889), total assets and net sales (0.853), market capitalization and net sales (0.764), liquidity and gearing ratio (0.708), and return on equity and profit margin (0.703). These results are supported by the VIF values presented in Table 5.15 below indicating the presence of multicollinearity. Hence, the same procedure as in the previous models is used here by fitting the highly correlated variables separately and selecting the model that provides the greatest explanatory power while satisfying the regression assumptions.

To test for homoscedasticity, an analysis of the residuals is conducted using a plot of the studentized residuals against predicted values, and computation of the Cooke's distance to detect outliers shown in Figure 5.8. The first plot in the Figure does not show any unusual pattern in the distribution supporting the assumption of constant variance in the error distribution. This is further supported by the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.26$, p – value = 0.608). Finally, the test of outliers gives the highest Cooke's Distance D = 0.227, supporting the absence of outliers. To test for the assumption of a normally distributed residual error, a histogram of the studentized residuals and a normal plot are shown in Figure 5.9 indicating that the residuals are normally distributed. The cross- sectional regression model results are offered by Table 5.16.

Table 5.15 VIF Values for Normal Scores Transformed Model, 2004 Data, N = 80

Initial model		Final Model	Initial model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
Asset nor	16.28	-	List	2.60	2.12
GR nor	10.18	-	IND3	2.37	1.58
NS nor	9.16	3.98	CEO	2.36	1.92
PM nor	8.29	-	INDOW nor	2.36	2.33
MC nor	7.95	4.59	Age nor	2.35	2.09
LEV nor	7.30	3.44	SBoard nor	2.27	2.19
PROF nor	4.63	2.21	GAO nor	2.24	2.10
FAM nor	4.16	3.94	IOW nor	2.20	2.10
IND1	3.62	3.61	PR	2.06	1.92
LIQ nor	3.37	2.37	FOW nor	2.04	1.76
LLEV nor	3.04	2.59	AUD	1.82	1.79
STO nor	2.99	2.85	AC	1.74	1.72
PNED nor	2.81	2.80	ARAB nor	1.72	1.52

Figure 5.8 Tests of Homoscedasticity for the Cross-Sectional Regression Model 2004
(Normal Scores Transformation)

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values
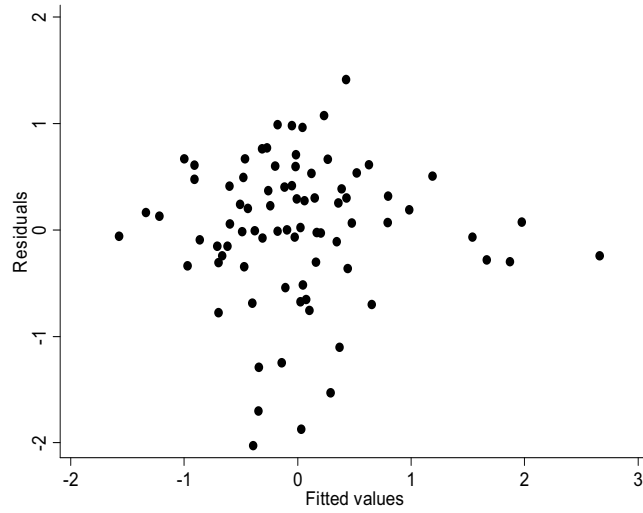
```
      -
C  0.240+
o      -                              x
o      -
k      -
e  0.160+
       -
D      -
i      -                   xx    x
       -
s  0.080+                        x x
t      -
a      -                 x 2
       -                 x  x x x x
n      -           2 xx 2x 2xx33x    x2 x      x
c  0.000+   x  x x  2x 22x32xxx33x3xx32   x x      x x x x        x
e      --+---------+---------+---------+---------+---------+----
        -1.60    -0.80     0.00      0.80      1.60      2.40
```
Predicted values
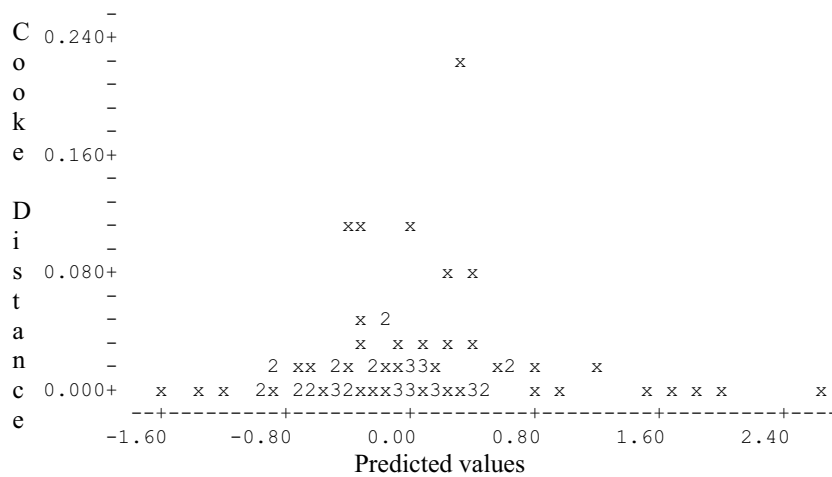
Figure 5.9 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 2004 (Normal Scores Transformation)

Normal Probability Plot of the Residuals
(response is VOL Dis)

Histogram of the Residuals
(response is VOL Dis)
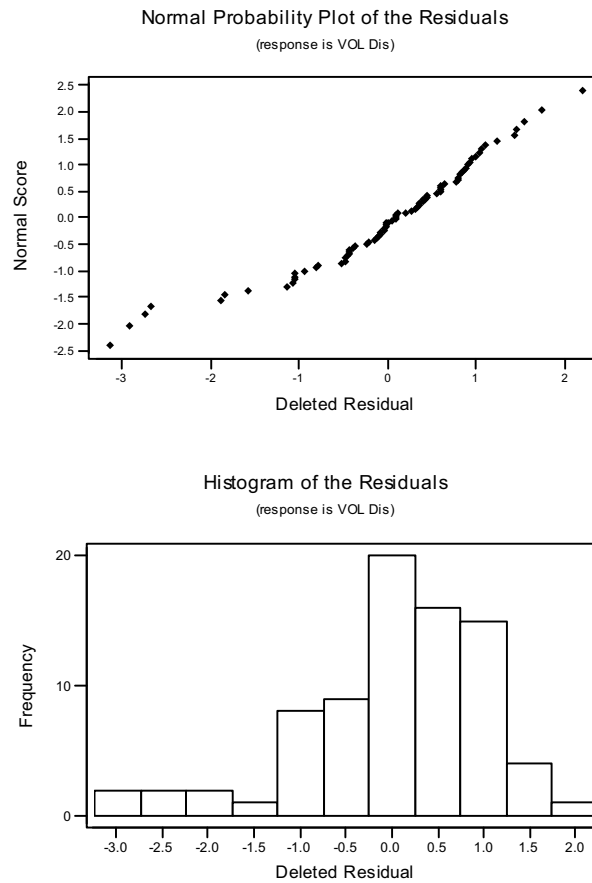
5.5.2.3 Model C: Reduced Regression

A reduced model is also conducted based on the same criterion explained in the previous regression model. Table 5.16 shows the results of the reduced model labelled C.

Table 5.16 Regression Analysis of Determinants of Voluntary Disclosure in 2004

Predictor	Predicted sign	Model A #	Model B	Model C	VIF$
Constant		-9.375 -0.46	-0.230 -0.69	-0.217 -1.35	
State Ownership	?	0.03 0.16	0.099 0.47	0.143 0.8	2.19
Government Agencies Ownership	?	-0.245 -1.89*	-0.180 -1.27	-	-

Foreign Ownership	+	0.14 1.18	0.157 1.24	0.226 2.01**	1.9
Arab Ownership	?	-0.175 -1.61	-0.136 -1.21	-	-
Individual Ownership	?	-0.091 -0.69	-0.063 -0.45	-	-
Institutional Ownership	+	-0.099 -0.78	-0.078 -0.60		
Percentage non-executive directors	+	0.05 0.31	0.015 0.10	-	-
Family Control	-	0.248 1.20	0.213 1.03	-	-
Size of Board	-	0.437 3.26***	0.392 2.87***	0.218 2.12**	1.34
Role duality	-	0.652 0.10	0.021 0.08	-	-
Audit Committee	+	6.640 1.13	0.235 0.93	0.174 0.88	1.11
Market Capitalization	+	0.276 1.46	0.259 1.34	0.144 1.17	1.99
Net Sales	+	-.204 -1.25	-0.232 -1.29	-	-
Leverage	+	0.359 2.11**	0.308 1.84*	0.089 0.93	1.20
Long term Leverage	+	-0.001 -0.00	0.016 -0.09	-	-
Liquidity	+	0.250 1.76*	0.157 1.13	-	-
Return on Equity	+	0.130 1.00	0.152 1.13	-	-
Auditor type	+	-7.216 -1.30	-0.226 -0.95	-	-
Age	+	0.028 0.22	0.034 0.25	-0.003 -0.03	1.37
Listing	+	-3.886 -0.61	-0.069 -0.25		
Industry 1	+	24.086 1.86*	0.891 1.50	0.912 1.95*	2.39
Industry 3	-	1.592 0.29	0.044 0.19	-	-
Privatized	+	8.835 1.44	0.346 1.33	-	-
Std error		18.553	0.792	0.766	
R-Sq		54.81%	54.32%	45.93%	
R-Sq(adj)		36.24%	35.55%	39.83%	
F		2.95***	2.89***	7.54***	

*** Significant at the 0.01 level (all probabilities are two tailed)

** Significant at the 0.05 level

* Significant at the 0.1 level

\# The top values are the coefficients, the bottom are the t-statistics

? The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known

$ VIF values for the reduced model

5.5.2.4 Results

As shown by Table 5.16, the regression model based on rank transformation produced an adjusted R^2 of 36.24%, and five variables were found to be significant. The only ownership variable, government agencies ownership was found to be significant but negatively related to disclosure (at the 0.1 level). State and foreign ownerships had positive but insignificant coefficients, while the other ownership variables had negative insignificant coefficients.

One governance variable, the size of the board was found to be significant (at the 0.01 level) and positively related to voluntary disclosure. Three control variables were found to be significant. Leverage is positively significant at the 0.05, a finding that is consistent with Jordanian studies (Naser 1998; Naser & Al-Khatib; Naser et al 2002). Also, liquidity was significant at the 0.1 level. In addition, Industry type 1 was found to be positively significant implying that companies in the infra structure disclose more than those in the manufacturing sector. However, companies in the services sector do not seem to disclose less than those in the manufacturing sector. Profitability, age, MC, and the dummy variable PR all have positive insignificant relationships with the extent of voluntary disclosure. AUD, list and NS resulted negative coefficients, hence, did not support their hypotheses.

The results of the normal scores regression model shown in Table 5.16 produced an adjusted R^2 of 35.55 %, and only two variables were found to be significant, the size of the board (at the 0.01level) and leverage (at the 0.1 level). Contrary to the rank transformation model, the adjusted R^2 is slightly lower, and the number of significant variables is less. However, the variables that lost their significance were only significant at the 0.1 level (i.e. government agencies ownership, liquidity and industry type 1). Unfortunately, none of the ownership variables was found to be significant. While, the result of the state ownership was not surprising since the state's stake was reduced significantly as supported by the results of the univariate tests above, yet the findings for

foreign ownership did not support the hypothesis despite the significant increase in foreign ownership.

Also, one governance variable, the size of the board was found to be significant (at the 0.01 level) and positively related to voluntary disclosure, a finding that contradicts the hypothesis. Cheng & Courtenay (2006) found no association between the size of the board and the extent of voluntary disclosure. The variables PNED and AC have their predicted signs but with no significance indicating that the recent governance reforms did not influence voluntary disclosure. The results of the proportion of outside directors on the board are consistent with many disclosure studies reporting no relationship between the proportion of outside directors and disclosure practice (Forker 1992; Ho & Wang 2001; Eng & Mak 2003; Gul & Leung 2004; Barako et al. 2006). On the other hand, several studies found support for the hypothesis that the presence of audit committee has a positive significant relationship with voluntary disclosure (Forker 1992; McMullen 1996; Ho & Wong 2001: Susilowati et al. 2005; Barako et al. 2006). A possible explanation for this result is that the new Company Law enacted in 1997 required all directors on the board to be shareholders, which jeopardizes the independence of the non-executive directors, particularly since all three members of the audit committee are required to be non-executive directors, and hence reduces their role in monitoring management and enhancing disclosure quality. The results of the other two variables, namely role duality and family control were contradictory to their hypotheses.

The only significant control variable is leverage (at the 0.1 level). This result is consistent with disclosure studies particularly Jordanian ones (Naser 1998; Naser et al. 2002). The results for market capitalization, profitability, auditor type, age, listing and liquidity did not support their hypotheses. One reason for this inconsistency might be that Jordanian studies examined the comprehensiveness of disclosure and not voluntary disclosure. Another reason is the time period these studies were conducted (in 1994 and 1998), whereas this model concerns the year 2004. However, auditor type negative relationship with disclosure is consistent with all Jordanian studies. Finally, the variable PR has a positive but insignificant relationship with voluntary disclosure implying that the

hypothesis that privatized firms disclosure levels (after privatization) would be better than those for non-privatized firms is not supported.

The reduced regression model results are also shown in Table 5.16. The model produced an adjusted R² of 39.83% and three variables were found to be significant, these are foreign ownership, industry type 1 and size of the board (at the 0.05, 0.1 and 0.05 levels respectively). The main finding of the reduced regression model is the significance of foreign ownership indicating that the presence of foreign owners resulting from privatization led to more voluntary disclosure. This result is consistent with many disclosure studies arguing that foreign owners require higher disclosure standards and exert more monitoring on management.

5.5.3 1996 versus 2004

Generally, leverage is the major company attribute that was found to influence Jordanian companies' voluntary disclosure. This is consistent with several disclosure studies particularly Jordanian studies. Also, in 1996, the presence of the state was a major determinant of voluntary disclosure, and in 2004, foreign owners emerged as a determinant influencing the amount of information disclosed voluntarily as evident from the 2004 results. Also, none of the governance variables appeared to influence the extent of voluntary disclosure despite the new governance reforms.

Further investigation is conducted so as to account for the dynamic effects of the ownership and governance variables particularly those that exhibited changes, providing a true more accurate picture of the underlying developments. Therefore, the next sections examine panel data regression models that account for the changes in ownership and governance, capturing the influence of such changes on the extent of voluntary disclosure. While it is possible to use ordinary multiple regression techniques on panel data they may not be optimal. The estimates of coefficients derived from regression may be subject to omitted variable bias - a problem that arises when there are some unknown variables that cannot be controlled for that affect the dependent variable. With panel data

it is possible to control for some types of omitted variables even without observing them, by observing changes in the dependent variable over time (Stock & Watson 2003).

Three pooled regression models are run using the least-squares-dummy-variables-estimator technique (LSDV), using the data for privatized firms in both years in the first, the data for non-privatized firms in both years in the second, and the whole sample of firms in the third.

5.5.3.1 Pooled Regression using Privatized Firms' Data

The model is subjected to the same statistical tests used to test the cross-sectional models. Panel C of Table C.4 (Appendix C) shows the skewness values and normality tests using the Anderson-Darling test. These figures prove that the dependent variable and most of the independent variables are skewed. Also, Figure 5.10 shows a normality plot for the dependent variable indicating markedable deviations from normality. To improve normality, the dependent variable as well as the continuous independent variables must be transformed. The two models tested in this study use two types of transformations; rank transformation and normal scores transformations.

Figure 5.10 Normality Plot for the Untransformed Dependent Variable
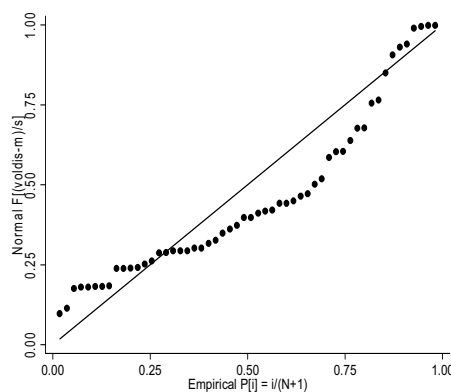
5.5.3.1.1 Model A

Model A is based on rank transformation. Table 5.17 below indicates a notable reduction in the skewness values of the rank transformed continuous variables compared to the skewness values of the untransformed variables. The model is subjected to the same tests as above. The Pearson correlation matrix presented in Panel A of Table C.9 (Appendix C), shows that the highest correlation coefficients is between the dependent variable and the size variables, industry type 1, age, foreign ownership, and the year variable. It also shows that the highest absolute correlation coefficients are between leverage and gearing ratio (0.996), total assets and market capitalization (0.906), gearing ratio and long term leverage (0.808), leverage and long term leverage (0.791), total assets and net sales (0.772), leverage and liquidity (0.743), liquidity and gearing ratio (0.735), and between audit committee and the year variable (0.707). These results are supported by the VIF values presented in Table 5.18 below indicating multicollinearity problems solved in the same way used in the previous cross-sectional regression models.

Figure 5.11 shows tests of homoscedasticity, a plot of the studentized residuals against predicted values, and a plot of the Cooke's distance to detect outliers, both supporting the assumption of constant variance in the error distribution (confirmed further by the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.37$, p – value = 0.545)). Figure 5.12 shows tests of normality of residual error, a histogram of the studentized residuals and a normal plot both indicating that the distribution of the residuals is not different from a normal distribution.

Another assumption must be tested with panel data which is the absence of autocorrelation. An uncorrelated error term means that current values should not be correlated with previous values in panel data. This is a problem with time series data where many variables tend to increment over time. Hence, each observation should be independent of other observations if the error terms are not to be correlated which would in turn lead to biased estimates of standard deviations and significance. To satisfy the assumption of autocorrelation, the Durbin-Watson coefficient (d) is used, where d ranges

from 0 to 4. As a conservative rule, d values that are less than 1 or greater than 3 constitute a problem (Alsaeed 2005). D values between 1.5 and 2.5 indicate independence of observations. The d value for the rank transformed data is 1.09 which is less than 1.5 implying the presence of autocorrelation. The pooled regression model results are offered by Table 5.20.

Table 5.17 Skewness Values for Untransformed and Transformed Continuous Variables (Pooled Privatized Firms, N=54)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
VOLDIS	1.58602	0.0007704	0.0018550
STO	2.06577	0.298717	0.662559
GAO	2.01598	0.0018959	0.0811165
FOW	4.88526	0.101763	0.410188
ARAB	3.53306	0.0002642	0.0258352
INDOW	0.0663562	0.0000000	-0.0000000
IOW	0.550029	-0.0000000	-0.0000000
PNED	-0.237178	-0.0043453	0.0523238
FAM	1.09458	0.587779	0.944748
SBoard	-0.193719	0.0104817	-0.0770417
Age	0.323892	0.0003477	0.0014582
Asset	2.32641	-0.0000000	-0.0000000
LEV	2.53599	0.0000000	-0.0000000
PROF	-2.23562	-0.0000000	0.0000000
LIQ	6.40175	0.0000830	0.0000313
MC	4.01881	-0.0000000	-0.0000000
NS	4.69466	-0.0000000	-0.0000000
PM	-2.32001	0.0000000	-0.0000000
GR	-0.756170	0.0000000	-0.0000000
LLEV	1.71199	0.369067	0.735722

Table 5.18 VIF Values for Rank Transformed Pooled (Privatized Firms) Model, N = 54

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	300.21	-	IND3	4.02	2.79
LEV rank	276.27	6.00	PNED rank	3.77	3.06
Asset rank	36.45	-	IOW rank	3.74	2.70
MC rank	22.13	6.78	Age rank	3.74	3.05
NS rank	11.65		FAM rank	3.68	2.50
PM rank	9.93	4.44	FOW rank	3.40	3.02
PROF rank	9.74	-	STO rank	3.39	2.83
LLEV rank	6.40	-	ARAB rank	3.17	2.56
Y	6.13	5.70	AUD	2.98	2.34
INDOW rank	5.06	3.88	List	2.76	2.37
AC	4.66	4.09	GAO rank	2.66	2.28
LIQ rank	4.49	3.73	CEO	2.42	2.20
IND1	4.24	3.77	SBoard rank	2.26	1.90

Figure 5.11 Tests of Homoscedasticity (Pooled Privatized Firms Rank Transformation)

Plot of Studentized Residuals against Predicted Values
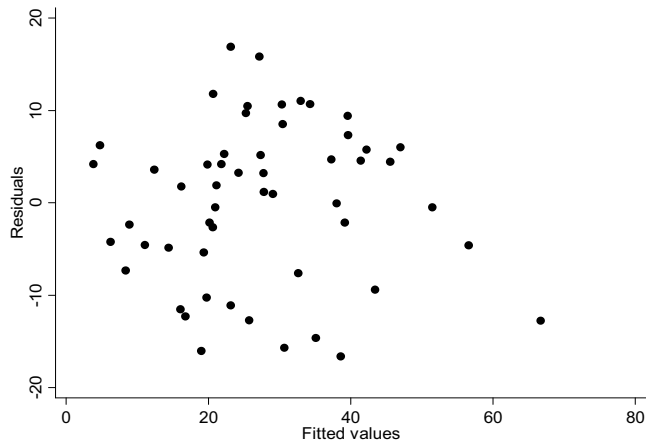
Plot of Cooke's Distance versus Predicted Values
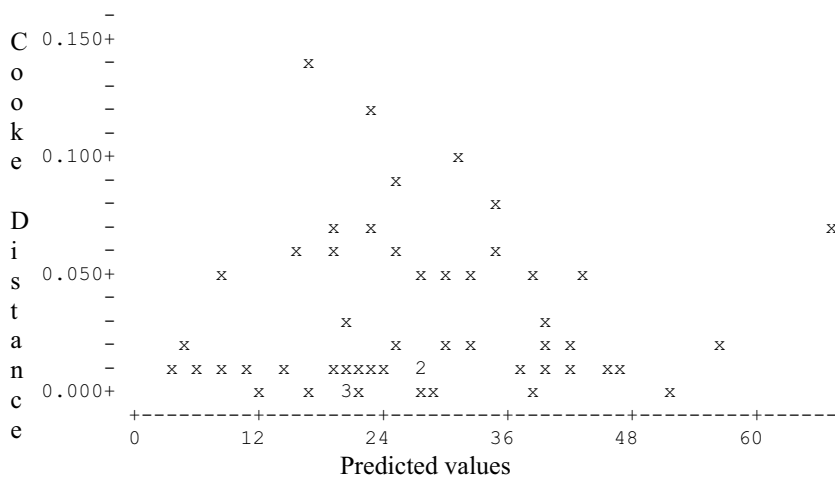
Figure 5.12 Tests of Normal Distribution of Residuals for the Pooled Privatized Firms (Rank Transformed Variables)

Histogram of the Residuals

(response is voldisra)

Normal Probability Plot of the Residuals

(response is voldisra)
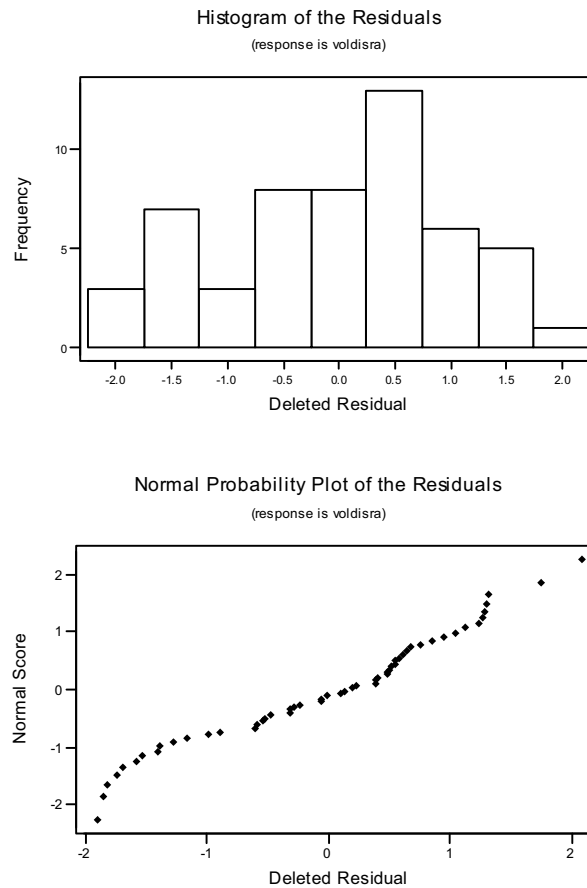
5.5.3.1.2 Model B

Model B is based on normal scores transformation. Table 5.17 shows a notable reduction in the skewness values of the normal scores transformed continuous variables compared to the untransformed ones. The model is subjected to the same tests. The Pearson correlation matrix presented in Panel B of Table C.9 (Appendix C) shows that the highest correlation coefficients between the dependent variable and the independent variables are with all three size variables, Age, industry type 1, foreign ownership and the year variable. The highest absolute correlation coefficients between the independent variables are 0.997 between leverage and gearing ratio, 0.885 between total assets and market capitalization, 0.808 between long term leverage and gearing ratio, 0.795 between

leverage and long term leverage, 0.791 between total assets and net sales, 0.744 between leverage and liquidity, 0.739 between gearing ratio and liquidity, and 0.707 between the year variable and audit committee. These results are supported by the VIF values presented in Table 5.19 below indicating the presence of multicollinearity problems solved using the same procedure as in the previous regression models.

Homoscedasticity is tested using a plot of the studentized residuals against predicted values, and computation of the Cooke's distance to detect outliers shown in Figure 5.13 indicating absence of heteroscedasticity (supported by the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.00$, p – value = 0.9724)). Tests of the normality of residual errors shown in Figure 5.14 indicate that the distribution of the residuals is not different from a normal distribution. Also, the Durbin-Watson coefficient for the normal scores transformed data, d = 2.17 indicates the absence of autocorrelation providing a better result than that of the model based on rank transformation. The pooled regression model results are shown in Table 5.20. A reduced regression is also conducted and the results are shown in Table 5.20.

Table 5.19 VIF Values for Normal Scores Transformed Model, Pooled Privatized Firms, N = 54

Initial Model		Final Model	Initial Model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
GR nor	560.41	-	IND1	4.50	3.81
LEV nor	511.41	5.10	AC	4.31	3.90
Asset nor	25.44	-	STO nor	4.12	3.60
MC nor	15.83	6.71	IOW nor	4.00	2.62
NS nor	12.19	-	Age nor	3.90	3.04
PROF nor	11.80	-	FOW nor	3.47	3.03
PM nor	11.29	4.23	IND3	3.39	2.85
Y	6.50	6.03	Arab nor	3.17	2.50
INDOW nor	6.16	4.14	GAO nor	3.13	2.81
LLEV nor	6.00	-	AUD	2.86	2.30
PNED nor	5.31	3.27	CEO	2.75	2.26
FAM nor	5.01	2.63	SBoard nor	2.51	1.97
LIQ nor	4.63	3.89	List	2.36	2.10

Figure 5.13 Tests of Homoscedasticity (Pooled Privatized Firms Normal Scores Transformation)

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values
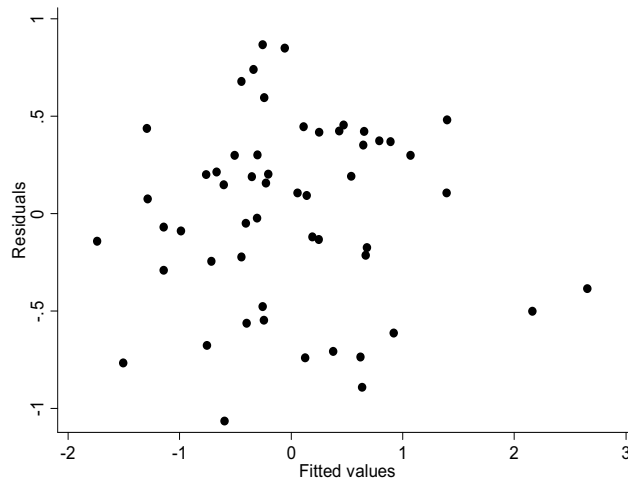
```
C
o  0.240+      x
o       -
o       -
k       -
e       -
   0.160+
        -
D       -
i       -
s       -          x     2                        x
t  0.080+                    x   x
a       -     x          x              x
n       -             2 x       x  x   x
c       -      x    x  x 2       x      x
e       -              x      x    x  2 xx x    x              x
   0.000+ x      x x x  22 xx22   x2x   x x        x
        --+---------+---------+---------+---------+---------+----
         -1.60    -0.80     0.00      0.80      1.60      2.40
                            Predicted values
```

Figure 5.14 Tests of Normal Distribution of Residuals for the Pooled Privatized Firms (Normal Scores Transformed Variables)

Histogram of the Residuals

(response is Vol Dis)

Normal Probability Plot of the Residuals

(response is Vol Dis)
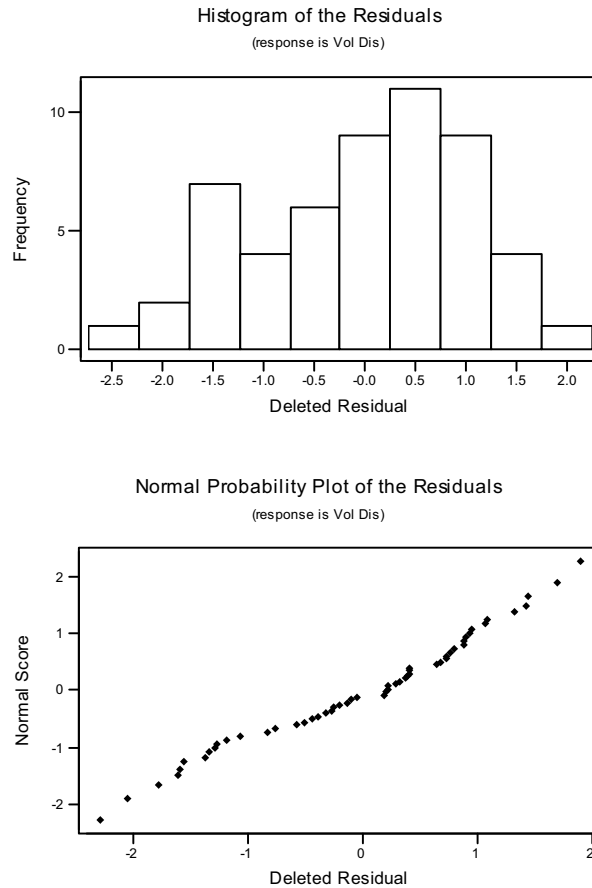
Table 5.20 Pooled Regression Estimates for the Privatized Firms (1996-2004) N = 54

Predictor	Predicted sign	Model A#	Model B	Model C	VIF$
Constant	None	9.44 0.63	0.024 0.07	-0.097 -0.49	-
State Ownership	?	-0.191 -1.12	-0.17 -0.93	0.001 0.01	1.88
Government Agencies Ownership	?	-0.1 -0.68	-0.067 -0.46	-	-
Foreign Ownership	+	0.121 0.71	0.144 0.90	0.216 1.83*	1.93
Arab Ownership	?	-0.084 -0.54	-0.064 -0.48	-	-
Individual Ownership	?	-0.308 -1.61	-0.313 -1.82*	-0.186 -1.72*	1.90
Institutional Ownership	+	-0.113	-0.051	-	-

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		-0.71	-0.37		
Percentage Non-executive directors	+	-0.169 -1.00	-0.14 -0.91		
Family Control	-	0.012 0.07	0.005 0.03	-	-
Size of Board	-	0.053 0.39	0.06 0.49	0.033 0.30	1.83
Role Duality	-	-3.67 -0.68	-0.039 -0.13	-0.077 -0.35	1.45
Audit Committee	+	-3.014 -0.47	-0.041 -0.12	-	-
Market Capitalization	+	0.25 0.99	0.239 1.09	0.288 2.07**	3.13
Leverage	+	0.494 2.08**	0.438 2.29**	0.297 2.21**	2.92
Liquidity	+	3.083 2.05**	0.408 2.45	0.36 2.79***	2.69
Profit Margin	+	0.163 0.8	0.229 1.31	-	-
Auditor type	+	-9.623 -1.92*	-0.448 -1.72*	-0.4 -1.88*	1.76
Age	+	0.144 0.86	0.135 0.92	0.126 1.11	2.1
Listing	+	2.864 0.54	0.082 0.3	-	-
Industry 1	+	2.93 0.36	0.301 0.67	0.433 1.2	2.8
Industry 3	-	-2.664 -0.46	-0.372 -1.17	-	-
Year	+	12.034 1.67	0.573 1.42	0.605 2.87***	1.89
Std. error		11.082	0.6043	0.562	
R-Sq		70.03%	77.14%	74.64%	
R-Sq (adj)		50.36%	62.13%	67.22%	
F		3.56***	5.14***	10.06***	

***   Significant at the 0.01 level (all probabilities are two tailed)
**   Significant at the 0.05 level
*   Significant at the 0.1 level
\#   The top values are the coefficients, the bottom are the t-statistics
?   The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known
$ VIF values for the reduced model

5.5.3.1.3 Results

While the results of the rank regression are shown in Table 5.20, the results are not discussed due to the violation of the assumption of autocorrelation which leads to biased estimates and significance. However, the results of the rank regression model are consistent with those of the normal scores model indicating that the findings are robust.

As for the model based on normal scores transformation, the adjusted R^2 is 62.13% and four variables are significant. The only significant ownership variable is individual ownership which was found to have a negatively significant relationship with the extent of voluntary disclosure at the 0.1 level. This result is consistent with Naser et al. (2002) who reported a negative significant association at the 0.1 level between individual ownership and the depth of disclosure by Jordanian listed firms. The authors justified these results on the basis that individual Jordanians' investment decisions are far from being educated. The other ownership variables in the full regression model were not significant. Unfortunately, none of the governance variables were found to be significant suggesting that the recent governance reforms did not produce a significant influence on the extent of voluntary disclosure of privatized firms.

The significant control variables are auditor type, leverage and liquidity (at the 0.1, 0.05, and 0.05 respectively). The auditor type has a significant negative relationship with the extent of voluntary disclosure, a finding that is consistent with Naser et al. (2002). Also, leverage and liquidity both have positive significant relationships with the extent of voluntary disclosure supporting their hypotheses.

The reduced regression produced an adjusted R^2 of 67.22% and seven variables had significant coefficients. Three new variables have been found to be significant, market capitalization (at the 0.05 level), foreign ownership (at the 0.1 level), and the year variable (at the 0.01 level). These findings suggest that foreign ownership has a significant positive impact on privatized firms' disclosure supporting the hypothesis of this study that privatization through changes in ownership (to foreign ownership) had a significant impact on voluntary disclosure of privatized firms. Also, the significance of the year variable supports the hypothesis that external governance reforms through improved investor protection have a significant impact on voluntary disclosure. However, the state ownership variable was insignificant which could be a result of relinquishing of the state ownership, due to privatization, to other owners reducing its stake in these firms, which in turn leads to reducing its influence on voluntary disclosure.

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5.5.3.2 Pooled Regression using Non-Privatized Firms' Data

The model is subjected to the same statistical tests as with the previous models. Panel C of Table C.5 (Appendix C) shows the skewness values and normality tests using the Anderson-Darling test. These figures indicate that the dependent variable and most of the independent variables are skewed. Also, Figure 5.15 shows a normality plot of the dependent variable indicating marked deviations from normality. To improve normality, the dependent variable as well as the continuous independent variables must be transformed. The same two models are tested here using rank and normal scores transformations.

Figure 5.15 Normality Plot for the Untransformed Dependent Variable
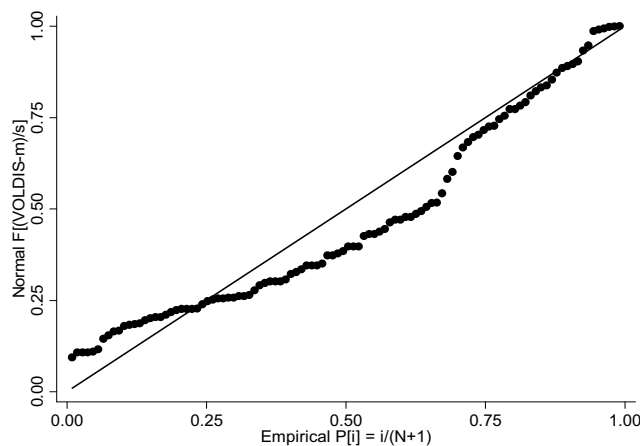
5.5.3.2.1 Model A

Model A is based on rank transformation. Table 5.21 below shows the skewness values of the rank transformed continuous variables compared to the skewness values of the untransformed variables showing a notable reduction in skewness as a result of the transformation. The model is subjected to the same tests. The Pearson correlation matrix presented in Panel A of Table C.10 (Appendix C) shows that the highest correlation

coefficients between the dependent variable and the independent variables are with the year variable (0.866), the state ownership, foreign ownership, audit committee, age, size variables, industry 1, and long term leverage. The Table also shows the correlation coefficients between the independent variables with the highest absolute coefficients being between total assets and market capitalization (0.873), total assets and net sales (0.73), leverage and gearing ratio (0.904) and liquidity and gearing ratio (0.719). The VIF values support these results as shown in Table 5.22. The highest VIF value is for gearing ratio = 11.15 indicating a multicollinearity problem.

To test for homoscedasticity, an analysis of the residuals is conducted using a plot of the studentized residuals against predicted values, and computation of the Cooke's distance to detect outliers shown in Figure 5.16. The first plot shows a certain pattern implying possible presence of heteroscedasticity, while the second plot indicates absence of outliers. However, the Breusch-Pagan / Cook-Weisberg test ($\chi^2 = 1.62$, p – value $= 0.203$) points to absence of heteroscedasticity. To test for the assumption of a normally distributed residual error, a histogram of the studentized residuals and a normal plot are shown in Figure 5.17 indicating that the distribution of the residuals is normally distributed.

The Durbin-Watson coefficient for the rank transformed data, d = 0.79 indicates the presence of extreme positive correlation in the error term implying that the observations are not independent. Table 5.24 reports the results of pooled regression model.

Table 5.21 Skewness Values for Untransformed and Transformed Continuous Variables (Pooled Non-privatized Firms, N=106)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
VOLDIS	1.47690	0.0002245	0.0084876
STO	4.17171	2.01549	2.26233
GAO	2.66124	0.309833	0.697832
FOW	8.71079	0.217892	0.594546
ARAB	2.69438	0.0020804	0.103863
INDOW	-0.117264	0.0000261	0.0141175
IOW	0.539256	0.0001032	0.0293189
PNED	-0.688478	0.0002604	0.0135013
FAM	0.964347	0.203804	0.576877
SBoard	0.201254	0.0110435	0.0067621
Age	1.38375	0.0098845	0.114771
Asset	5.06877	0.0000000	0.0000000
LEV	6.23169	-0.0000000	0.0000000
PROF	-1.58954	0.0001654	0.0001446
LIQ	6.94057	0.0001323	0.0004745
MC	3.72859	0.0001919	0.0003584
NS	6.09374	0.0004871	0.0596586
PM	-8.86949	0.0005654	0.0004468
GR	-0.858040	0.0000321	0.0000278
LLEV	3.60976	0.757685	1.12372

Table 5.22 VIF Values for Rank Transformed Model, Pooled Non- Privatized Firms, N = 106

Initial model		Final Model	Initial model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	11.15	-	STO rank	2.08	2.08
LEV rank	8.07	2.59	LLEV rank	2.06	1.99
Asset rank	7.49	6.87	Y	1.98	1.93
MC rank	6.97	6.57	FOW rank	1.92	1.92
NS rank	5.35	5.28	SBoard rank	1.91	1.90
PROF rank	4.27	3.68	AUD	1.76	1.70
IND1	3.53	3.53	IND3	1.74	1.67
PM rank	3.45	3.22	IOW rank	1.70	1.69
FAM rank	3.31	3.30	AC	1.59	1.54
PNED rank	2.95	2.90	CEO	1.59	1.55
LIQ rank	2.70	2.05	ARAB rank	1.55	1.54
Age rank	2.62	2.53	GAO rank	1.55	1.55
INDOW rank	2.15	2.14	List	1.45	1.44

Figure 5.16 Tests of Homoscedasticity (Pooled Non-Privatized Firms Rank Transformation)

Plot of Studentized Residuals against Predicted Values
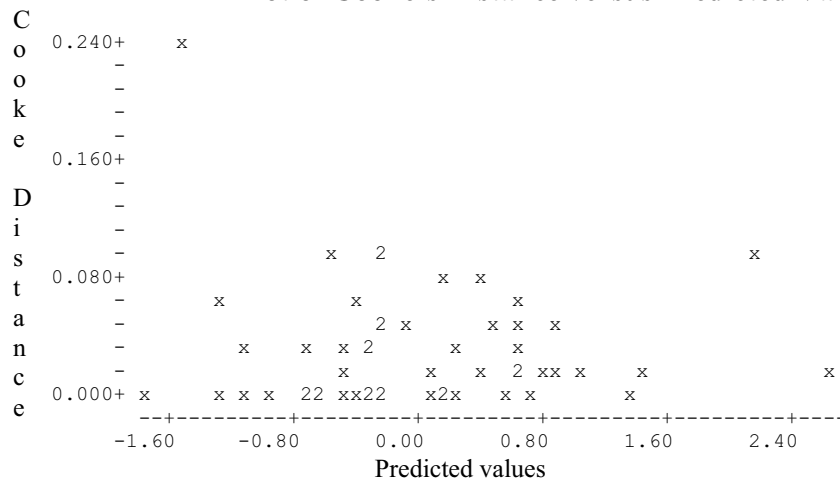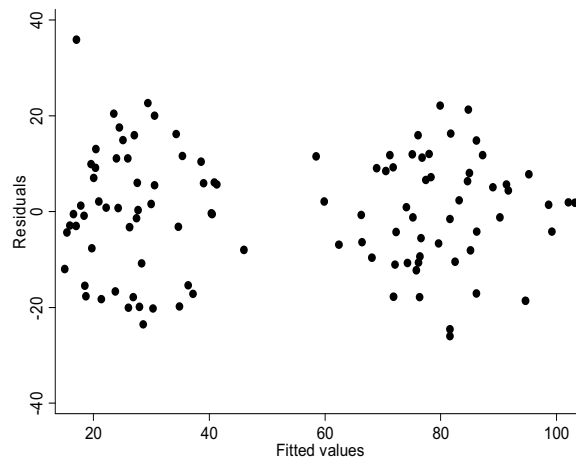

Plot of Cooke's Distance versus Predicted Values
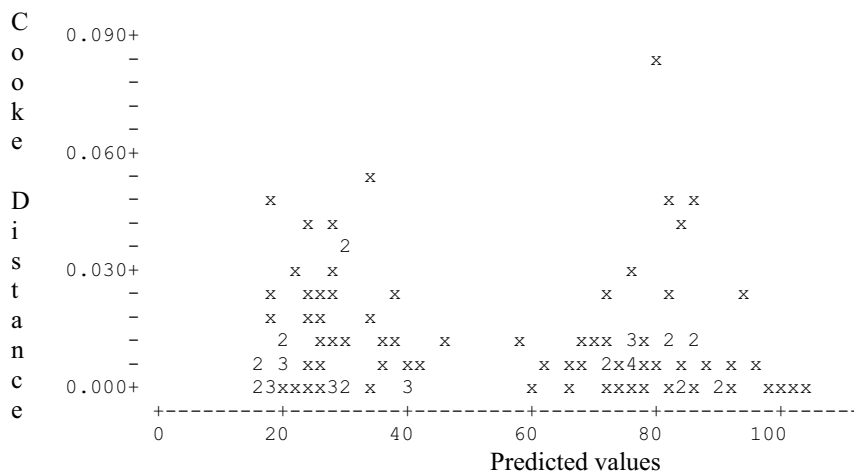
Figure 5.17 Tests of Normal Distribution of Residuals for the Pooled Non-Privatized Firms (Rank Transformed Variables)

Histogram of the Residuals
(response is VOLDISra)

Normal Probability Plot of the Residuals
(response is VOLDISra)

5.5.3.2.2 Model B

Model B is based on normal scores transformation. Table 5.21 shows the skewness values of the transformed continuous variables based on normal scores approach, compared to the skewness values of the untransformed variables showing a reduction in skewness. The Pearson correlation matrix presented in Panel B of Table C.10 (Appendix C) shows that the highest correlation coefficients between the dependent variable and the independent variables are with the size variables, the year variable, audit committee, foreign ownership, state ownership, industry type 1, age, and long term leverage. Also, the Table shows the correlation coefficients between the independent variables indicating

that the highest absolute coefficients are between total assets and market capitalization (0.867), leverage and gearing ratio (0.858), the audit committee and the year variable (0.748), total assets and net sales (0.737) state ownership and industry type 1 (0.731), and liquidity and gearing ratio (0.712). Table 5.23 below shows the VIF values, the highest being 7.86 (gearing ratio) which is less than 10, hence indicating the absence of severe multicollinearity problems.

Plots of the studentized residuals against predicted values, and Cooke's distance shown in Figure 5.18, and the Breusch-Pagan / Cook-Weisberg test ($\chi^2 = 0.67$, $p - \text{value} = 0.415$) are used to test for homoscedasticity, all supporting the assumption of constant variance of the error distribution. To test for the normal distribution of the error term, a histogram and normal probability plots of the studentized residuals (shown in Figure 5.19) point to the fact that the error term exerts a normal distribution. Finally, computation of the Durbin Watson coefficient for the normal scores transformed data, d = 1.88 (which is close to 2) indicates the absence of autocorrelation. Table 5.24 shows the results of the regression model.

Table 5.23 VIF Values for Normal Scores Transformed Model, Pooled Non-Privatized Firms, N = 106

Variable	VIF	Variable	VIF
GR nor	7.86	LIQ nor	2.65
Asset nor	7.84	Age nor	2.61
MC nor	7.53	INDOW nor	2.48
LEV nor	5.82	LLEV nor	2.25
NS nor	5.28	SBoard nor	2.00
IND1	4.80	IOW nor	1.91
PROF nor	3.37	FOW nor	1.86
Y	3.22	IND3	1.79
FAM nor	3.21	AUD	1.73
AC	2.99	GAO nor	1.63
PNED nor	2.86	ARAB nor	1.62
PM nor	2.83	CEO	1.62
STO nor	2.65	List	1.58

Figure 5.18 Tests of Homoscedasticity (Pooled Non-Privatized Firms Normal Scores Transformation)

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values
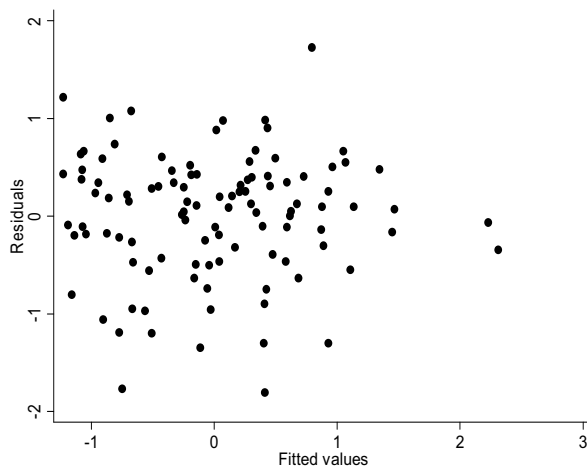
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         -
C   0.150+                                    x
o        -
o        -
k        -
e        -
    0.100+
D        -                              x
i        -
s        -                         x
t        -            x
a   0.050+                     x
n        -        x
c        -       xxx    x      x      x        x
e        -    xx    x   xx      x x  x 3
    -        x   4 2    x 2xx 3xx   xxx2  x  x xx  x
e   0.000+    xx2x 2x3x xxx24xxx3323x2x322 x2x x    2          xx
         +---------+---------+---------+---------+---------+------
        -1.40      -0.70     0.00      0.70      1.40      2.10
                              Predicted values
```
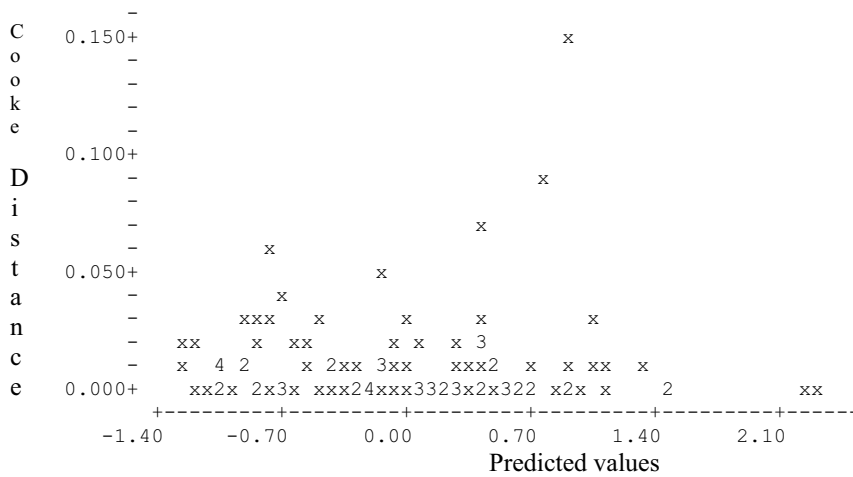
Figure 5.19 Tests of Normal Distribution of Residuals for the Pooled Non-Privatized Firms (Normal Scores Transformed Variables)

Histogram of the Residuals

(response is Vol Dis)

Normal Probability Plot of the Residuals

(response is Vol Dis)
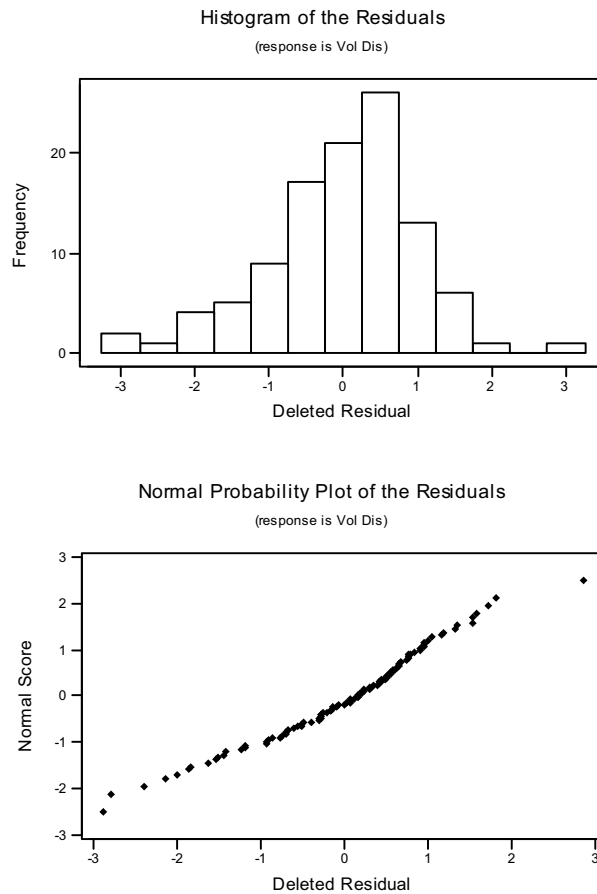
Table 5.24 Pooled Regression Estimates for the Non-Privatized Firms (1996-2004)
N = 106

Predictor	Predicted Sign	Model A#	Model B	Model C	VIF$
Constant	None	21.023	-0.647	-0.483	-
		1.60	-2.92***	-3.92***	
State Ownership	?	0.054	0.284	0.320	2.44
		0.52	1.56	1.91*	
Government Agencies Ownership	?	-0.058	-0.108	-	-
		-0.98	-1.02		
Foreign Ownership	+	0.055	0.228	0.198	1.37
		0.85	2.05**	2.18**	
Arab Ownership	?	0.054	-0.043	-	-
		0.96	-0.46		
Individual Ownership	+	-0.022	0.037	0.065	1.92

		-0.33	0.33	0.68	
Institutional Ownership	+	-0.050 -0.86	-0.096 -0.96	-0.069 -0.77	1.65
Percentage Non-executive Directors	+	-0.143 -1.87	-0.048 -0.39	-	-
Family Control	-	-0.086 -1.02	-0.009 -0.06	-	-
Size of Board	-	0.101 1.61	0.185 1.76*	0.115 1.33	1.46
Role Duality	-	-1.194 -0.34	0.044 0.24	-	-
Audit Committee	+	8.75 2.45	0.186 0.73	0.269 1.21	2.44
Total Assets	+	0.088 0.75	0.285 1.41	0.176 1.83*	1.94
Market Capitalization	+	-0.115 -0.99	-0.138 -0.70	-	-
Net Sales	+	0.15 1.45	-0.019 -0.11	-	-
Leverage	+	-0.063 -0.87	0.19 1.09	-	-
Long term Leverage	+	0.089 1.21	0.124 0.91	0.162 1.64	1.31
Gearing Ratio	+	-	0.232 1.14	-	-
Liquidity	+	0.036 0.57	-0.03 -0.29	-	-
Return on Equity	+	-0.051 -0.59	0.149 1.12	0.054 0.68	1.33
Profit Margin	+	0.082 1.01	-0.126 -1.04	-	-
Auditor Type	+	-2.57 -0.67	-0.033 -0.17	0.006 0.04	1.42
Age	+	-0.012 -0.17	0.064 0.53	0.030 0.33	1.62
Listing	+	0.899 0.25	0.137 0.70	-	-
Industry 1	+	0.882 0.08	0.401 0.59	0.440 0.76	3.86
Industry 3	-	3.07 0.84	0.139 0.71	-	-
Year		46.079 12.03***	0.738 2.89***	0.633 2.81***	2.73
Std- Error		83.76%	58.52%	55.86%	
Adjusted R-Sq		78.69%	44.87%	49.63%	
F		16.51***	4.29***	8.96***	

***   Significant at the 0.01 level (all probabilities are two tailed)
**   Significant at the 0.05 level
*   Significant at the 0.1 level
\#   The top values are the coefficients, the bottom are the t-statistics
?   The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known
$ The VIF values for the reduced regression model

5.5.3.2.3 Results

Model A based on the rank transformed variables had an adjusted R^2 of 78.7% and three variables produced significant coefficients. However, the Durbin-Watson coefficient for the rank transformed data, $d = 0.79$ indicates the presence of extreme autocorrelation of standard errors, hence, the results of this regression model are deemed unreliable.

Model B based on normal scores transformation produced an adjusted R^2 of 44.9%, and three variables were found to be significant. Foreign ownership is positively significant at the 0.05 level indicating that foreign owners are a source of better voluntary disclosure consistent with earlier disclosure studies (Haniffa & Cooke 2002; Barako et al. 2006). The significance of foreign ownership in this model implies that privatization influence on the extent of voluntary disclosure was not restricted to the privatized firms; rather privatization positively influenced voluntary disclosure of non-privatized firms through the attraction of foreign investors' to non-privatized Jordanian listed firms. The other ownership variables in the full regression model were not significant.

As for the governance variables, the size of the board is the only variable that is positively significant at the 0.1 level contradicting by that the hypothesis that smaller boards are associated with higher disclosure practice. The presence of audit committees has a positive but insignificant coefficient; hence its hypothesis was not supported. Further, the year variable was found to be positively significant supporting the hypothesis that external governance reforms, through improving investor protection, have in fact significantly influenced the extent of voluntary disclosure of non-privatized Jordanian listed firms.

With respect to the control variables, size and the leverage variables have positive but insignificant coefficients, which is inconsistent with the findings in the cross sectional models and the previous pooled model of the privatized firms. Further, the constant is negatively significant at the 0.01 level.

The reduced regression model produced an adjusted R^2 of 50.17% and four variables are significant. Two ownership variables are now significant, the state ownership (at the 0.1 level) and foreign ownership (at the 0.05 level) variables. Also, total assets emerge as a significant variable supporting the findings of the previous cross sectional and pooled models. The year variable retains its significance at the 0.01 level indicating its superiority in influencing the extent of voluntary disclosure. The surprising result in this model is the significance of the state ownership variables. However, this result is due to the inclusion of state owned non-privatized firms in this model of which the state has increased its shares in.

To confirm these conclusions, a regression model, based on normal scores transformation, is run after dropping state owned firms[18]. The results are reported in Table 5.25 under model D. As the model shows that the state ownership variable is not significant while the other variables that were found to be significant in model B retained their significance. A reduced regression model is also run, model E in Table 5.25, and the same variables retain their significance levels except the size of the board, hence confirming the conclusions made above. Tests for multicollinearity, homoscedasticity, normality of residuals and autocorrelation are conducted as in the previous models. Table 5.25 shows the results of the regression model as well as the VIF values, the highest VIF value being 7.58 supporting the absence of multicollinearity[19]. Figure 5.20 shows a plot of the studentized residuals against the predicted values and a second plot of the Cooke's distance, both support the absence of heteroscedasticity. Also, the Breusch-Pagan / Cook-Weisberg test ($\chi^2 = 0.00$, p – value = 0.996) supports the assumption of homoscedasticity. Figure 5.21 plots a histogram of the residuals and a normal probability plot of the residuals indicating that the error term is normally distributed. The Durbin-Watson d=1.9 supports the absence of autocorrelation.

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[18] Those firms are Irbid District Electricity, Jordan Phosphate Mines, Woollen Industries and National Petroleum. State ownership in these firms ranges from 22.6% in Woollen Industries in 1996 to 100% in National Petroleum in 2004.

[19] The Pearson correlation matrix is also shown in Table C.11 (Appendix C), offering the correlation between the dependent variable and the independent variables, and among the independent variables.

Figure 5.20 Tests of Homoscedasticity (Pooled Private Firms Normal Scores Transformation)

Plot of Studentized Residuals against Predicted Values


Plot of Cooke's Distance versus Predicted Values
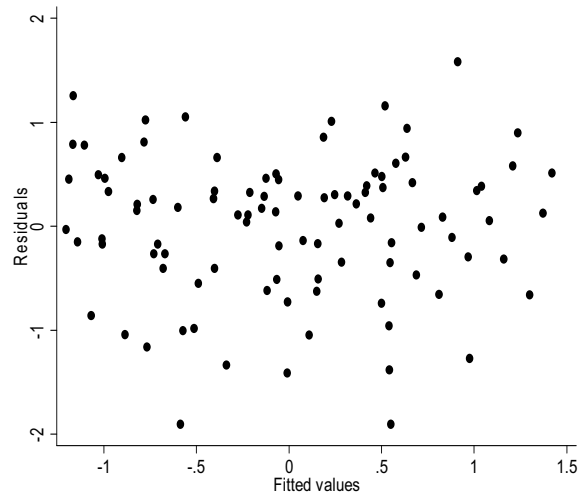
```
       -
C  0.180+                                              x
o      -
o      -
k      -
e  0.120+
       -
       -
D      -            x
i      -                              x       x       x
s  0.060+
t      -                    x
a      -       x   x   x        x         x
n      -     x xx     xx        x    x    xx
c      -   2xx2 x       x x    x 2    xx    xx2 x2      x     x
e  0.000+   2x xxx   222xx    3   22x23 xx2x22xxxx2 x2 xxxxx xxx   xx
       ------+---------+---------+---------+---------+---------+
          -1.00      -0.50     0.00      0.50      1.00      1.50
                              Predicted values
```
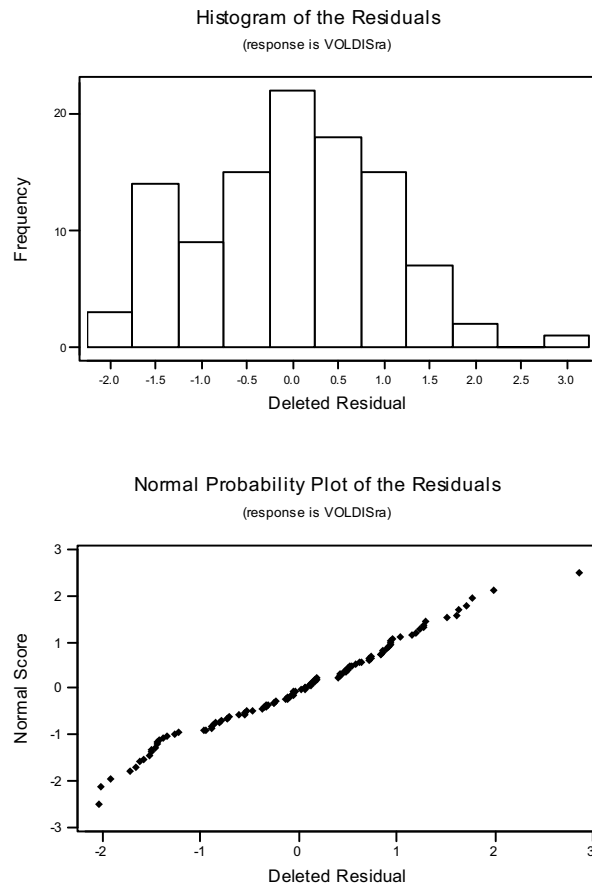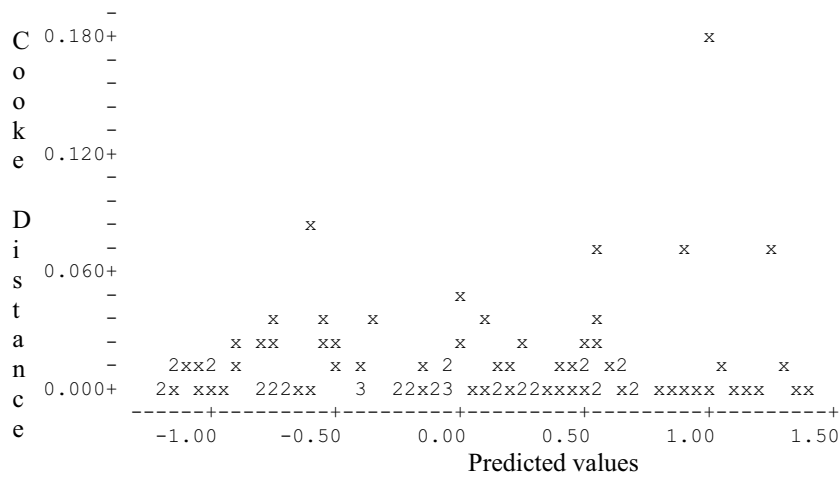
Figure 5.21 Tests of Normal Distribution of Residuals for the Pooled Private Firms (Normal Scores Transformed Variables)

Histogram of the Residuals

(response is voldisno)

Normal Probability Plot of the Residuals

(response is voldisno)
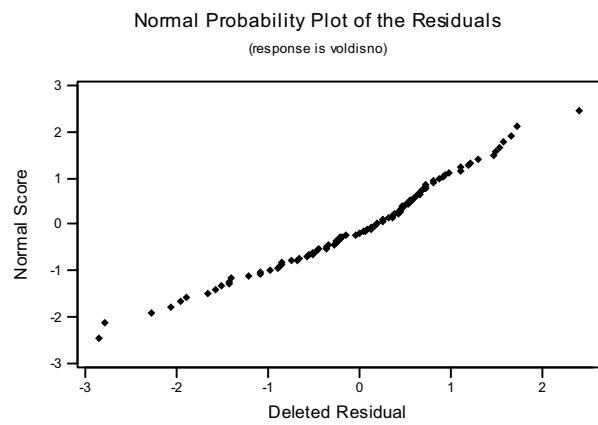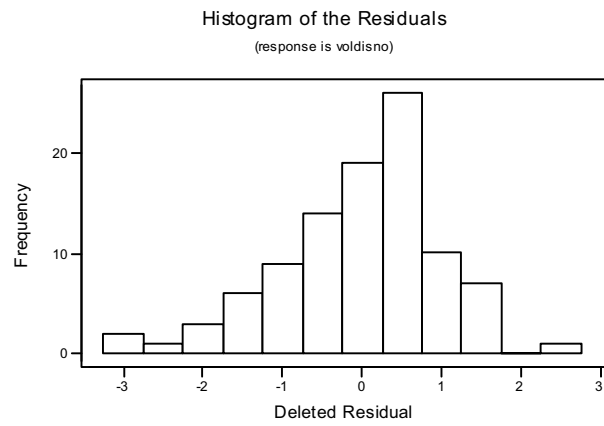
Table 5.25 Pooled Regression Estimates for the Private Firms (1996-2004) N = 98

Predictor	Predicted Sign	D	VIF&	E	VIF$
Constant	None	-0.688 -2.89***	-	-0.46 -3.55***	-
State Ownership	?	0.182 1.08	1.25	-	-
Government Agencies Ownership	?	-0.13 -1.14	1.46		
Foreign Ownership	+	0.223 1.78*	1.86	0.17 1.68*	1.3
Arab Ownership	?	-0.034 -0.33	1.52	-	-
Individual Ownership	?	0.06 0.51	2.07	-	-
Institutional Ownership	+	-0.065 -0.64	1.56	-	-
Percentage Non-executive Directors		-0.046 -0.35	2.56	-	-
Family Control	-	-0.006 -0.04	3.32	-	-
Size of Board	-	0.209 1.72*	2.09	0.107 1.14	1.3
Role Duality	-	0.056 0.28	1.56	-	-
Audit Committee	+	0.218 0.77	2.83	0.249 1.02	2.3
Total Assets	+	0.258 1.2	6.95	0.202 2.01**	1.6
Market Capitalization	+	-0.089 -0.40	7.39	-	-
Net Sales	+	-0.031 -0.18	4.35	-	-
Leverage	+	0.228 1.22	5.25	-	-
Long term Leverage	+	0.119 0.84	1.86	0.165 1.56	1.1
Gearing Ratio	+	0.227 1.01	7.58	-	-
Liquidity	+	-0.02 -0.15	2.56	-	-
Return on Equity	+	0.193 1.26	3.53	0.035 0.39	1.3
Profit Margin	+	-0.167 -1.19	2.98	-	-
Auditor Type	+	-0.104 -0.43	1.87	-0.06 -0.29	1.4
Age	+	0.043 0.33	2.40	0.006 0.06	1.5
Listing	+	0.177 0.62	1.83		
Industry 1	+	-	-	-	-
Industry 3	-	0.138	1.51		

		0.83			
Year	+	0.836 2.92***	3.17	0.743 2.98***	2.6
STD. Error		0.796		0.766	
R-Sq		51.8%		45.4%	
Adjusted R-Sq		35.1%		39.9%	
F		3.10***		8.14***	

*** Significant at the 0.01 level (all probabilities are two tailed)
**   Significant at the 0.05 level
*   Significant at the 0.1 level
?   The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known
&   The VIF values for the full regression model
$ The VIF values for the reduced regression model

5.5.3.3 Pooled Regression using Data for All Firms

A final model is conducted using the data for all Jordanian firms to ascertain whether the different determinants, particularly ownership changes and governance reforms, have influenced the extent of voluntary disclosure of Jordanian listed firms. The model is subjected to the same statistical tests as above. Panel C of Table C.6 (Appendix C) shows the skewness values and normality tests using the Anderson-Darling test. These figures show that the dependent variable and most of the independent variables are skewed. Also, Figure 5.22 shows a normality plot for the dependent variable indicating markedable deviations from normality. To improve normality, the dependent variable as well as the continuous independent variables must be transformed. The same two models are tested here using rank and normal scores transformations.

Figure 5.22 Normality Plot for the Untransformed Dependent Variable
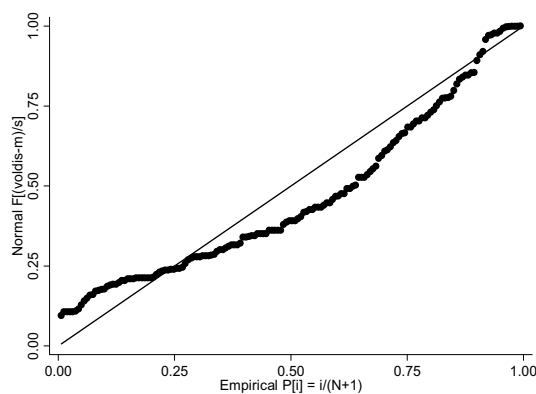
5.5.3.3.1 Model A

Model A is based on rank transformation. Table 5.26 below shows the skewness values of the rank transformed continuous variables compared to the skewness values of the untransformed variables showing a notable reduction in skewness as a result of the transformation. The Pearson correlation matrix presented in Panel A of Table C.12 (Appendix C) shows that the highest correlation coefficients between the dependent variable and independent variables are with the size variables, followed by the year variable, age, industry type 1, foreign ownership and audit committee presence. The Table also shows correlation coefficients between independent variables with the highest absolute coefficients being between total assets and market capitalization (0.895), total assets and net sales (0.764), market capitalization and net sales (0.715), the year variable and the audit committee (0.734), leverage and gearing ratio (0.940), return on equity and profit margin (0.7) and liquidity and gearing ratio (0.725). The VIF values in Table 5.27 below indicate multicollinearity problems.

To test for homoscedasticity, an analysis of the residuals is conducted using a plot of the studentized residuals against predicted values, a plot of the Cooke's distance to detect outliers shown in Figure 5.23, and the Breusch-Pagan / Cook-Weisberg test ($\chi^2 = 0.01$, p – value = 0.909), all support the absence of heteroscedasticity. To test for the assumption of a normally distributed residual error, a histogram of the studentized residuals and a normal plot are shown in Figure 5.24 indicating that the distribution of the residuals is not different from a normal distribution.

To test for autocorrelation, the Durbin-Watson coefficient for the rank transformed data, d = 0.98 indicates that the standard errors are large. The pooled regression model results are offered by Table 5.29.

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Table 5.26 Skewness Values for Untransformed and Transformed Continuous Variables (for the Pooled Regression Model of the Whole Sample of Firms)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
VOLDIS	1.59021	0.0001839	0.0028504
STO	3.75350	1.06959	1.41410
GAO	2.62928	0.128034	0.485544
FOW	8.05807	0.171397	0.546350
ARAB	3.09368	0.0011969	0.0925203
INDOW	-0.112515	0.0000076	0.0097996
IOW	0.546976	0.0000729	0.0310765
PNED	-0.686775	-0.0005915	0.0088296
FAM	1.10229	0.302676	0.700040
SBoard	0.0840584	0.0099777	-0.0296046
Age	0.923772	0.0050303	0.0926968
Asset	3.52669	0.0000000	-0.0000000
LEV	5.45882	-0.0000000	-0.0000000
PROF	-1.71171	0.0000885	0.0000666
LIQ	8.24649	0.0000696	0.0002608
MC	6.42052	-0.0000025	-0.0000013
NS	7.09381	0.0002540	0.0520924
PM	-10.6501	0.0002539	0.0001752
GR	-0.808617	0.0000086	0.0000058
LLEV	2.56107	0.581427	0.973718

Table 5.27 VIF Values for the Pooled Regression Model of the Whole Sample of Firms (Rank Transformed Variables), N = 160

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	14.11	-	STO rank	1.83	1.83
LEV rank	10.90	3.24	INDOW rank	1.78	1.77
Asset rank	10.20	-	FAM rank	1.76	1.73
MC rank	8.36	3.44	FOW rank	1.75	1.74
NS rank	4.98	4.10	IOW rank	1.63	1.61
PROF rank	3.95	3.23	IND3	1.61	1.58
PM rank	3.49	3.13	AUD	1.58	1.55
Y	3.19	3.17	GAO rank	1.57	1.57
AC	2.85	2.84	SBoard rank	1.55	1.55
LIQ rank	2.58	2.10	CEO	1.52	1.50
LLEV rank	2.55	2.22	List	1.46	1.46
Age rank	2.33	2.22	ARAB rank	1.30	1.28
IND1	2.15	2.05	PNED rank	1.16	1.15

Figure 5.23 Tests of Homoscedasticity for the Pooled Regression Model of the Whole Sample of Firms (Rank Transformation)

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values

```
           -
C    0.105+
o          -
o          -                                 x
k          -
e          -
           -
     0.070+
D          -
i          -                          x
           -
s          -
           -                          x
t    0.035+                    2          2
a          -           x   xx      2   xx
n          -               x x      x x            x
           -           x xx 3xx2    2xx2    xx
c          -        x2x3 22 6x   x2   x xx 43x x4 3x
e    0.000+   xxxx3 32 234 x2x22522 35264x234xx2x 2x     x  x2x x
           +---------+---------+---------+---------+---------+------
           0        35        70       105       140       175
                              Predicted values
```

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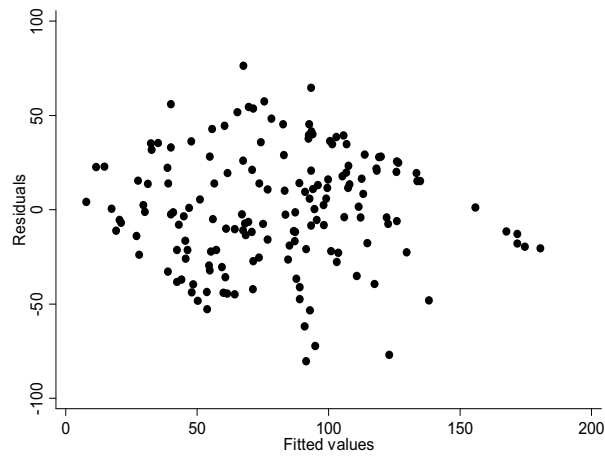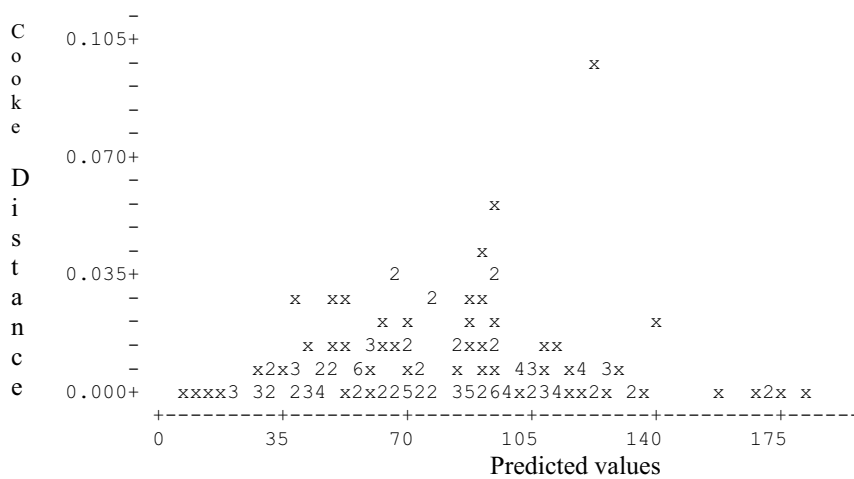
Figure 5.24 Tests of Normal Distribution of Residuals for the Pooled Regression Model of the Whole Sample of Firms (Rank Transformed Variables)

Histogram of the Residuals

(response is voldisra)

Normal Probability Plot of the Residuals

(response is voldisra)
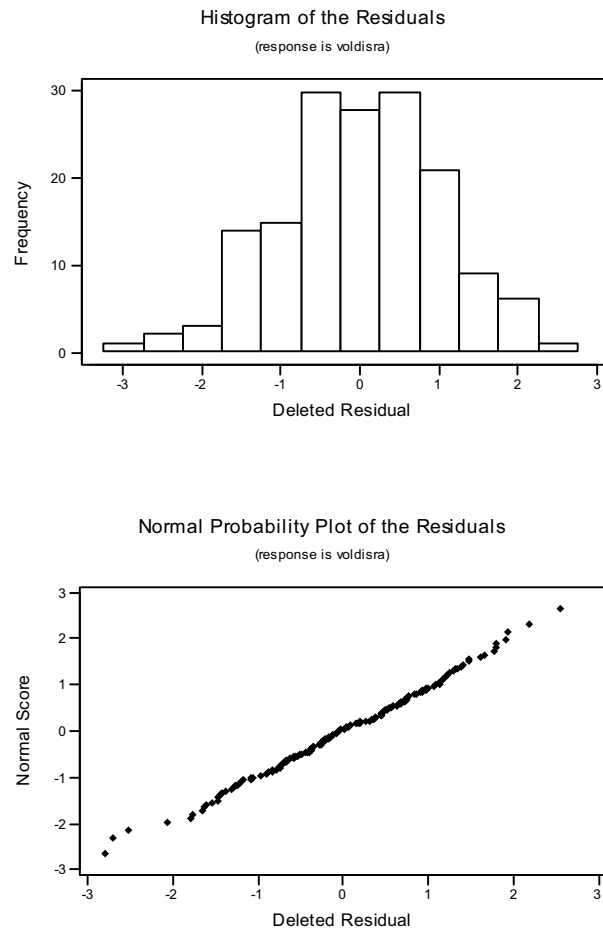
5.5.3.3.2 Model B

Model B is based on normal scores transformation. Table 5.26 above shows the skewness values of the normal scores transformed continuous variables compared to the skewness values of the untransformed variables. The resulting values show a markedable reduction in skewness of transformed variables relative to untransformed ones. The model is subjected to the same tests as above. The Pearson correlation matrix presented in Panel B of Table C.12 (Appendix C) shows that the highest correlation coefficients between the dependent variable and the independent variables are with the size variables, followed by age variable, industry type 1, the year variable, foreign ownership and audit committee

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presence. The Table also shows correlation coefficients between independent variables with the highest absolute coefficients being between total assets and market capitalization (0.883), total assets and net sales (0.770), market capitalization and net sales (0.711), the year variable and the audit committee (0.734), leverage and gearing ratio (0.907), and liquidity and gearing ratio (0.717). The VIF values shown in Table 5.28 below indicate multicollinearity problems, and the same procedure used in the previous regression models is used here.

To test for homoscedasticity, an analysis of the residuals is conducted using a plot of the studentized residuals against predicted values, computation of the Cooke's distance to detect outliers shown in Figure 5.25, and the Breusch-Pagan / Cook-Weisberg test (χ^2 = 2.69, p – value = 0.1009), all supporting the absence of heteroscedasticity. To test for the assumption of a normally distributed residual error, a histogram of the studentized residuals and a normal plot are shown in Figure 5.26 indicating that the distribution of the residuals is not different from a normal distribution. To test for autocorrelation, the Durbin-Watson coefficient for the normal scores transformed data, d = 1.83 indicates absence of autocorrelation. The pooled regression model results are offered by Table 5.29.

Table 5.28 VIF Values for the Pooled Regression Model of the Whole Sample of Firms (Normal Scores Transformed Variables), N = 160

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR nor	9.91	-	Age nor	2.55	2.41
Asset nor	9.78	-	PNED nor	2.28	2.27
MC nor	8.02	3.42	STO nor	2.27	2.27
LEV nor	8.00	3.50	INDOW nor	2.13	2.12
NS nor	5.39	4.61	IOW nor	1.78	1.77
PROF nor	3.39	2.89	FOW nor	1.72	1.72
Y	3.31	3.28	IND3	1.66	1.62
PM nor	2.93	2.77	AUD	1.60	1.58
AC	2.86	2.86	SBoard nor	1.58	1.58
IND1	2.76	2.69	GAO nor	1.58	1.58
FAM nor	2.72	2.67	CEO	1.57	1.52
LLEV nor	2.71	2.32	List	1.45	1.45
LIQ nor	2.66	2.05	ARAB nor	1.42	1.39

Figure 5.25 Tests of Homoscedasticity for the Pooled Regression Model of the Whole Sample of Firms (Normal Scores Transformation), N=160.

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values

```
       -
C  0.105+                                        x
o      -
o      -
k      -             xx
e  0.070+
       -                          x
       -
D      -
i      -                    x          x
s  0.035+                   xx        x
t      -                    x              x
a      -            xx  x       x  x
n      -          2   2 x    x   x xx2 x    x x
c      -        xx2xx4 x 2522xxx3 x22   x22 22 x
c  0.000+   x   xxxxx3332xx3x2462425284x7x4xxx   xxx      x3 x   x
e      --+---------+---------+---------+---------+---------+----
       -1.60    -0.80     0.00      0.80     1.60     2.40
                            Predicted values
```

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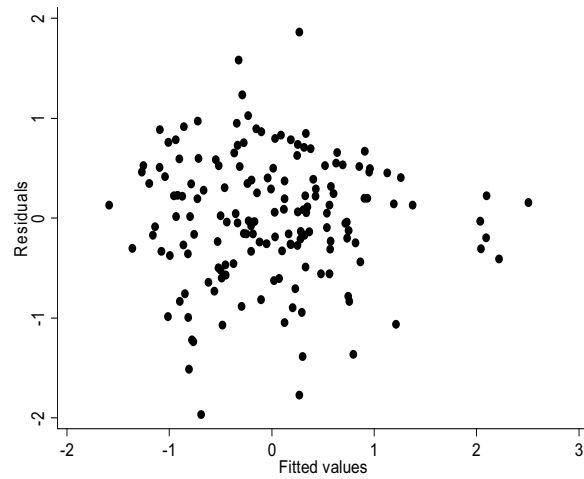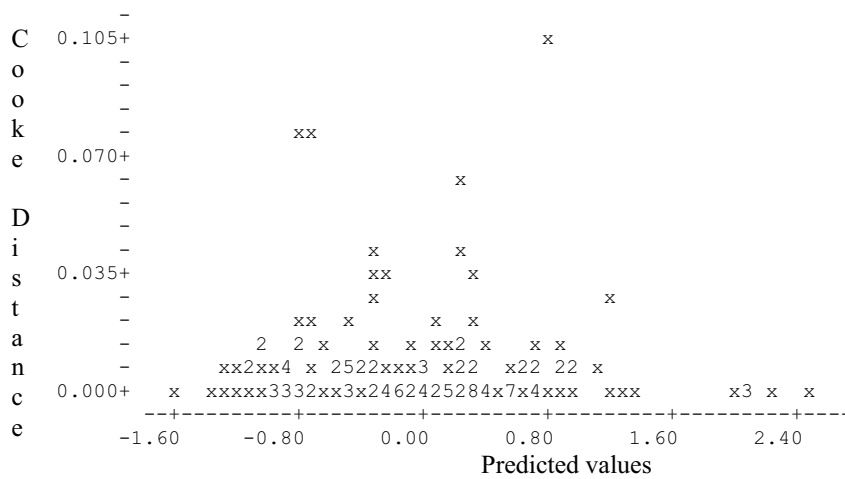
Figure 5.26 Tests of Normal Distribution of Residuals for the Pooled Regression of the Whole Sample of Firms (Normal Scores Transformed Variables), N=160

Histogram of the Residuals

(response is Vol Dis)

Normal Probability Plot of the Residuals

(response is Vol Dis)
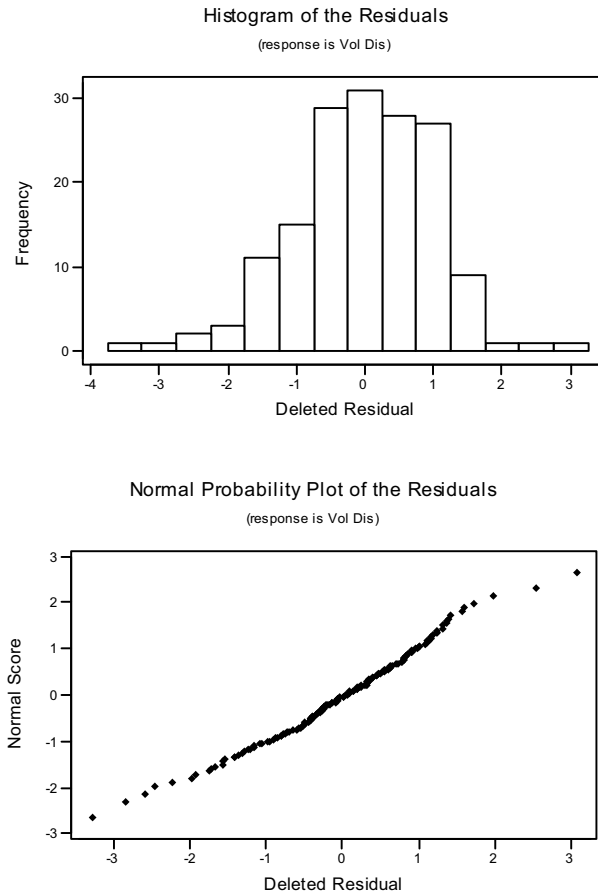
Table 5.29 Pooled Regression Estimates for the Whole Sample of Firms (1996-2004) N = 160

Predictor	Predicted Sign	Model A#	Model B	Model C	VIF$
Constant	None	-11.70 -0.55	-0.533 -3.09***	-0.426 -3.71***	-
State Ownership	?	0.143 1.51	0.214 1.97**	0.239 2.35**	2.06
Government Agencies ownership	?	-0.076 -1.07	-0.024 -0.32	-0.003 -0.04	1.40
Foreign Ownership	+	0.153 2.03**	0.162 2.03**	0.177 2.45**	1.48
Arab Ownership	?	-0.092 -1.46	-0.053 -0.81	-	-
Individual Ownership	?	-0.057	-0.002	0.021	1.75

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		-0.77	-0.03	0.30	
Institutional Ownership	+	-0.066 -0.93	-0.035 -0.48	-0.024 -0.35	1.61
Percentage Non-executive Directors	+	0.048 0.79	0.036 0.43	-	-
Family Control	-	0.092 1.19	0.077 0.75		
Size of Board	-	0.021 0.29	0.004 0.06	-0.029 -0.44	1.43
Role Duality	-	-5.55 -0.83	-0.085 -0.60	-0.039 -0.31	1.22
Audit Committee	+	1.872 0.20	0.075 0.39	0.106 0.60	2.58
Market Capitalization	+	0.246 2.37**	0.296 2.94***	0.254 3.08***	2.37
Net Sales	+	-0.105 -0.93	-0.108 -0.91	-	-
Leverage	+	0.149 1.48	0.101 0.99	-	-
Long term Leverage	+	0.148 1.60	0.149 1.48	0.170 2.22**	1.39
Liquidity	+	0.128 1.57	0.068 0.88	-	-
Return on Equity	+	0.08 0.79	0.072 0.78	0.019 0.31	1.37
Profit Margin	+	-0.08 -0.80	-0.078 -0.86	-	-
Auditor Type	+	-1.918 -0.30	-0.017 -0.12	-0.051 -0.39	1.48
Age	+	0.105 1.26	0.08 0.93	0.073 0.97	1.89
Listing	+	9.126 1.32	0.12 0.84	-	-
Industry 1	+	26.34 2.01**	0.598 1.91*	0.541 1.86*	2.40
Industry 3	-	2.736 0.40	0.032 0.22	-	-
Year	+	34.401 3.73***	0.716 3.67***	0.678 3.77***	2.88
STD. Error		32.70	0.6818	0.67	
R-Sq		57.7%	59.9%	58.70%	
Adjusted R-Sq		50.2%	52.8%	54.40%	
F		7.67***	8.40***	13.64***	

***   Significant at the 0.01 level (all probabilities are two tailed)
**   Significant at the 0.05 level
*   Significant at the 0.1 level
?   The nature of the impact of the independent predictor, as far as Jordan is concerned, is not known
The top values are the coefficients, the bottom are the t-statistics
$ The VIF values for the reduced regression model

5.5.3.3.3 Results

The results of the regression models are shown in Table 5.29. The rank transformed variables model had a Durbin Watson d= 0.98 which is less than 1 indicating the presence of autocorrelation of error terms, however, the results of the rank regression model is very similar to those of the normal scores model pointing to the robustness of the findings.

The regression model based on the normal scores transformation had an adjusted R^2 of 52.8% and five variables were found to be significant. Two ownership variables were significant, the state ownership and the foreign ownership (both at the 0.05 level). These findings confirm the findings of the earlier pooled regression models that the state is indeed a significant determinant of voluntary disclosure in listed Jordanian firms. It also confirms that privatization through changes in ownership to foreign investors has a positive significant influence on voluntary disclosure.

Unfortunately, none of the governance variables is significant, thus confirming the findings of the previous regression models and suggesting that voluntary disclosure in Jordan might not be influenced by any governance mechanism under study despite the latest reforms. However, the year variable emerges as a significant variable implying that the investor protection regulation has a significant positive influence on the extent of voluntary disclosure. This result is consistent with previous disclosure studies suggesting that the stronger the legal protection of investors, the higher the disclosure levels of the firms (La Porta et al. 1997, 1998; Jaggi & Low 2000; Archambault & Archambault 2003).

With respect to control variables, the model shows that market capitalization is the most significant control variable (0.01 level) implying that size has a positive significant relationship with voluntary disclosure, a finding that is consistent with almost all disclosure studies including Jordanian ones (Naser 1998; Naser & Al-Khatib 2000; Naser et al. 2002). Industry type 1 (infrastructure companies) is the other significant control variable (at the 0.1 level) supporting the influence of industry type as consistent with

previous disclosure research (Cooke 1989a; 1989b; 1991; Wallace & Naser 1995; Diga 1996; Haniffa & Cooke 2002).

The results of the reduced model are also reported in Table 5.29. The model has an adjusted R² of 54.4%, and six variables are significant. Similar to the full model, the state and the foreign ownerships are both significant at the 0.05 level supporting the results of the full model. Also, industry type 1, market capitalization, long term leverage and the year variable are all significant (at the 0.1, 0.01, 0.05, and 0.01 respectively).

5.6 Summary of Results

Table 5.30 summarizes the findings of all the regression models based on the normal scores transformation. As the Table shows, size emerges as the major control variable to have a positive significant relationship with the extent of voluntary disclosure, followed by leverage. These results are consistent with disclosure research particularly the findings of Ahmed & Courtis (1999) meta-analysis suggesting that size and leverage are among the prominent determinants of corporate disclosure. Other control variables that appear to have a significant relationship with the extent of voluntary disclosure are industry type, liquidity and auditor type (negative relationship). The results concerning auditor type are consistent with Jordanian studies which found a negative significant association between auditor type and corporate disclosure (Naser et al 2002).

Unfortunately, none of the governance mechanisms in this study were found to be significant in any of the regression models. However, the size of the board was positively significant with the extent of voluntary disclosure in some of the models. An explanation for this finding may be that larger Jordanian firms have larger board sizes since they have more owners and they need to satisfy those owners by including their representatives as members on the board of directors. An important finding in the pooled regression models is the significance of the year variable (at the 0.01 level in most of the models). This implies that the reform concerning strengthening investor protection has a significant positive impact on the extent of voluntary disclosure. This finding is consistent with

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disclosure research arguing that more investor protection is associated with higher corporate disclosure (La Porta et al. 1997, 1998; Jaggi & Low 2000; Archambault & Archambault 2003).

As for ownership variables, the cross-sectional regression model of the 1996 points to the significance of the state ownership as a determinant of voluntary disclosure by Jordanian firms. This result is consistent with the findings of Naser & Al-Khatib (2000), Eng & Mak (2003) and Cheng & Courtenay (2006). In the cross-sectional model of 2004, foreign ownership was found to have a positively significant relationship with the extent of voluntary disclosure, while the state ownership variable was insignificant. The latter finding can be interpreted in light of the influence of privatization which led to the significant reduction in state ownership in privatized firms leading in turn to its insignificant influence on the extent of voluntary disclosure in 2004. Nevertheless, the state appeared as a significant determinant of the extent of voluntary disclosure in the pooled non-privatized firms. As explained earlier, this was due to the inclusion of major state-owned companies which the state did not privatize. When these companies were removed, in the private pooled regression model, the state ownership variable lost its significance supporting earlier results with respect to state ownership. On the other hand, as foreign ownership increased significantly as a result of privatization, it emerged as the only significant owner to influence the extent of voluntary disclosure as apparent from the pooled regression of privatized firms. Yet, foreign ownership had a significant relationship with the extent of voluntary disclosure in all pooled regression models. This is due to the indirect impact of privatization, putting the country on the "radar screen" of foreign investors and generating interest in all its companies (Shehadi 2002), hence increasing the foreign shareholding in general.

Another type of owner who had a significant but negative association with the extent of voluntary disclosure is individual ownership. This finding is due to their uninformed investment decisions which are largely based on advice from family or friends (Naser & Al-Khatib 2000). While Arab ownership increased significantly, this type of ownership was not found to have a significant association with the extent of voluntary disclosure since they too have little experience in making investment decisions (Naser & Al-Khatib

2000). Also, the results regarding institutional ownership did not support the hypothesis suggesting that institutional owners do not influence the extent of voluntary disclosure. This result might be due to the fact that institutional investors are block owners. Therefore, they rely on insider provided information, reducing the need for public disclosure.

Finally, the Table suggests that the adjusted R² of pooled regression models are notably higher than cross-sectional models. In particular, the adjusted R² of the final pooled regression model is 52.8% for the full regression model compared to 34.42% and 35.55% for 1996 and 2004 respectively. This difference is due to the influence of the year variable emphasizing the significance of the governance reforms regarding investor protection which led to the higher extent of voluntary disclosure.

Table 5.30 Summary of the Findings of the Regression Models

		Significant Variables			Adjus.R²
		0.01 level	0.05 level	0.1 level	
1996 cross-sectional model (N = 80)	Full	-	Long term leverage	-State ownership -Market capitalization	34.42%
	Reduced	-	-Market capitalization -Long term leverage	--State ownership	43.43%
2004 cross-sectional model (N = 80)	Full	Size of the board	-	Leverage	35.55%
	Reduced	-	-Foreign ownership -Size of the board	- Industry type 1	39.83%
Pooled privatized firms model (1996-2004) (N = 54)	Full	-	-Leverage -Liquidity	-Individual Ownership# -Auditor type#	62.13%
	Reduced	-Liquidity -Year	-Leverage -Market capitalization	-Foreign Ownership -Individual Ownership# -Auditor type#	67.22%
Pooled Non-privatized firms model (1996-2004) (N = 106)	Full	Year	Foreign Ownership	Size of board	44.87%
	Reduced	Year	Foreign Ownership	-State ownership -Total assets	49.63%

Pooled private firms model (1996-2004) (N = 98)	Full	Year	-	-Foreign Ownership -Size of the board	35.1%
	Reduced	Year	Total assets	-Foreign Ownership	39.9%
Pooled Whole Sample of firms model (1996-2004) (N = 160)	Full	-Year -Market capitalization	-State ownership -Foreign ownership	Industry type 1	52.8%
	Reduced	-Year -Market capitalization	-State ownership -Foreign ownership -Long term leverage	Industry type 1	54.4%

These variables have a negative association with the extent of voluntary disclosure

5.7 Conclusion

This chapter has investigated the relationship between ownership changes and governance reforms resulting from privatization on the extent of voluntary disclosure in Jordan. It reported the results of univariate tests concluding that voluntary disclosure levels have significantly increased through the time period of the study. It also found that state ownership has significantly decreased as a result of privatization and that much of the decrease was absorbed by foreign investors.

Two cross-sectional regression models for the years 1996 and 2004 were conducted. The models used two types of transformation approaches, rank and normal scores approaches. The results of the cross-sectional models using both approaches were largely identical supporting the robustness of the results. The results have shown that the state ownership is a significant determinant of the extent of voluntary disclosure in Jordan in 1996. It has also shown that foreign ownership is a significant determinant of the extent of voluntary disclosure in 2004.

The study further accounted for the dynamic effects of changes in ownership and governance reforms through using panel data techniques. Four panel data models were tested on sample data of privatized firms, non-privatized firms, private firms, and finally

the whole sample of firms. The results of the pooled models support the hypothesis that privatization has positively influenced the extent of voluntary disclosure when foreign investors are involved. Unfortunately, the involvement of the other types of owners did not influence voluntary disclosure, while individual ownership produced negative significant influence on voluntary disclosure.

Regarding corporate governance, support was only found for the external governance reform through strengthening the legal investor protection while none of the other governance variables had an influence on the extent of voluntary disclosure of Jordanian listed firms.

The results also supported the hypotheses concerning two control variables namely, the company size and leverage. The company size variable was found to be a significant determinant in almost all disclosure studies, while leverage was among the major determinants found to be significant by Ahmed and Courtis (1999) meta-analysis.

Chapter 6

The Impact of the Introduction of Accounting Disclosure Regulation on Mandatory Disclosure Compliance: Empirical Evidence

6.1 Introduction

This chapter investigates mandatory disclosure by Jordanian listed firms. It provides evidence regarding the level of mandatory disclosure in Jordan and its determinants for the years 1996 and 2004 (before and after privatization and the resulting reforms) using cross-sectional regression models. It also introduces the empirical evidence regarding the influence of the introduction of accounting disclosure regulation (resulting from privatization) on mandatory disclosure compliance by Jordanian listed firms using the same panel data techniques as in the previous chapter (the LSDV estimator). The use of panel data permits the study of the dynamics of change across time, and enhances the quality and quantity of data since it combines both the cross-sectional and time dimensions of data.

Chapter three examined the recent disclosure regulatory reforms undertaken by the Jordanian government. These reforms are the 1997 Company Law and the 2002 Securities Law which focused on the adoption of the International Accounting Standards. Another major reform was the 1997 Temporary Securities Law which aimed at restructuring the capital market, and led to the establishment of three new institutions replacing the old Amman Financial Market (AFM); Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) ASE and Jordan Depository Centre (JDC). These new institutions were given more powers and authority with the enactment of the 2002 Securities Law so as to enforce the recent disclosure regulation and improve compliance with mandatory disclosure requirements.

The following section (6.2) discusses the development of hypotheses. Section 6.3 offers the development of mandatory disclosure index. Section 6.4 provides the descriptive

statistics and univariate tests, while section 6.5 offers the regression models and their results. Section 6.6 presents summary of the results and section 6.7 provides the conclusion.

6.2 Hypothesis Development

In Chapter 3, it was hypothesized that disclosure regulatory reforms in Jordan would lead to an increase in mandatory disclosure compliance of listed Jordanian companies. This hypothesis is tested in this chapter by examining mandatory disclosure compliance of Jordanian firms in 1996 and 2004 (one year before and one year after the introduction of regulatory reforms). Further, in Chapter 5, several arguments have been advanced hypothesizing the impact of governance mechanisms and corporate attributes on voluntary disclosure as suggested by disclosure literature. Similarly, governance mechanisms may have an impact on mandatory disclosure compliance.

6.2.1 Mandatory Disclosure and the Presence of Audit Committees

Companies with better corporate governance have higher standards of disclosure and transparency (Chiang 2005). Hence, companies with better governance signal better information disclosure to outsiders to develop good image. Further, academic research has found an association between weaknesses in governance and poor financial reporting quality, earnings manipulation, financial statement fraud, and weaker internal controls (e.g., Dechow et al. 1996; Beasley 1996; McMullen 1996; Beasley et al. 2000; Carcello & Neal 2000; Krishnan 2001; Klein 2002b).

One of the most important functions that corporate governance can play is ensuring the quality of the financial reporting process. In Jordan, the 1997 Company Law and 2002 Securities Law require listed Jordanian firms to appoint an audit committee constituting three non-executive directors. According to the 2002 Securities Law, audit committee members' are responsible, among other things, for monitoring corporate compliance with the Jordan Securities Commission (JSC) requirements. Therefore, it is expected that the

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presence of an audit committee to be associated with higher mandatory disclosure compliance. Most of the empirical evidence linked audit committees to voluntary disclosure. Yet, Susilowati et al. (2005) examined the transparency levels, measured by voluntary and mandatory disclosures in the annual reports of 30 Indonesian and 30 Australian firms. They reported positive significant influence of the appointment of audit committees on the mandatory transparency scores. Hence, it is hypothesized that

Hypothesis 6.1: The presence of audit committees on the board is positively associated with mandatory disclosure compliance.

6.2.2 Mandatory Disclosure and Corporate Attributes

The previous chapter discussed several corporate attributes and their influence to disclosure practices. The same variables are examined in this chapter and their association with mandatory disclosure compliance is tested. These are company size, in terms of total assets, market capitalization and net sales, leverage, it terms of total liabilities to equity (leverage), long term liabilities to equity (long-term leverage) and total liabilities to total assets (gearing ratio), profitability, it terms of return on equity and profit margin, liquidity, auditor type, age, listing and industry type. The year dummy variable is used here as a proxy for the introduction of disclosure regulation and takes the value of 1 for the year 2004 and 0 for the year 1996.

6.3 Mandatory Disclosure Index

This study measures mandatory disclosure as the extent to which financial disclosure is in accordance with the IAS/IFRS since the 1997 Company Law and 2002 Securities Law mandated compliance with the IAS/IFRS. Prior to 1990, Jordanian listed firms were complying with the 1964 Company Law (amended in 1989) which required Jordanian companies to prepare an annual report with a profit and loss statement, a balance sheet, and explanatory notes with no requirements as to the form and content of the financial statements. Due to the weak nature of the requirements of the previous Company Law, the Jordanian Association of Certified Public Accountants recommended the adoption of

the IAS (in 1989 to be effective from January 1990) which resulted in many companies adopting the IAS in the following years (Rawashdeh 2003). The enactment of the 1997 Company Law and the 2002 Securities Law led to the mandate of the adoption of the IAS/IFRS by all listed Jordanian firms. Further, the 2002 Securities Law has imposed sanctions such as issuing fines, suspending trading or delisting for non-complying firms. Hence, the 1997 Company Law and 2002 Securities Law were enacted to mandate the use and the enforceability of the IAS/IFRS. Therefore, the mandatory disclosure index consists of information items required by the IAS/IFRS. Nevertheless, IASs were amended several times between 1996 and 2004. Thus, the 1996 annual reports will be measured against IASs that were extant and relevant in 1996, and the 2004 annual reports will be measured against the IAS/IFRS extant and relevant in 2004. Therefore, a relative measure for disclosure will be considered. The company will be awarded a score of 1 if it disclosed a mandatory item and a score of 0 if it failed to disclose it. However, the company will not be penalized if it does not disclose an irrelevant item. Further, and as with the voluntary disclosure index, an unweighted mandatory disclosure index is used. Hence, the mandatory disclosure index (denoted MANDIS) for each company would be the total number of mandatory items disclosed by the company divided by the total number of relevant items of the mandatory disclosure index, defined as follows

Equation 6.1

$$\text{MANDIS}_{jt} = \frac{\sum_{i=1}^{n_{jt}} x_{ijt}}{n_{jt}}$$

Where

MANDIS $_{jt}$ = the mandatory disclosure index for the jth company in the year t, where t is either 1996 or 2004

n jt = number of mandatory items that were relevant for the jth firm in the year t

xijt = 1 if the ith (relevant) item disclosed by the company j in the year t

    = 0 if ith (relevant) item not disclosed

Such that $0 \leq \text{MANDIS}jt \leq 1$.

The checklist for the year 1996 is based on IAS that were extant and relevant in 1996 as published by the IASC in its annual volume of standards (IASC 1995) and in Epstein & Mirza (1997). The checklist for the year 2004 is based on the IAS/IFRS that were extant and relevant in 2004 as published in the IFRSs Bound Volume (IASB 2004), and the IFRS disclosure checklist published by PricewaterhouseCoopers (2004). Consequently, the mandatory disclosure items of the year 1996 produced a checklist of 19 IASs[20] (provided in Table D.1 Appendix D), while the disclosure items for the year 2004 produced a checklist of 27 IASs and 4 IFRSs[21] (provided in Table D.2, Appendix D).

6.4 Descriptive Statistics and Univariate Tests

Table 6.1 below provides descriptive statistics for the dependent variable, the mandatory disclosure index. The previous chapter examined a number of control variables that were found to have a significant impact on voluntary disclosure. Similarly, the influence of the same variables on mandatory disclosure compliance by the same sample of Jordanian firms is examined. Descriptive statistics for the independent variables are given in Table C.6 (Appendix C).

Table 6.1 Descriptive Statistics of the Mandatory Disclosure Indexes for the Two Years

MANDIS	Mean	Median	Standard Deviation	Skewness	Minimum	Maximum	Normality Test (p)[22]
1996	0.547090	0.552679	0.0472086	-0.136903	0.414414	0.653333	0.749
2004	0.789850	0.802897	0.0694654	-0.498338	0.579882	0.901961	0.049
Whole sample 96-04	0.668470	0.651094	0.135391	0.155838	0.414414	0.901961	0.000

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[20] These are IASs 1, 2, 5, 7, 8, 9, 10, 14, 16, 17, 19, 21, 22, 24, 25, 27, 28, and 32, and E 49. IAS 11 was excluded since it was not relevant to any company in this sample since none of the companies worked in the construction sector. These standards were split into 301 secondary items.

[21] These IASs are 1, 2, 7, 8, 10, 12, 14, 16, 17, 18, 19, 20, 21, 23, 24, 26, 27, 28, 31, 32, 33, 36, 37, 38, 39, 40, and 42, and IFRSs 2, 3, 4, and 5. The standards were split into 641 secondary items. Note that the standards in 2004 were broken down into more secondary items increasing by that the number of items in the 2004 checklist.

[22] Using the Anderson Darling test.

Table 6.1 reports the descriptive statistics for the dependent variable of Jordanian listed companies during the pre- (1996) and post- (2004) regulatory reforms periods. As the table shows, the mean of the mandatory disclosure compliance in 2004 (0.79) is notably higher than that of the 1996 (0.547). The Table also shows that most mandatory disclosure indexes are skewed as evident from the Anderson Darling test for normality implying the need for transformation.

These results are confirmed by the univariate tests shown in Table 6.2 below. The results of the Wilcoxon matched pair test for the untransformed data and the paired t-test for the normally transformed data shows that the mean differences of mandatory disclosure compliance in 1996 against 2004 are statistically significant suggesting that in the year 2004 Jordanian listed firms are showing higher compliance with mandatory disclosure than they did in 1996. The explanation for these findings is that the introduction of the disclosure regulation that took place between 1996 and 2004 led to the significant difference found between the means of the mandatory disclosure compliance during the study period.

Table 6.2 Test of Differences in the Means of Mandatory Disclosure

Variable	Wilcoxon matched pair test (untransformed data)		Paired t-test (transformed data)[23]	
	Test statistic: w	p value*	Test statistic: t	p value*
Whole sample (n=80) MANDIS 1996 versus 2004	3259.0	0.000	19.77	0.000

* All probabilities are two tailed

6.5 Multiple Regression Models

Multiple regression is used to model the relationship between the dependent and independent variables. Similar to the previous chapter, two alternative specifications of the following regression equation are used

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[23] The data is transformed using the normal scores approach

Equation 6.2

$\textbf{MANDISjt}$ = β_0 + β_1 Y + β_2 AC+ β_3 Asset + β_4 MC + β_5 NS+ β_6 LEV + β_7 LLev+ β_8 GR+ β_9 LIQ + β_{10} PROF + β_{11} PM+ β_{12} AUD+ β_{13} Age+ β_{14} List + β_{15} IND1 + β_{16} IND2 + β_{17} IND3 + ε_i.[24]

Where β_0, β_1, β_2 ....β_{17} are the regression estimates, and ε_i is the stochastic disturbance term. A full definition and measurement of the independent variables is provided in Table 5.8 in the previous chapter and in Table C.3 (Appendix C).

6.5.1 The 1996 Cross-Sectional Regression Model

Descriptive statistics for the independent variables for the year 1996 are given by Panel A of Table C.6 (Appendix C). The Table shows that most of the independent variables are skewed. Therefore, both types of transformations are used as in the previous empirical chapter namely, rank and normal scores transformation.

6.5.1.1 Model A

The A model is based on the rank transformation where both the dependent and independent variables are replaced by their corresponding ranks and the usual least square regression is performed entirely on these ranks. Table 6.3 below shows the skewness value for the rank transformed dependent variable (0.0000093), compared to the skewness value for the untransformed dependent variable (-0.136903) indicating a drop in the skewness value. Also, the Table shows the skewness values of the independent variables before and after transformation implying notable reduction in skewness values. Table 6.4 below gives the correlation coefficients between the rank transformed mandatory disclosure index and independent variables indicating that the highest correlation coefficients are with long term leverage and auditor type.

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[24] The Y variable is incorporated in the pooled regression model.

The model is subjected to a number of tests so as to satisfy the assumptions of regression analysis. Tests of multicollinearity are conducted using the Pearson correlation matrix as shown in Panel A of Table C.7 (Appendix C). The Table shows that the highest absolute correlation coefficients were between total assets and market capitalization (0.879), leverage and gearing ratio (0.931), liquidity and gearing ratio (0.737), and return on equity and profit margin (0.703). As indicated in the previous chapter, a VIF value of 10 constitutes a multicollinearity problem. The VIF values appearing in Table 6.5 below confirm these results and point to the presence of multicollinearity problems. This problem is dealt with by fitting highly correlated variables in separate regression models, selecting the variable that provides the greatest explanatory power (Cooke 1991; Ahmed & Nicholls 1994; Wallace & Naser 1995) while satisfying the regression assumptions.

Further, the model is tested for homoscedasticity (constant variance of the residuals), and normality of residuals. To test for homoscedasticity, the studentized residuals are plotted against the predicted values of the dependent variable as shown by Figure 6.1. The plot largely shows a cloud of dots scattered randomly supporting the absence of heteroscedasticity. The Breusch-Pagan / Cook-Weisberg test for heteroscedasticity supports a hypothesis that the regression residuals have constant variance ($\chi^2 = 1.06$, p – value = 0.303). Also, a Cooke's distance plot versus predicted values reveals no outliers problem since the highest distance is 0.137.

To test for the assumption of a normally distributed residual error, histograms of the studentized residuals and normal plots are used. Figure 6.2 gives two plots, the first shows a histogram of the residuals and indicates that the distribution of the residuals is not distinctly different from a normal distribution, and the second shows an approximately linear pattern that is consistent with normally distributed residuals. The results of the regression model are shown in Table 6.7.

Table 6.3 Skewness Values for Untransformed and Transformed Continuous Variables (1996)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
MANDIS	-0.136903	0.0000093	0.0000021
Age	1.04664	0.0225975	0.0000000
Asset	4.08142	0.0000000	0.0000000
LEV	5.43023	0.0000000	0.0002910
PROF	2.06366	0.0006055	0.0008353
LIQ	5.93522	0.0000621	0.168065
MC	6.24080	0.0000000	0.0003178
NS	5.98274	0.0020110	0.0955424
PM	-2.23218	0.0017073	0.0008245
GR	-0.6921	-0.0000000	0.0000000
LLEV	2.82103	0.553103	0.928075

Table 6.4 Correlation Coefficients of Mandatory Disclosure Index with Independent Variables in 1996

Variable	Correlation Coefficient (rank transformation)	Correlation Coefficient (normal scores transformation)
AUD	0.2121*	0.2220**
Asset	0.1573	0.1886*
LEV	-0.0320	0.0125
PROF	0.0448	0.0230
LIQ	-0.0113	-0.0066
IND1	0.1638	0.2053 *
IND3	-0.1556	-0.1635
Age	0.0961	0.1839
List	-0.0156	0.0276
MC	0.1050	0.1162
NS	0.0856	0.1378
PM	0.0994	0.0344
GR	0.0070	-0.0395
LLev	0.2495 **	0.2409**

** Correlation is significant at 0.05 level (2-tailed)
* Correlation is significant at 0.1 level (2-tailed)

Table 6.5 VIF Values for Rank Transformed Model, 1996 Data, N = 80

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	18.30	-	Age rank	2.95	2.91
LEV rank	16.64	3.23	LIQ rank	2.42	2.08
Asset rank	6.33	5.64	LLev rank	2.35	2.34
PROF rank	6.20	4.05	List	1.85	1.63
MC rank	5.52	5.12	AUD	1.68	1.59
NS rank	4.42	4.18	ind1	1.50	1.49
PM rank	4.35	2.82	ind3	1.37	1.36

Figure 6.1 Tests of Homoscedasticity for the Cross-Sectional Regression Model 1996
(Rank Transformation)

Plot of Studentized Residuals versus Predicted Values

Plot of Cooke's Distance versus Predicted Values
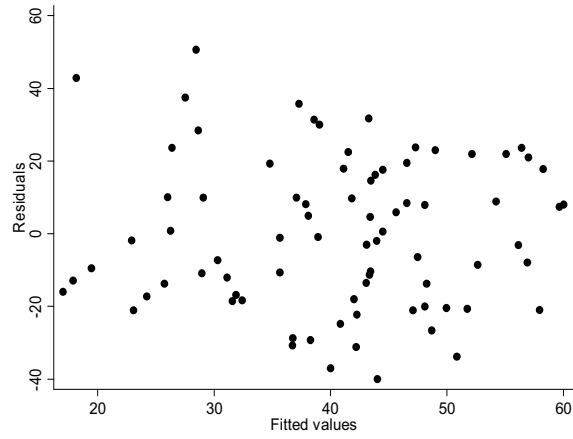
```
          0.150+
      C       -        x
      o       -
      o       -
      k       -
      e   0.100+                                          x
          -
      D       -                                    x
      i       -              x              x   x
      s       -
      t   0.050+          x
      a       -           x            xx x
      n       -                            x              x
      c       -       x    x       x    x 2  x2 x  xxx   x    x xxx
      e       -  xx      x         2x  x     xx2 x  xxx x  x      2
          0.000+    x    x  x2  2 x     2x xx  x 5xxxxxx   x x x    2
              +---------+---------+---------+---------+---------+------FITS4
             16.0      24.0      32.0      40.0      48.0      56.0
                                Predicted Values
```
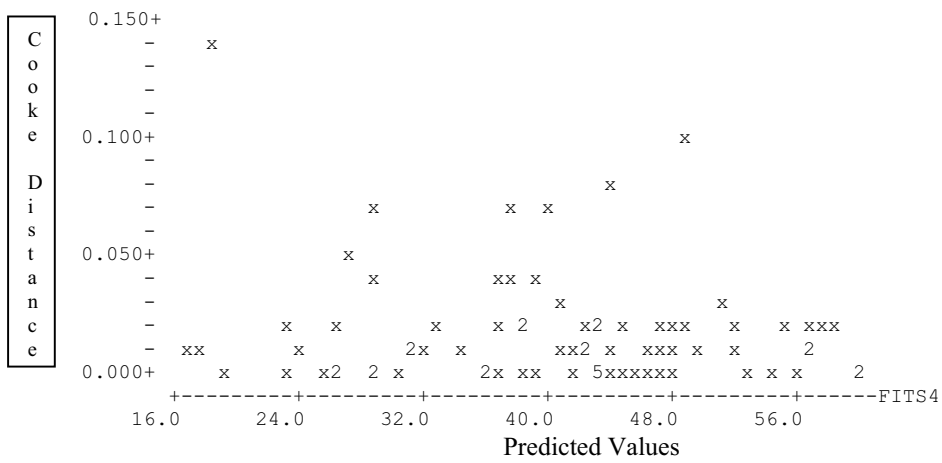
Figure 6.2 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 1996 (Rank Transformation)

Histogram of the Residuals

(response is mandisra)

Normal Probability Plot of the Residuals

(response is mandisra)

6.5.1.2 Model B

The B model is based on the normal scores transformation where both the dependent and independent variables are transformed to the normal distribution by dividing the distribution into the number of observations plus one region on the basis that each region has equal probability. Table 6.3 indicates a reduction in the skewness value of the transformed dependent variable (0.0000021), compared to the untransformed variable (-0.136903). Also, the Table shows notable reduction in skewness values of the independent variables. Table 6.4 shows the correlation coefficients between the normal scores transformed mandatory disclosure index and the normal scores transformed

independent variables indicating that the highest correlation coefficients are with long term leverage, auditor type, total assets and industry type 1.

The model is subjected to the same tests as with the previous model so as to satisfy the assumptions of regression analysis. Tests of multicollinearity are conducted using the Pearson correlation matrix as shown in Panel B of Table C.7 (Appendix C). The Table shows that the highest absolute correlation coefficients were between total assets and market capitalization (0.868), leverage and gearing ratio (0.897) and liquidity and gearing ratio (0.728). The VIF values appearing in Table 6.6 confirm these results and point to the presence of multicollinearity problems.

Further, the model is tested for homoscedasticity by plotting the studentized residuals against the predicted values of the dependent variable and plotting Cooke's distance versus predicted values as shown by Figure 6.3 indicating absence of heteroscedasticity which is further supported by the result of the Breusch-Pagan / Cook-Weisberg test ($\chi^2 = 3.19$, p – value = 0.0743)[25]. To test for the assumption of a normally distributed residual error, histograms of the studentized residuals and normal plots are used. Figure 6.4 gives the two plots which indicate normally distributed residuals. The results of the regression model are shown in Table 6.7.

6.5.1.3 Reduced Model C

As in the previous chapter, a reduced model is conducted. The variables are chosen based on their significance in both the full regression model and the univariate test (Haniffa & Cooke 2002). Since none of the variables emerged to be significant in the regression model, the most significant variables in the univariate tests are used in the reduced regression model, namely auditor type and long term leverage. The results of the regression model are shown in Table 6.7.

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[25] While the result of the Breusch-Pagan / Cook-Weisberg test is marginally significant at the 0.1 level, it has been argued that moderate violations of homoscedasticity have only minor impact on regression estimates (Fox 2005).

Table 6.6 VIF Values for the Normal Scores Model, 1996 Data, N = 80

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR nor	13.65	-	Age nor	2.85	2.85
LEV nor	13.04	4.16	LLev nor	2.82	2.80
Asset nor	8.10	6.93	LIQ nor	2.41	1.99
MC nor	6.87	5.98	List	1.85	1.58
NS nor	4.87	4.77	IND1	1.66	1.66
PROF nor	4.80	3.30	AUD	1.64	1.57
PM nor	3.23	2.23	IND3	1.37	1.36

Figure 6.3 Tests of Homoscedasticity for the Cross-Sectional Regression Model 1996
(Normal Scores Transformation)
Plot of Studentized Residuals versus Predicted Values

Plot of Cooke's Distance versus Predicted Values

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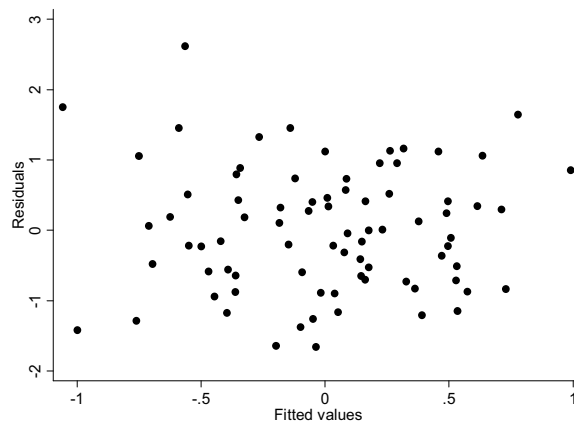
Figure 6.4 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 1996 (Normal Scores Transformation)

Histogram of the Residuals

(response is MANDISNO)

Normal Probability Plot of the Residuals

(response is MANDISNO)

Table 6.7 Regression Analysis of Determinants of Mandatory Disclosure in 1996

Predictor	Predicted Sign	Model A#	Model B	Model C	VIF$
Constant	None	45.192 3.30***	0.030 0.11	-0.127 -0.97	-
Total Assets	+	0.076 0.29	0.160 0.55		
Market Capitalization	+	-0.116 -0.47	-0.173 -0.64	-	-
Net Sales	+	0.012 0.05	0.049 0.20	-	-
Leverage	+	-0.439 -2.24**	-0.491 -2.18**	-	-
Long term Leverage	+	0.470 2.55**	0.454 2.05**	0.231 1.68*	1.1
Liquidity	+	-0.128 -0.81	-0.103 -0.66	-	-
Return on Equity	+	-0.255 -1.16	-0.277 -1.38	-	-
Profit Margin	+	0.3 1.63	0.206 1.25	-	-
Auditor Type	+	6.159 0.91	0.267 0.92	0.345 1.44	1.1
Age	+	0.011 0.06	0.17 0.88	-	-
Listing	+	-0.321 -0.04	-0.081 -0.26	-	-
Industry 1	+	4.974 0.46	0.213 0.43		
Industry 3	-	-10.492 -1.74*	-0.317 -1.19		
Std error		22.553	0.967	0.958	
R-Sq		21.3%	19.80	8.27%	
R-Sq(adj)		5.8%	4.00%	5.89%	
F		1.37	1.25	3.47**	

** Significant at the 0.05 level (all probabilities are two tailed)
* Significant at the 0.1 level
\# Top values are the regression coefficients, the bottom are the t-statistics
$ VIF values of the reduced model

6.5.1.4 Results

Table 6.7 shows the results of the 1996 cross-sectional regression model. It is noted that the adjusted R^2 of the full models are very small and the F-tests are insignificant. The main reason for the low adjusted R^2 is that Jordanian listed firms were complying with

IAS based on the recommendations of the Jordanian Association of Certified Public Accountants (JACPA) which lacked any legal backing or an enforcement mechanism.

The reduced model produced an adjusted R^2 of 5.89% and the F-test is significant at the 0.05 level. One variable appeared to be significant which is long term leverage (at the 0.1 level). The significance of leverage is largely supported by several disclosure studies including the Jordanian studies (Naser & Al-Khatib 2000; Naser et al. 2002).

6.5.2 The 2004 Cross-Sectional Regression Model

Descriptive statistics for the independent variables for the year 2004 are given by Panel B of Table C.6 (Appendix C). The Table shows that most of the independent variables are skewed. Also, Table 6.1 indicates that the mandatory disclosure index in 2004 is skewed. These findings are confirmed by the Anderson Darling normality test indicating that MANDIS 2004 is not normally distributed. Therefore, both types of transformations are used as in the previous regression model.

6.5.2.1 Model A

The A model is based on the rank transformation. The skewness value for the transformed dependent variable is 0.0000559, compared to (-0.498338) for the untransformed variable indicating a reduction in the skewness value. Also, Table 6.8 shows the skewness values of the independent variables before and after transformation implying markedable reduction in skewness values. Table 6.9 below shows the correlation coefficients between the mandatory disclosure index and the independent variables indicating that the highest correlation coefficients are with the size variables, auditor type, leverage and long term leverage.

The model is subjected to a number of tests so as to satisfy the assumptions of regression analysis. Tests of multicollinearity are conducted using the Pearson correlation matrix as shown in Panel A of Table C.8 (Appendix C). The Table shows that the highest absolute

correlation coefficients were between total assets and market capitalization (0.907), total assets and net sales (0.824), market capitalization and net sales (0.754), leverage and gearing ratio (0.944), liquidity and gearing ratio (0.722), and gearing ratio and long term leverage (0.723). The VIF values shown in Table 6.10 confirm these results and point to the presence of multicollinearity problems which are dealt with in the same way as indicated earlier.

Further, the model is tested for homoscedasticity using a plot of the studentized residuals against the predicted values of the dependent variable shown by Figure 6.5 and the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.00$, p – value = 0.985). Also, a Cooke's distance plot versus predicted values reveals no outliers' problem since the highest distance is 0.085.

To test for the assumption of a normally distributed residual error, Figure 6.6 gives two plots, the first shows a histogram of the residuals and indicates that the distribution of the residuals is not distinctly different from a normal distribution, and the second shows an approximately linear pattern that is consistent with normally distributed residuals. Table 6.11 shows the results of the regression model.

Table 6.8 Skewness Values for Untransformed and Transformed Continuous Variables (2004)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
MANDIS	-0.498338	0.0000559	0.0000684
Age	1.04663	0.0225975	0.168065
Asset	3.08538	0.0000000	0.0000000
LEV	5.58625	-0.0000000	0.0000000
PROF	-4.27931	-0.0000155	-0.0000040
LIQ	4.59118	0.0002856	0.0002189
MC	5.31420	0.0000000	0.0000000
NS	6.74853	-0.0000326	-0.0000180
PM	-8.17151	0.0000217	0.0000068
GR	-0.847847	0.0000310	0.0000155
LLEV	1.96690	0.622105	0.991801

Table 6.9 Correlation Coefficients of Mandatory Disclosure Index with Independent Variables, 2004 Data

Variable	Correlation Coefficient (rank transformation)	Correlation Coefficient (normal scores transformation)
AC	0.1825	0.2011*
AUD	0.3561***	0.3418 ***
Asset	0.3699***	0.3398***
LEV	0.1922*	0.1471
PROF	0.1125	0.1204
LIQ	-0.1530	-0.1381
IND1	0.1753	0.1828
IND3	-0.0097	-0.0441
Age	0.1006	0.1518
List	0.0474	0.0492
MC	0.3717***	0.3573**
NS	0.3033***	0.3066**
PM	0.0364	0.0085
GR	-0.1748	-0.1027
LLev	0.2074*	0.1687

*** Correlation is significant at 0.01 level (2-tailed)
**   Correlation is significant at 0.05 level (2-tailed)
*   Correlation is significant at 0.1 level (2-tailed)

Table 6.10 VIF Values for Rank Transformed Variables, 2004 Data

Initial Model		Final Model	Initial Model		Final Model
Variable	VIF	VIF	Variable	VIF	VIF
Asset rank	15.55	-	LIQ rank	2.82	2.20
GR rank	14.62	-	IND3	1.96	1.90
LEV rank	10.42	3.14	List	1.59	1.57
MC rank	8.21	3.26	IND1	1.53	1.49
NS rank	7.19	3.96	Age rank	1.51	1.35
PM rank	6.83	5.42	AUD	1.34	1.33
PROF rank	4.44	3.32	AC	1.29	1.29
LLev rank	2.92	2.27			

**Fig 6.5 Tests of Homoscedasticity for the Cross-Sectional Regression Model 2004
(Rank Transformation)**

Plot of Studentized Residuals versus Predicted Values
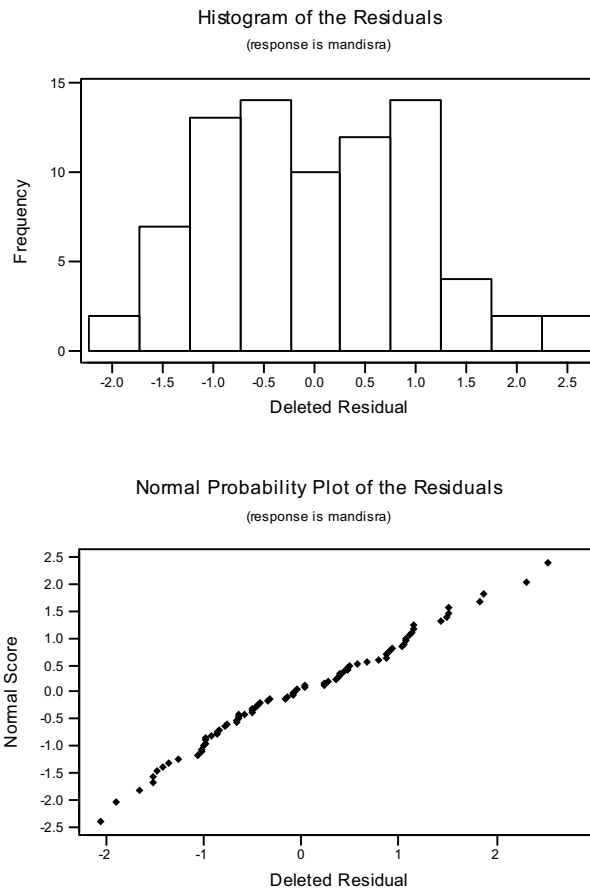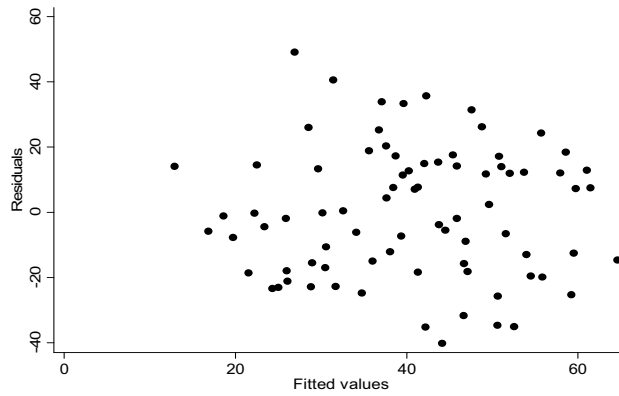

Plot of Cooke's Distance versus Predicted Values
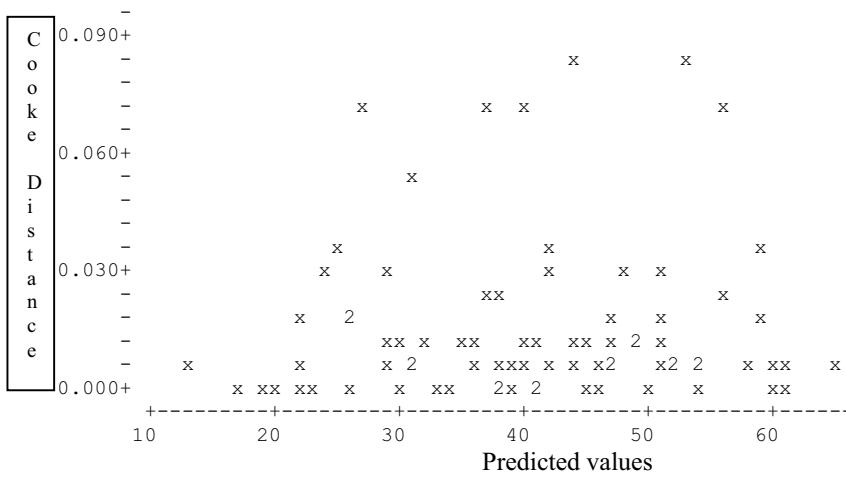
Figure 6.6 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 2004 (Rank Transformation)

Histogram of the Residuals

(response is mandisra)

Normal Probability Plot of the Residuals

(response is mandisra)
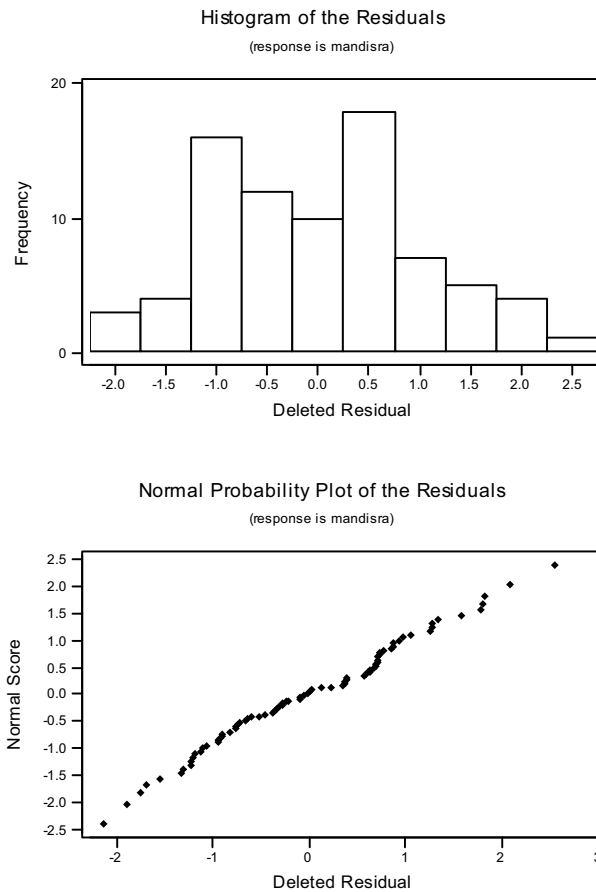
6.5.2.2 Model B

The B model is based on the normal scores transformation. The skewness value for the transformed dependent variable is 0.0000684, compared to the skewness value of the untransformed variable (-0.498338) pointing to a reduction in the skewness value. Also, Table 6.8 shows the skewness values of the independent variables before and after transformation implying notable reduction in skewness values. Table 6.9 below shows the correlation coefficients between mandatory disclosure index and the independent variables indicating that the highest correlation coefficients are with the size variables, auditor type and the audit committee.

Tests of multicollinearity are conducted using the Pearson correlation matrix as shown in Panel B of Table C.8 (Appendix C). The Table shows that the highest absolute correlation coefficients were between total assets and market capitalization (0.889), total assets and net sales (0.853), leverage and gearing ratio (0.903), return on equity and profit margin (0.708) and liquidity and gearing ratio (0.708). The VIF values appearing in Table 6.11 below confirm these results and point to the presence of multicollinearity problems.

Further, the model is tested for homoscedasticity (constant variance of the residuals), and normality of residuals. The studentized residuals plot against the predicted values of the dependent variable indicates absence of heteroscedasticity (as shown by Figure 6.7) which is further supported by the result of the Breusch-Pagan / Cook-Weisberg test for heteroscedasticity ($\chi^2 = 0.00$, $p - $ value $= 0.983$). Moreover, a Cooke's distance plot versus predicted values shows no outlier's problem since the highest Cooke's distance is 0.154. Finally, Figure 6.8 shows a histogram and a normal probability plot implying that the residuals are normally distributed. Table 6.12 shows the results of the regression model.

6.5.2.3 Reduced Model C

As in the previous chapter, a reduced model is conducted. The variables are chosen based on their significance in both the full regression model and the univariate test (Haniffa & Cook 2002).

Table 6.11 VIF Values for Normal Scores Transformed Continuous Variables, 2004 Data

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
Asset nor	14.07	-	LLev nor	2.61	2.42
GR nor	8.38	8.31	IND3	1.97	1.97
NS nor	7.58	4.12	IND1	1.71	1.67
MC nor	7.00	3.35	List	1.62	1.62
LEV nor	6.29	6.28	Age nor	1.61	1.47
PM nor	6.13	5.30	AUD	1.34	1.34
PROF nor	4.02	3.27	AC	1.28	1.27
LIQ nor	2.87	2.87			

Fig 6.7 Tests of Homoscedasticity for the Cross-Sectional Regression Model 2004 (Normal Scores Transformation)
Plot of Studentized Residuals versus Predicted Values

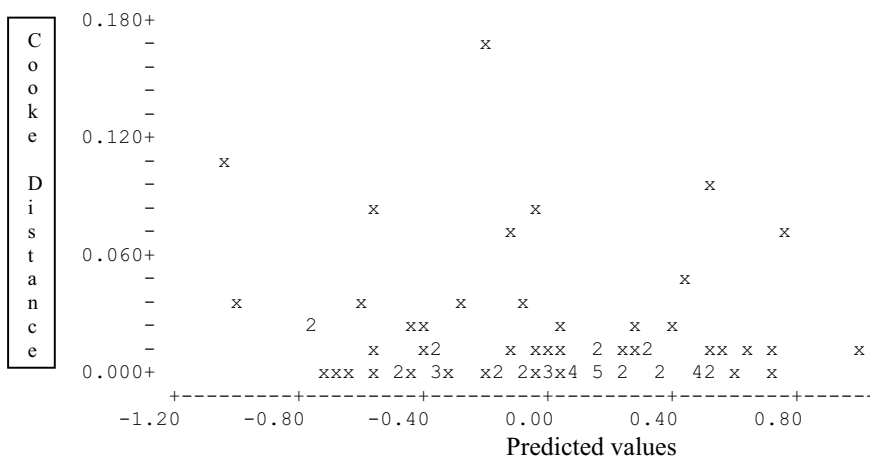**Plot of Cooke's Distance versus Predicted Values**

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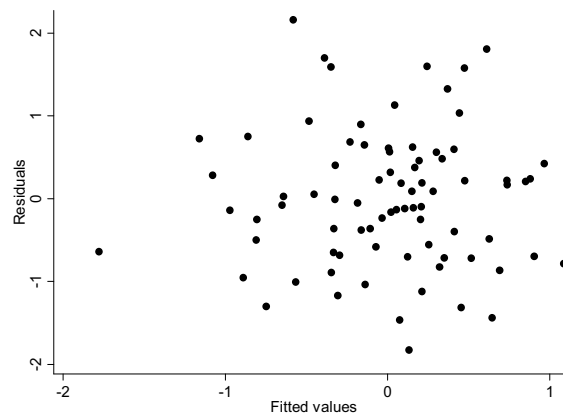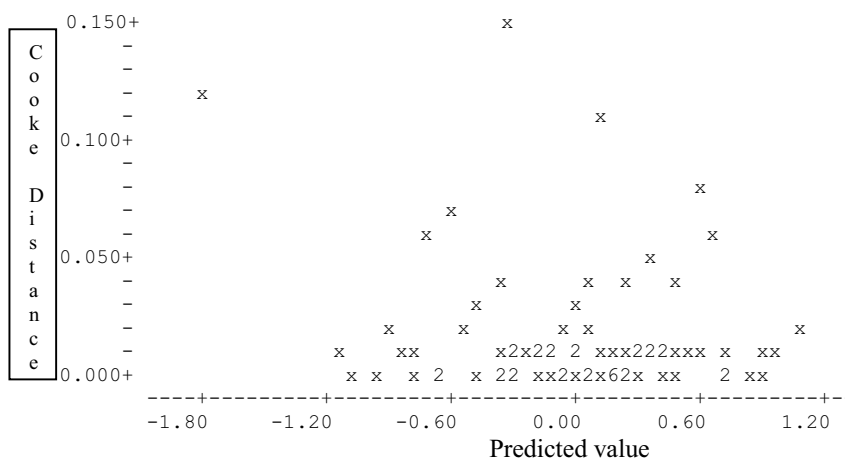
Figure 6.8 Tests of Normal Distribution of Residuals for the Cross-Sectional Regression Model 2004 (Normal Scores Transformation)
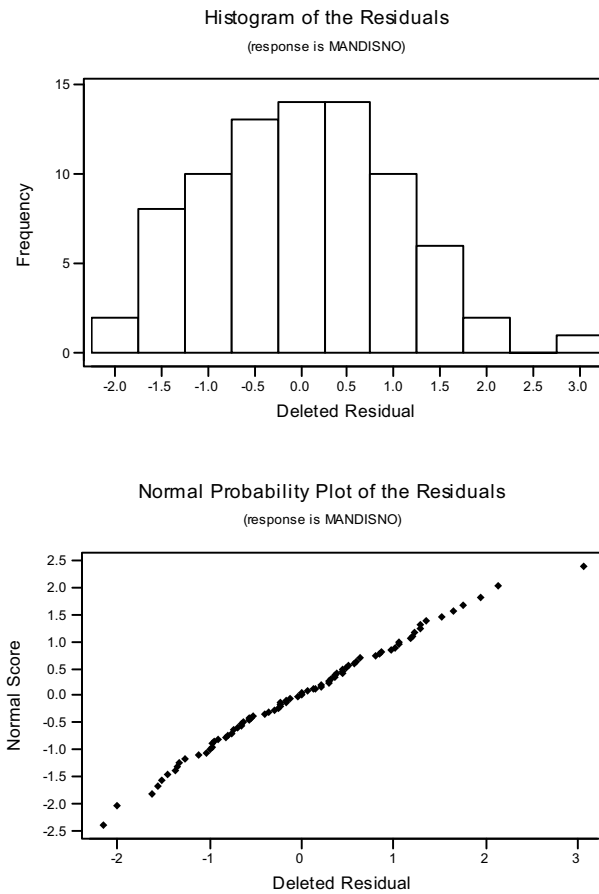
Histogram of the Residuals

(response is MANDIS n)

Normal Probability Plot of the Residuals

(response is MANDIS n)
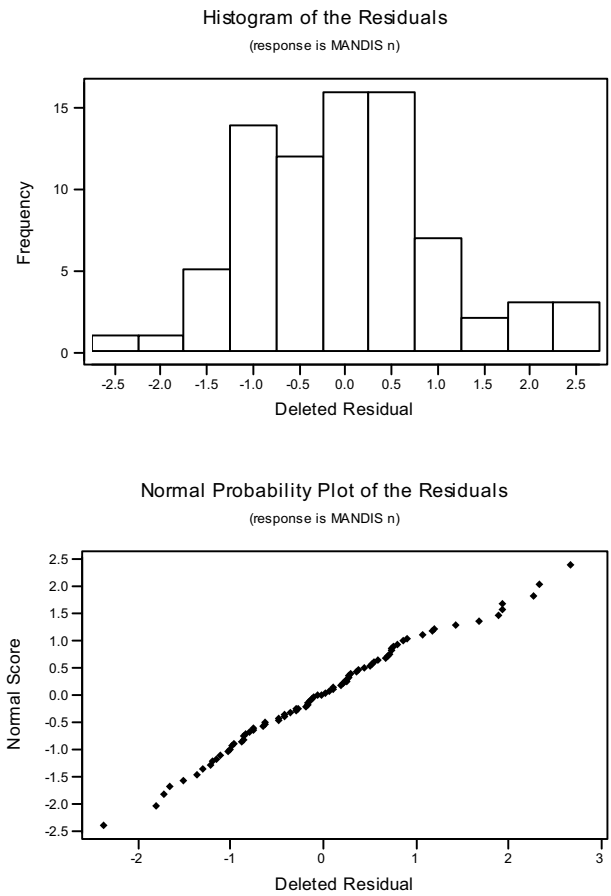
Table 6.12 Regression Analysis of Determinants of Mandatory Disclosure in 2004

Predictor	Predicted Sign	Model A#	Model B	Model C	VIF$
Constant	None	8.099 0.56	-0.564 -1.70*	-0.653 -2.70***	-
Audit Committee	+	11.342 1.89*	0.507 2.02**	0.478 2.09**	1.10
Market Capitalization	+	0.131 0.69	0.128 0.67	0.222 1.99**	1.21
Net Sales	+	0.065 0.31	0.069 0.33	-	-
Leverage	+	-0.032 -0.17	0.239 0.92	-	-
Long term Leverage	+	0.151 0.85	0.226 1.15	-	-
Gearing Ratio	+	-	0.509 1.70*	-0.002 -0.09	1.06
Liquidity	+	-0.157 -1.01	-0.344 -1.96*	-	-
Return on Equity	+	0.07 0.37	0.143 0.76	-	-
Profit Margin	+	0.19 0.78	0.142 0.59	-	-
Auditor type	+	13.666 2.44**	0.575 2.43**	0.592 2.70***	1.21
Age	+	0.062 0.51	0.069 0.53	-	-
Listing	+	-1.56 -0.24	-0.022 -0.08	-	-
Industry 1	+	-3.207 -0.31	-0.214 -0.46	-	-
Industry 3	-	-2.929 -0.42	-0.243 -0.80	-	-
S		21.66	0.912	0.891	
R-Sq		27.37%	29.79%	22.73%	
R-Sq(adj)		13.06%	14.67%	18.61%	
F		1.91**	1.97**	5.52***	

*** Significant at the 0.01 level (all probabilities are two tailed)
** Significant at the 0.05 level
* Significant at the 0.1 level
# The top values are the regression coefficients, the bottom are the t-statistics
$ VIF values of the reduced model

6.5.2.4 Results

As Table 6.12 suggests, all the models are significant (at the 0.05, 0.05, and 0.01 respectively). The rank transformation model produced an adjusted R^2 of 13.06% and two variables were found to be significant, the audit committee and the auditor type (at the

0.1 and 0.05 levels respectively). These results are consistent with many disclosure studies arguing that the presence of an audit committee results in firms disclosing more information since they act as monitoring mechanisms ensuring the quality of financial reporting. This result confirms that the mandate of audit committees in Jordan has a significant impact on firms' compliance with mandatory disclosure since it is the responsibility of the audit committee to ensure that the information disclosed in the annual report is in compliance with mandatory requirements of the JSC. Also, the positive significance of the auditor type asserts the importance of the role of big auditing firm in compelling their clients to comply with the IAS/IFRS (since compliance with mandatory disclosure in Jordan means compliance with IAS/IFRS).

The normal scores transformation model produced an adjusted R^2 of 14.67% and four variables are significant, these are, the audit committee, auditor type, liquidity and gearing ratio (at the 0.05, 0.05, 0.1 and 0.1 levels respectively). In this model the constant is also significant at the 0.1 level. The audit committee and the auditor type insisted on their significance confirming by that their results. The significance of the audit committee is consistent with Ho & Wong (2001), Eng & Mak (2003), Susilowati et al. (2005), and Barako et al. (2006). Also, as with the rank transformed model, firms that utilize the services of one of the big auditing firms comply more with the IAS/IFRS and hence with mandatory disclosure requirements in Jordan. These results are consistent with Singhvi & Desai (1971), Ahmed & Nicholls (1994), Patton & Zelenka (1997), and Susilowati et al. (2005).

With respect to liquidity and gearing ratio, the findings here are consistent with the findings of Jordanian disclosure studies which reported that information disclosure has a significant negative relationship with liquidity, and a significant positive relationship with gearing ratio (Naser & Al-Khatib 2000; Naser et al. 2002).

The results of the reduced regression C are shown in Table 6.12. The reduced model produced an adjusted R^2 of 18.61% and three variables are significant, the audit committee, the auditor type, and market capitalization. As the model suggests, the

gearing ratio variable lost its significance, and market capitalization appeared as a significant determinant of mandatory disclosure compliance (at the 0.05 level). This finding is consistent with almost all disclosure studies and with the meta-analysis of Ahmed & Courtis (1999). The constant is also significant at the 0.01 level.

6.5.3 1996 versus 2004: The Pooled Regression Model

As in the previous chapter, a pooled regression model is run using the least-squares-dummy-variables-estimator technique (LSDV) incorporating data from both years 1996 and 2004 to account for dynamic changes in the variables, particularly changes in disclosure regulation. Moreover, the cross-sectional models of 1996 and 2004 had relatively low values of the adjusted R^2 implying that the variables under study do not explain the variation in disclosure scores. The same two transformations are used as before, rank and normal scores transformations.

6.5.3.1 Model A

The skewness values of the rank transformed continuous variables compared to the skewness values of the untransformed variables are shown in Table 6.13 marking a notable reduction in skewness as a result of the transformation. Further, comparing the skewness values of the rank transformed dependent variable (0.000004) to that of the untransformed (0.155838) indicates a reduction in skewness. Moreover, Table 6.14 shows the correlation coefficients between the mandatory disclosure index and the independent variables indicating that the highest correlation coefficients are with the year variable (0.8609), audit committee (0.6793), auditor type, the three size variables, and company age.

The rank transformed pooled regression model is tested for the same assumptions as with the previous models, namely, multicollinearity, homoscedasticity, normality of error term and the assumption of autocorrelation of error term. To test for multicollinearity, the Pearson correlation matrix presented in Panel A of Table C.12 (Appendix C) shows that the highest absolute correlation coefficients between the independent variables are

between audit committee and the year variable (0.734), total assets and net sales (0.764), total assets and market capitalization (0.895), leverage and gearing ratio (0.940), return on equity and profit margin (0.7), liquidity and gearing ratio (0.725), and market capitalization and net sales (0.715). The VIF values are shown in Table 6.15 indicating the presence of multicollinearity.

To test for homoscedasticity, the studentized residuals against fitted values and Cooke's distance plots are used shown in Figure 6.9. The first plot shows some pattern in the data implying the possibility of heteroscedasticity. However, the Breusch-Pagan / Cook-Weisberg test (χ^2 = 0.42, p – value = 0.519) does not reject the null hypothesis of homoscedasticity. Also, the highest Cooke's distance = 0.042 indicates no outliers problem. A histogram and a normal probability plot of the residuals (Figure 6.10) show that the error term deviates slightly from normality. However, the Durbin-Watson statistic, d = 0.51, points to the presence of autocorrelation of the error since d is less than 1. This indicates the presence of extreme positive correlation in the error term implying that the observations are not independent. Table 6.17 offers the results of the pooled regression model.

Table 6.13 Skewness Values of Untransformed and Transformed Continuous Variables (for the Pooled Regression Model of the Whole Sample of Firms)

Variables	Untransformed	Rank Transformed	Normal Scores transformation
MANDIS	0.155838	0.000004	0.0000017
Age	0.923772	0.0050303	0.0926968
Asset	3.52669	0.0000000	-0.0000000
LEV	5.45882	-0.0000000	-0.0000000
PROF	-1.71171	0.0000885	0.0000666
LIQ	8.24649	0.0000696	0.0002608
MC	6.42052	-0.0000025	-0.0000013
NS	7.09381	0.0002540	0.0520924
PM	-10.6501	0.0002539	0.0001752
GR	-0.808617	0.0000086	0.0000058
LLEV	2.56107	0.581427	0.973718

Table 6.14 Correlation Coefficients of Mandatory Disclosure Index with Independent Variables, Pooled Data

Variable	Correlation Coefficient (rank transformation)	Correlation Coefficient (normal scores transformation)
AC	0.6793***	0.6543***
AUD	0.3275***	0.3184 ***
Asset	0.2610***	0.2711***
LEV	-0.0134	0.0409
PROF	0.1863**	0.1728**
LIQ	0.0070	-0.0062
IND1	0.0862	0.1168
IND3	-0.0352	-0.0501
Y	0.8609***	0.7977***
Age	0.3287***	0.3721***
List	-0.0641	-0.0297
MC	0.3374 ***	0.3433***
NS	0.2928***	0.3196***
PM	0.1720**	0.1320*
GR	0.0065	-0.0499
LLev	0.1062	0.1183

*** Correlation is significant at 0.01 level (2-tailed)
** Correlation is significant at 0.05 level (2-tailed)
* Correlation is significant at 0.1 level (2-tailed)

Table 6.15 VIF Values for Rank Transformed Variables, Pooled Data, N = 160

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR rank	13.52	-	AC	2.50	2.49
LEV rank	10.46	2.80	LLev rank	2.44	2.08
Asset rank	9.87	-	LIQ rank	2.32	1.90
MC rank	7.67	2.70	Age rank	1.91	1.80
NS rank	4.64	3.73	IND1	1.50	1.44
PROF rank	3.83	3.10	IND3	1.49	1.47
PM rank	3.34	2.96	AUD	1.44	1.41
Y	2.93	2.91	List	1.30	1.29

Figure 6.9 Tests of Homoscedasticity for the Pooled Data (Rank Transformed Variables)

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values
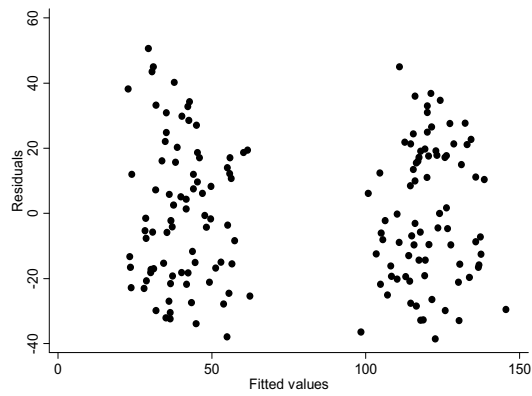
```
             –
    0.045+
C         –     x
o         –
o         –                                                    x
o         –
k         –        x                        x
e   0.030+                                            xx
          –                                      x
D         –        x   x
i         –        x            x                        x      x
s         –            x                               x  x
t   0.015+        x   x  x                           x    x   x
a         –          2                              x  xx     x  x
n         –      x  2   2  2     x    x          x    2xx2  x  2x
c         –    xx    4  x22  xxx  xx             x  x232x2x
e         –    xx  4  23  32    xx2            x22  x53x  xx2  x3
    0.000+      3xx23xx232 3x              x  xx2 3xxxx2   xx
          ----+---------+---------+---------+---------+---------+--
              25        50        75       100       125       150
                              Predicted values
```
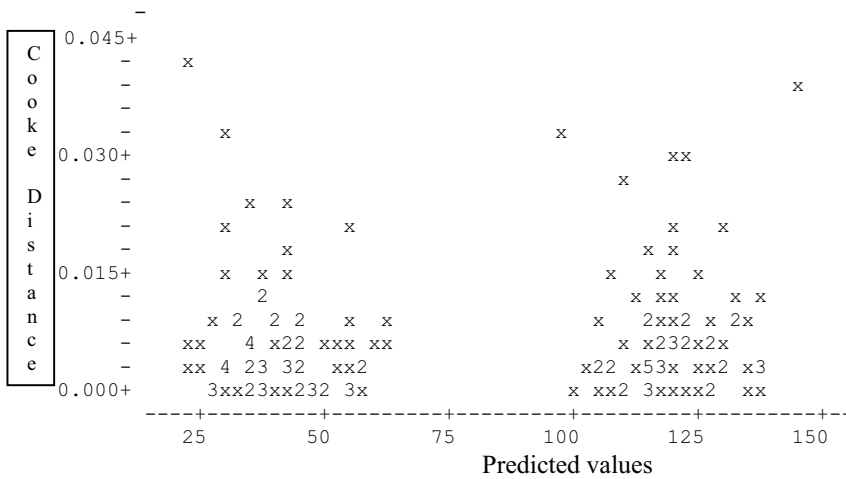
Figure 6.10 Tests of Normal Distribution of Residuals for the Pooled Data (Rank Transformed Variables)

Histogram of the Residuals

(response is mandisra)

Normal Probability Plot of the Residuals

(response is mandisra)
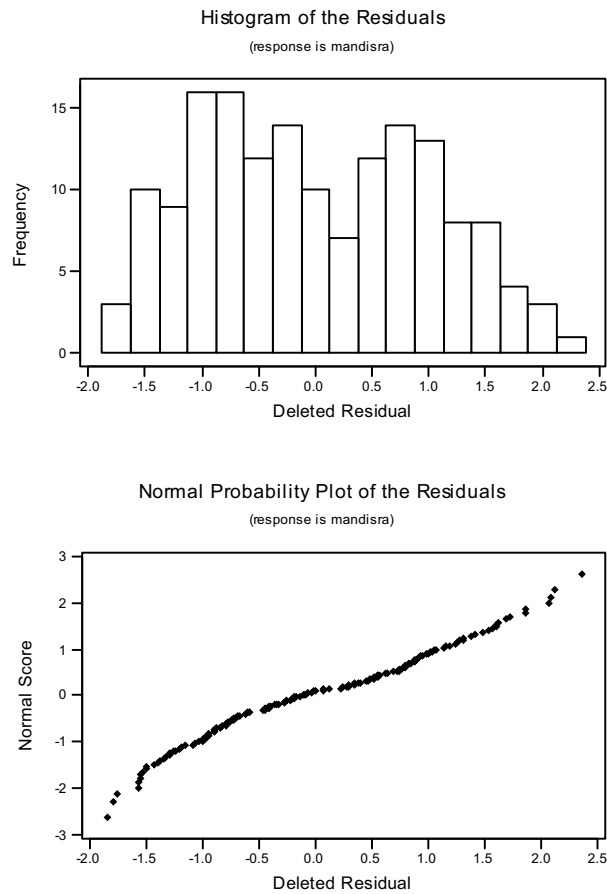
6.5.3.2 Model B

Model B is based on normal scores transformation. Table 6.13 shows the skewness values of the transformed dependent variable and the transformed continuous independent variables based on the normal scores approach, compared to the skewness values of the untransformed variables showing a remarkable reduction in skewness. In addition, Table 6.14 shows the correlation coefficients between the mandatory disclosure index and the independent variables indicating that the highest correlation coefficients are

with the year variable (0.7977), audit committee (0.6543), auditor type, the three size variables, and age.

The model is subjected to the same tests as above. The Pearson correlation matrix presented in Panel B of Table C.12 (Appendix C) shows that the highest absolute correlation coefficients between the independent variables are between total assets and market capitalization (0.883), leverage and gearing ratio (0.907), the audit committee and the year variable (0.734), total assets and net sales (0.770), market capitalization and net sales (0.711) and liquidity and gearing ratio (0.717). Table 6.15 shows the VIF values for this model with the highest VIF value being 9.31 of gearing ratio, and total assets of 9.28 indicating the presence of multicollinearity problems.

Tests for homoscedasticity, normality of residuals and autocorrelation are conducted. Plots of the studentized residuals against the predicted values, and Cooke's distance shown in Figure 6.11, and the Breusch-Pagan / Cook-Weisberg test are used to test for homoscedasticity. A plot of the studentized residuals against predicted values shows a certain pattern in the distribution implying possible presence of heteroscedasticity. The second plot shows that the highest Cooke's distance D= 0.061 supporting the absence of outliers. However, the Breusch-Pagan / Cook-Weisberg test (χ^2 = 0. 35, p – value = 0. 5519) supports the assumption of homoscedasticity. To ascertain the absence of heteroscedasticity, another test is used which is the Goldfeld-Quandt test used largely when heteroscedasticity is believed to relate to a particular variable, in this case the year variable[26]. As a first step, the Goldfeld-Quandt test requires ordering the observations in increasing order with the year variable. The second step is to omit some central observations[27]. Thirdly, the observations are divided into two groups and two separate regressions are run on each group. Finally, the error sum of squares for each group is obtained and divided by the degrees of freedom to find F = [ESS large/df] / [ESS small/df] which should be equal to unity for homoscedasticity. In this case, F = [8.0814/13] /

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[26] The reason for relating heteroscedasticity to the year variable is the pattern of the error variance which shows two clouds of dots.

[27] It is recommended to omit the third of the observations, in this case around 50 observations.

[6.967/12] = 1.07 which is slightly higher than 1, indicating slight heteroscedasticity[28]. A third test is used which is the White test ($\chi^2 = 116.54$, $p - value = 0.3165$) supporting the absence of heteroscedasticity.

To test for the normal distribution of the error term, a histogram and a normal probability plots of the studentized residuals shown in Figure 6.12 point to the fact that the error term exerts a normal distribution. Finally computation of the Durbin Watson coefficient for the normal scores transformed data, d = 2.1 (which is close to 2) indicates the absence of autocorrelation. The results of the regression model are shown in Table 6.17.

Table 6.16 VIF Values for the Pooled Regression Model of the Whole Sample of Firms (Normal Scores Transformed Variables), N = 160

Initial model		Final model	Initial model		Final model
Variable	VIF	VIF	Variable	VIF	VIF
GR nor	9.31	-	LLev nor	2.59	2.17
Asset nor	9.28	-	AC	2.48	2.48
LEV nor	7.69	3.12	LIQ nor	2.34	1.86
MC nor	7.23	2.63	Age nor	2.08	1.96
NS nor	4.80	4.05	IND1	1.68	1.64
PROF nor	3.17	2.66	IND3	1.50	1.49
Y	2.97	2.95	AUD	1.41	1.40
PM nor	2.73	2.53	List	1.30	1.29

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[28]It was argued that moderate violations of homoscedasticity have minor impact on regression estimates (Fox 2005).

**Figure 6.11 Tests of Homoscedasticity for the Pooled Regression of the Whole
Sample of Firms (Normal Scores Transformed Variables), N=160**

Plot of Studentized Residuals against Predicted Values

Plot of Cooke's Distance versus Predicted Values
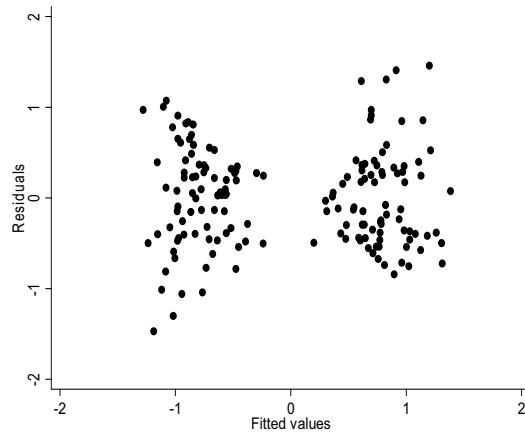
```
          ─
 C  0.060+        x
 o        ─
 o        ─     x
 k        ─                                   x
 e        ─                        x
          ─                                 x
 D  0.040+
 i        ─
 s        ─   x   x                       xx
 t        ─       x                  x
 a        ─     x x                     x
 n  0.020+                          x        x
 c        ─      x                  x
 e        ─    2  xx   xx   x            x  x
          ─   x   3  3 x     x     x       xx x  xx xxx x2 x
          ─   2 x3 22 x2x x 2xx        xx 52262  2xx2  x
 0.000+       x 323343x33422  xx       22xxx2x3xx5xx32  x     x
          --------+---------+---------+---------+---------+--------
              -1.00     -0.50      0.00      0.50      1.00
                              Predicted values
```
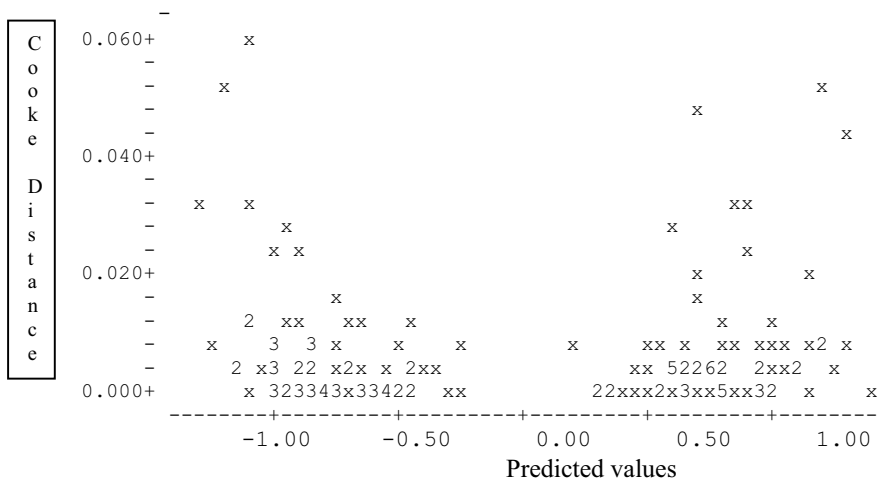
Figure 6.12 Tests of Normal Distribution of Residuals for the Pooled Regression of the Whole Sample of Firms (Normal Scores Transformed Variables), N=160

Histogram of the Residuals

(response is Mandisno)

Normal Probability Plot of the Residuals

(response is Mandisno)
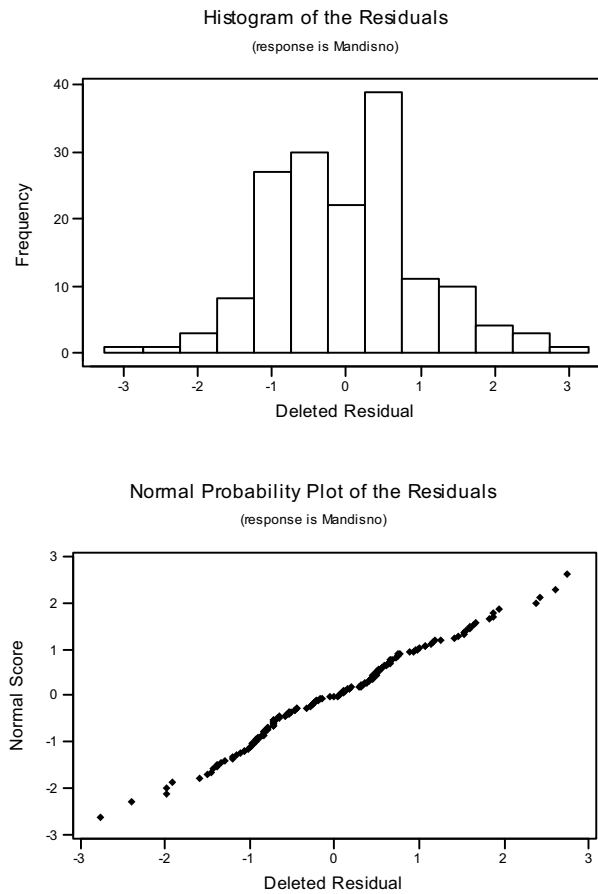
Table 6.17 Pooled Regression Estimates for the Whole Sample of Firms (1996-2004), N = 160

Predictor	Predicted Sign	Model A	Model B	Model C	VIF
Constant	None	34.860 3.74***	-0.799 -6.00***	-0.842 -10.89***	-
Year	+	67.335 11.15***	1.242 8.01***	1.253 8.84***	2.52
Audit Committee	+	11.307 1.93*	0.324 2.18**	0.311 2.19**	2.31
Market Capitalization	+	0.061 0.96	0.101 1.36	0.073 1.29	1.57
Net Sales	+	-0.025 -0.33	-0.043 -0.46		
Leverage	+	-0.106 -1.66	-0.111 -1.37		
Long term Leverage	+	0.141 2.29**	0.178 2.18**	0.096 1.58	1.21
Liquidity	+	-0.045 -0.86	-0.027 -0.44	-	-
Return on Equity	+	0.002 0.03	0.033 0.44	0.033 0.64	1.34
Profit Margin	+	0.06 0.92	0.008 -0.11	-	-
Auditor Type	+	11.840 2.79***	0.237 2.20**	0.231 2.21**	1.34
Listing	+	-1.432 -0.32	-0.014 -0.13	-	-
Age	+	-0.014 -0.27	0.036 0.56	0.028 0.5	1.47
Industry 1	+	2.211 0.29	0.007 0.03	-	-
Industry 3	-	-6.665 -1.47	-0.118 -1.02	-	-
Std error		22.387	0.571	0.565	
R-Sq		78.71%	69.79%	69.03%	
R-Sq(adj)		76.65%	66.87%	67.60	
F		38.29***	23.93***	48.40***	

*** Significant at the 0.01 level (all probabilities are two tailed)
** Significant at the 0.05 level
* Significant at the 0.1 level
\# The top values are the regression coefficients; the bottom are the t-statistic
\$ The VIF values for the reduced regression model

6.5.3.3 Results

The results of model A based on rank transformation are shown in Table 6.17. However, the validity of this model is in doubt due to the violation of the assumption of

autocorrelation (d = 0.51 which is less than 1) which leads to biased estimates and significance.

Model B based on normal scores transformation produced an adjusted R^2 of 66.87% and four variables were found to be significant. The audit committee and auditor type are significant (at the 0.05 level) as in the 2004 cross-sectional model implying that the governance reforms that Jordan undertook with respect to mandating an appointment of an audit committee has positive significant influence on mandatory disclosure compliance. Further, the utilization of the services of big auditing firms has a positive significant influence on disclosure compliance with mandatory requirements of JSC. Long term leverage was also found to have a positive significant impact on disclosure compliance with mandatory requirements consistent with Jordanian studies (Naser 1998; Naser & Al-Khatib 2000; Naser et al. 2002).

The most important significant determinant in the model is the year variable used as a proxy for changes in disclosure regulation. The significance of the year variable implies that the change in the enforcement mechanism from a state where compliance with the IAS was a recommendation and a professional requirement by the Jordanian Association of Certified Public Accountants to a state where compliance with IAS/IFRS is a legislative requirement such that non-compliance is illegal has markedably influenced mandatory disclosure.

The reduced regression C model produced an adjusted R^2 of 67.7% and the same variables are significant except for long term leverage. Hence, audit committee, auditor type and the introduction of the disclosure regulation are the most important determinants of mandatory disclosure compliance in the Jordanian context.

6.6 Summary of Results

Table 6.18 summarizes the findings of the regression models run earlier[29]. As the Table shows, the introduction of the disclosure regulation has produced the most significant

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[29] Only normal scores models results are discussed.

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impact on the mandatory disclosure compliance since the year variable is highly significant (at the 0.01 level) in both the full and reduced models. This finding is consistent with Inchausti (1997) and Owusu-Ansah & Yeoh (2005) who asserted that the use of regulation as an enforcement mechanism to monitor compliance and impose punishment in cases of non-compliance would improve the implementation of accounting standards and enhance compliance levels.

The type of auditor and the presence of the audit committee both emerge as significant determinants of mandatory disclosure compliance by Jordanian listed firms. The significant relationship between the auditor type and mandatory disclosure supports the hypothesis that the large audit firms compel their clients to comply with the IAS/IFRS since they are in turn pressured not to sign any annual report that is not in compliance with the IAS/IFRS (Street & Gray 2001). Also, the governance reforms Jordan undertook through mandating the appointment of an audit committee to be responsible for ensuring that the annual report is in accordance with the mandatory disclosure requirements of the JSC, has significantly influenced the levels of compliance with the mandatory requirements. Finally, leverage and market capitalization appeared to have an influence on mandatory disclosure which is consistent with Jordanian studies arguing that larger firms appear to comply more strongly with mandatory disclosure requirements. Also, long term leverage has an impact on mandatory disclosure compliance consistent with Naser (1998), Naser & Al-Khatib (2000) and Naser et al. (2002) who argued that large Jordanian companies with good reputation are the only companies that benefit from the limited long term lending facilities provided by the Jordanian banking system. Hence, banks are expected to demand detailed information on companies' financial position before issuing any loan.

In addition, the models show an increase in the adjusted R^2. In 1996, the adjusted R^2 were 4% and 5.89% for the full and reduced models respectively. In 2004, these values increased to 14.67% and 18.61%. The pooled regression produced a high adjusted R^2 of 66.87% and 67.6% for the full and reduced models respectively, implying that mandatory

disclosure compliance in Jordan is largely attributed to the introduction of the disclosure regulation administered by the 1997 Company Law and 2002 Securities Law.

Table 6.18 Summary of the Findings of the Regression Models

		Significant Variables			Adjus.R^2
		0.01 level	0.05 level	0.1 level	
1996 cross-sectional model (N = 80)	Full	-	-Leverage# -Long term leverage	-	4 %
	Reduced	-	-	Long term leverage	5.89%
2004 cross-sectional model (N = 80)	Full	-	-Audit committee -Auditor type	- Liquidity# - Gearing ratio	14.67%
	Reduced	- Auditor type	-Audit committee -Market capitalization	-	18.61%
Pooled whole sample (1996-2004) (N =160)	Full	-Year	- Audit committee -Long term leverage -Auditor type	-	66.87%
	Reduced	-Year	- Audit committee -Auditor type	-	67.60%

These variables have a negative association with the extent of mandatory disclosure

6.7 Conclusion

This chapter has investigated the relation between disclosure regulatory reforms resulting from privatization on disclosure compliance with mandatory requirements in Jordan. It reported the results of univariate tests concluding that mandatory disclosure compliance has significantly increased through the time period of the study. It also reported the results of two cross-sectional regression models of sample data of Jordanian listed firms from the years 1996 and 2004. The models used two types of transformation approaches, rank and normal scores approaches. The results of the cross-sectional models using both approaches were largely identical supporting the robustness of the results. In 1996, long term leverage appeared to be the only significant variable to influence the mandatory disclosure compliance of Jordanian firms. In 2004 cross-sectional model, auditor type, the audit committee, and market capitalization emerged as significant determinants of mandatory disclosure.

These findings were supported by the pooled regression model in which the year variable emerged as the most significant variable implying that the introduction of the disclosure regulation has significantly influenced mandatory disclosure compliance of Jordanian listed firms. Also, the mandate of audit committees and the type of auditor show that they significantly influence mandatory disclosure. Finally, two company attributes appear to influence mandatory disclosure compliance in Jordan, these are market capitalization and long term leverage.

Chapter 7

Summary and Conclusion

7.1 Introduction

Over 100 countries worldwide used privatization as an economic tool to open up their markets to the world and mobilize domestic and foreign investments, and many more are preparing for their privatization programs. Since privatization leads to changes in ownership, and results in governance and disclosure regulation reforms, its influence on corporate disclosure was expected. Hence, the objective of this study has been to investigate the impact of privatization on corporate disclosure through the aforementioned channels. Jordan was the subject of this study since it undertook a privatization program which led to changes in ownership, and resulted in governance and disclosure regulation reforms making it very suitable to test the impact of these changes on corporate disclosure.

In this respect, the study has offered a comprehensive analysis of the research question and developed a model that incorporated several variables (i.e. ownership, governance, disclosure regulation and firm specific variables) considered individually in other studies, enhancing the understanding of the influence of possible determinants of mandatory and voluntary disclosures in the context of a developing country. In addition, a limited number of disclosure studies used data from Jordan; hence this study provides a new source of information about corporate disclosure in Jordan.

Further, the study conducted both cross-sectional and panel data analyses. The use of panel data estimation techniques is relatively new in disclosure studies. These techniques emphasize the importance of dynamic modelling of the relationship between privatization and corporate disclosure. Taking into consideration the changes privatization causes in ownership structure and the resulting governance and disclosure regulation reforms, panel data offers the most suitable technique to capture the dynamic impact of the above mentioned factors.

This chapter summarizes the findings in relation to the impact of privatization on corporate disclosure and reports conclusions of the study. The following section (section 7.2) discusses the findings with respect to the influence of changes in ownership and governance reforms on the extent of voluntary disclosure, and the influence of the introduction of disclosure regulation reforms on mandatory disclosure in Jordan. Section 7.3 discusses contributions of the study to accounting research and accounting practice and regulation. Section 7.4 provides the study limitations and areas of future research, followed by section 7.5 which provides an overall conclusion of the study.

7.2 The Impact of Privatization on Corporate Disclosure

Privatization influences corporate disclosure through three channels, changes in ownership structure, the resulting governance and disclosure regulation reforms. The impact of privatization on corporate disclosure was first addressed through investigating the impact of the resulting changes in ownership and governance reforms on the extent of voluntary disclosure in Jordan which was the focus of chapter 5. The impact of privatization, through changes in disclosure regulation on mandatory disclosure compliance was addressed in chapter 6. The following sections review the evidence provided in both chapters regarding the impact of privatization on both types of disclosure; voluntary and mandatory.

7.2.1 Evidence from Voluntary Disclosure
7.2.1.1 Evidence Regarding Ownership Changes

Chapter 2 discussed the three channels through which privatization influences corporate disclosure. These were changes in ownership structure, governance reform and disclosure regulation reform. The chapter reviewed the theories and the literature related to ownership structure and corporate governance and their influence on the extent of voluntary disclosure and introduced the relevant research hypotheses. The literature mainly argued that different types of owners are associated with different disclosure

levels since each have distinct incentives and abilities to monitor management. It further acknowledged the importance of putting in place sound governance mechanisms to ensure the quality of corporate disclosure.

The evidence of these two channels was provided in chapter 5. Different types of statistical analyses were conducted including univariate tests, cross-sectional models and panel data estimation models. Univariate tests indicated that the extent of voluntary disclosure in 2004 is significantly higher than that in 1996. Hence, regression models were conducted to identify the factors contributing to this significant difference.

Cross-sectional regression models showed that state ownership in Jordan was an influential determinant of voluntary disclosure as evident from the 1996 cross-sectional model. It also showed that foreign ownership was an influential determinant of voluntary disclosure in 2004. Four pooled regression models were tested, a model with data of privatized firms, data of non-privatized firms, data of private firms, and finally a model that included the whole sample of firms. The results of the first pooled regression model incorporating privatized firms showed that foreign ownership was the only significant ownership variable, implying that foreign owners are the only owners to have a significant impact on voluntary disclosure in the post-privatization period. This suggests that the transfer of ownership from the state to foreign investors has positively influenced the extent of voluntary disclosure. The insignificance of the other ownership variables implies that the transfer of ownership from the state to Jordanian government agencies, institutional, individual and Arab investors did not influence the extent of voluntary disclosure in Jordanian privatized firms.

The other pooled regression models indicated the significant impact of foreign ownership in non-privatized firms, private ones and the whole sample. This result is not surprising since it is well documented that privatization has an indirect impact on the country undertaking a privatization program such that it puts the country on the "radar screen" of foreign investors and generates interest in all its companies. Overall, it could be concluded that while the state was an influential determinant of voluntary disclosure,

privatization had positively influenced the extent of voluntary disclosure through attracting foreign investors in all Jordanian listed firms. Unfortunately, the involvement of the other types of owners did not influence voluntary disclosure, while individual ownership produced negative significant influence on voluntary disclosure.

7.2.1.2 Evidence Regarding Governance Reforms

Corporate governance was defined as "those oversight activities undertaken by the board of directors and audit committee to ensure the integrity of the financial reporting process" (POB 1993). Accordingly, the board of director's role was realized in guiding and monitoring management in its corporate disclosure policies (Fama 1980). Therefore, governance variables must be considered in the study of corporate disclosure.

Unfortunately, none of the governance variables tested in this study appeared to influence the extent of voluntary disclosure as evident from the cross-sectional and the pooled regression models. This result is somewhat surprising since Jordan reformed its corporate governance policies by mandating the appointment of audit committees (to be comprised of three non-executive directors) and the appointment of at least three non-executive directors on the board (to comply with the audit committee requirements) to ensure the proper monitoring of management and improve the quality of corporate disclosure. However, these reforms did not produce any significant influence on voluntary disclosure. A possible explanation for this result is that the new Company Law enacted in 1997 required all directors on the board to be shareholders, which jeopardizes the independence of the non-executive directors, hence reducing their role in monitoring management and enhancing disclosure quality. This implies that more needs to be done to ensure the independence of the non-executive directors such as removing the share ownership requirement of the 1997 CL.

A major finding was the significance of the year variable which is a proxy of the more regulated environment with respect to strengthening legal investor protection. This indicated that external governance reform through strengthening the legal investor

protection had a significant impact on the extent of voluntary disclosure by Jordanian firms such that the level of voluntary disclosure of Jordanian listed firms is higher in 2004 than in 1996.

7.2.1.3 Evidence Regarding the Control Variables

With respect to control variables, the regression models showed that firm size was the major control variable to positively influence the extent of voluntary disclosure, followed by leverage. These results are consistent with disclosure research particularly the findings of Ahmed & Courtis (1999) meta-analysis suggesting that size and leverage are among the prominent determinants of corporate disclosure. Other control variables that appeared to have a significant impact on the extent of voluntary disclosure were industry type and liquidity. The other control variables used in this study such as profitability (in terms of return on equity and profit margin), age, and listing status did not appear to have a significant impact on voluntary disclosure, while the type of auditor produced significant negative association with voluntary disclosure.

In sum, it is concluded that privatization has a positive significant impact on the extent of voluntary disclosure through ownership changes when foreign owners are involved, and through the resulting corporate governance reforms particularly with respect to external governance through strengthening legal investor protection.

7.2.2 Evidence from Mandatory Disclosure

Chapter 6 reported the empirical evidence with respect to the impact of privatization through governance and disclosure regulation reforms on mandatory disclosure compliance. Analysis of the mandatory disclosure compliance in both years showed that the mean of the mandatory disclosure compliance in 2004 (0.79) is markedly higher than that in 1996 (0.547). This result was supported by the univariate tests which indicated that the mean differences of mandatory disclosure compliance in 1996 against 2004 are statistically significant suggesting that in the year 2004 Jordanian listed firms are

showing higher compliance with mandatory disclosure requirements than they did in 1996.

In addition, the chapter reported cross-sectional regression models and a panel data model and their findings were as follows. The adjusted R^2 of the 1996 cross-sectional model was very low (4%), compared to 14.67% in 2004. The pooled regression produced a high adjusted R^2 of 66.87%. The major finding of the pooled regression model is the year variable (significant at the 0.01 level) indicating that the introduction of the disclosure regulation has produced the most significant impact on the mandatory disclosure compliance. This finding indicates that the use of regulation and the accompanying enforcement mechanisms to monitor compliance and impose punishment in cases of non-compliance improve the implementation of accounting standards and enhances compliance levels. However, the mean of the mandatory disclosure compliance in 2004 at 0.79 implies that more needs to be done (such as monitoring compliance with mandatory requirements) to reach a better level of disclosure compliance.

With respect to the other variables, the type of auditor and the presence of the audit committee both emerged as significant determinants of mandatory disclosure compliance by Jordanian listed firms in both the 2004 cross-sectional model and the pooled model. The significant influence of the big auditing firms on mandatory disclosure highlights the importance of the efforts of several organizations including IASB, IFAC, IFAD and the World Bank to raise the standards of accounting and auditing. For instance, the World Bank has put the big international auditing firms under pressure to ensure the compliance of their clients with the IAS/IFRS (Street & Gray 2001).

Also, the significant influence of the audit committee on mandatory disclosure demonstrates the importance of the 1997 Company Law and the 2002 Securities Law which mandated the appointment of an audit committee and identified its responsibilities to include monitoring compliance with Jordan Securities Commission regulations. Finally, leverage and market capitalization emerged as major factors influencing mandatory disclosure.

Hence, it is concluded that privatization through the resulting disclosure regulation reforms has a positive impact on mandatory disclosure compliance of Jordanian firms. Further, evidence from the mandatory disclosure chapter (chapter 6) indicated that corporate governance reforms have an impact on mandatory disclosure through the mandate of audit committees. Therefore, it is concluded that while governance reforms did not have an impact on the extent of voluntary disclosure, it had a positive significant impact on mandatory disclosure through the mandate of audit committees.

7.3 Contributions of the Study

The contributions of the study are embodied in the issues it addressed, thereby providing several contributions to accounting research and accounting practice and regulation discussed in the following sections.

7.3.1 Contributions to Accounting Research

The study contributes to accounting research in several ways. The study builds its investigation on privatization research which concludes that privatization leads to ownership changes, governance reform and disclosure regulation reforms. Hence, a major contribution of this study is in the novel approach used to analyse the relationship between privatization and corporate disclosure through the three channels. The approach used by this study to investigate the impact of privatization may be used by future researchers to analyse the impact of other privatization programs in other developing countries on corporate disclosure.

Another major contribution is the examination of the impact of privatization on corporate disclosure which has not previously been investigated; hence, this study fills the gap in disclosure research making way for new grounds to explain variance in corporate disclosure other than the more familiar accounting theories (agency theory, political

costs, and signalling theory) which proved to be insufficient in explaining differences in disclosure levels.

In terms of research methods, this study used an econometric analysis that is relatively new to this line of research, panel data estimation techniques. Panel data has several advantages over cross-sectional static models as explained earlier. Future research should incorporate the use of this technique because of its mentioned advantages.

The study also shows that corporate disclosure research must consider the interaction of accounting systems and economic factors important in a given country in the same model of corporate disclosure. Accordingly, this study developed a model that incorporated privatization through the resulting ownership changes, governance and disclosure regulation reforms and firm specific variables, considered individually in other studies. This would enhance the understanding of the influence of possible determinants of mandatory and voluntary disclosures. The inclusion of a large number of variables helped explain the variance in disclosure reflected in the high R^2 of the models.

Moreover, this study contributes to the debate about whether there is a need for disclosure regulation and provides evidence on the significance of disclosure regulation in improving information disclosure. It further contributes to the debate on corporate governance reform and its role in ensuring better disclosure levels. The study shows that employing governance mechanisms is insufficient; rather the duties and responsibilities of a governance mechanism needs to be identified so as the mechanism can perform its role in monitoring management and subsequently enhance corporate disclosure.

Finally, the study expanded the disclosure research undertaken in developing countries particularly in the Middle East region where this line of research is limited.

7.3.2 Contributions to Accounting Practice and Regulation

One of the major issues facing national and international accounting regulators is the use of disclosure regulation to improve corporate disclosures. The study shows that disclosure regulation accompanied with stringent enforcement mechanisms are needed to ensure better compliance with mandatory disclosure requirements. It also provides implications for Jordan Securities Commission staff that monitors the quality of disclosure to improve their review of the disclosure content of annual reports to ensure higher levels of compliance with mandatory requirements.

Moreover, the results of the study regarding ownership variables indicated that companies with less foreign and state ownership should upgrade their voluntary disclosure practice so as to attract potential investors. In particular, domestic individuals need to exert more monitoring to management which will have positive effects on share values. This might be achieved by enacting new regulations that will enhance the shareholders role in the governance of the firm.

The study also has implications for Jordanian regulators to target small and low leveraged companies to ensure better voluntary and mandatory disclosure. Local auditing firms need also to upgrade their audit practice. This might be achieved by strengthening the authorities of the Association of External Auditors (which was created in 1991) and the Higher Auditing Commission (created in 2004), since both have no capacities to enforce high auditing standards leaving Jordanian auditors unregulated (ROSC 2005). Furthermore, the results of the study suggest that large auditing firms need to encourage their clients to provide more voluntary disclosure.

With respect to governance mechanisms, the findings of the study are timely given the current reforms under progress by the Jordanian authorities in improving corporate governance standards in Jordan. However, the results indicate that more needs to be done to ensure the full effectiveness of the employed governance mechanisms. For instance, audit committees need to have a greater role in encouraging management to increase their

voluntary disclosure. Also, the insignificance of the non-executive directors' variable implies that Jordanian regulators need to encourage their independence by removing the share ownership requirement of non-executive directors incorporated in the 1997 CL.

The study also has implications to accounting and auditing practitioners and boards of directors in Jordan. With the execution of its privatization program, the Jordanian economy is expected to develop, and consequently Jordanian listed companies need to improve their communication means with their stakeholders. Effective means of communication improves their prospects of raising external finance, which influences the firm value and share prices.

Also, this study provides information about the improved disclosure levels of listed companies in Amman Stock Exchange (ASE), particularly after the adoption of IAS/IFRS, which would encourage foreign and domestic investors in investing at the ASE. The outcome of this study is expected to help other governments, particularly developing ones, in making informative decisions regarding altering their economic and regulatory policies to promote their countries' investment environments.

Finally, this study highlights the importance of efforts of certain organizations particularly the World Bank which worked with the Jordanian government to ensure the success of privatization. It also reports to the World Bank the outcomes of privatization with respect to its influence on disclosure practice and equipping companies to meet the challenges of globalization which would also benefit in planning future privatization programs in other countries.

7.4 Limitations and Future Research

The study has several limitations. Like other disclosure studies employing a disclosure checklist method, this study is subject to the problem of subjectivity in the scoring process which cannot be entirely eliminated.

The study did not account for the influence of certain economic reforms that accompany privatization such as price deregulation and market liberalization which would have an impact on firms' efficiency which, in turn, would influence disclosure. The exclusion of these factors was due to the lack of reliable data pertaining to these variables. Future research can investigate the impact of these factors on corporate disclosure in settings where it is possible for them to be accurately measured.

Other governance mechanisms could have been included such as the education, expertise, political connections and other personal attributes of the members of the board of directors particularly since Jordanian boards are characterized by the existence of different ethnic identities and politicians as members of boards of directors or even block shareholders in major companies. Again the lack of data relating to these variables, particularly in the 1996 annual reports, has led to their exclusion. Hence, future research can incorporate these variables in disclosure studies in Jordan and other developing countries.

The interactions among the different governance mechanisms are vital to effective governance and to achieving high quality financial reporting (Cohen et al. 2004). Thus, a potential avenue for future research is to examine the impact of the interrelationship between the audit committees and external/internal auditors on corporate disclosure. Audit committees in Jordan are responsible for nominating external auditors and ensuring their independence, and cooperating with the internal auditors in maintaining the internal control procedures. Hence, the study of the impact of their interrelationship on corporate disclosure can provide regulators with information and guidance when updating the Jordanian governance framework.

Another line is to examine the impact of preventive and punitive enforcement mechanisms each separately on mandatory disclosure compliance and compare the impact each type has on mandatory disclosure compliance. Such a study would help regulators to improve the effectiveness of each type of enforcement mechanism.

This study demonstrated that introducing governance and disclosure regulation resulted in higher disclosure levels. Higher disclosure levels means better information sharing about capital assets, hence improving the attractiveness of investment assets. Therefore, future research can link the findings of this study to investment decisions in Jordan and other developing countries undertaking such reforms.

In the face of globalization of capital markets, many countries particularly in the Middle Eastern region have upgraded their disclosure practices largely by adopting IFRS. Future research can conduct comparative studies to examine how disclosure practices in this region have adapted to changes in capital market environments.

Moreover, an extension of this study may include other developed and developing countries that undertook privatization programs to test the validity of the findings. Also, future research can conduct a comparative study between developing and developed countries that undertook privatization programs aiming at uncovering the influence of similarities and differences in their privatization programs and the resulting governance and regulation reforms on corporate disclosure.

7.5 Conclusion

In the face of globalization, many countries have utilized various economic and accounting reforms to revitalize their disclosure practices and consequently their investment environments. Privatization is one of these measures that led to ownership changes and compelled governments to significantly change their corporate governance systems and revamp their disclosure regulations. This study set to examine the impact of privatization on corporate disclosure through ownership changes, governance and disclosure regulation reforms. The evidence provided in this study has strongly supported that privatization does influence corporate disclosure through the aforementioned channels. The study concludes that privatization in Jordan has positively influenced voluntary disclosure through ownership changes when foreign investors are involved. It also concluded that governance reform through strengthening legal investor protection

has a positive impact on voluntary disclosure. Additionally, disclosure regulation reforms and governance reform through the mandate of audit committees both have positively influenced mandatory disclosure. Finally, the study has introduced a new factor that impacts corporate disclosure opening the door to more tests on the impact of privatization and the resulting governance and disclosure regulation reforms on corporate disclosure.

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Appendices

Appendix A

Table A.1 Empirical Studies investigating Privatization on the performance of privatized firms

Study	Description, Period & Methodology	Findings & Conclusion
Studies Examining Public versus Private Ownership		
Boardman and Vining (1989)	Examines the economic performance of 500 largest non-US firms in 1983 classified as SOE, Mixed (ME) and private. Employed 4 measures of profitability and 2 measures of X efficiency.	SOEs and MEs are significantly less profitable and Productive than private firms. MEs are no more profitable than SOEs. Full private ownership is required to gain efficiency.
Vining and Boardman (1992)	Estimates performance model using 1986 data from 500 largest non-financial Canadian firms including 12 SOEs and 93 MEs.	Private firms are significantly efficient and profitable than SOEs and MEs, and MEs outperform SOEs.
Ehrlich et al. (1994)	Examines impact of state ownership on long run rate of productivity growth and/or cost decline for 23 international airlines during 1973-83.	State ownership can lower long run annual rate of productivity growth by 1.6-2% and rate of unit cost by 1.7-1.9%.
Majumdar (1996)	Compares performance of SOEs, MEs & private Indian firms for 1973-89.	Private firms are significantly efficient than MEs and SOEs.
Kole and Mulherin (1997)	Tests whether post-war performance of 17 firms partly owned by the US due to seizure of enemy property during WWII differs significantly from US private firms.	SOEs performance is not significantly different from private firms.
Dewenter and Malatesta (2001)	Tests whether profitability, labour intensity and debt levels of SOEs listed among the largest 500 non-US firms in 1975, 85 & 95 differ from private firms in same years.	Private firms significantly have higher profitability, less debt and less labour intensive production processes than SOEs.
La Porta et al. (2000a)	Examines whether state ownership impacts financial system development and growth rates of economy and productivity using data from 92 countries.	Extensive state ownership retards financial system development and restricts economic growth rates mostly due to impact on productivity.
Karpoff (2001)	Examines 35 government financed and 57 privately funded expeditions to the Arctic from 1819-1909.	Private expeditions' performance was better using different measures. More major discoveries were made by private expeditions, most tragedies occurred in government funded ones.
Case Studies, Country & Industry Specific Studies in Non-Transition Countries		
Martin and Parker (1995)	Examines whether the performance of 11 UK firms privatized in 1981-88 has improved after divesture.	Performance improved in less than half while many firms' performance improved before indicating an initial shake-out effect.
Boles de Boer and	Examines the impact of 1987 deregulation and 1990 privatization of Telecom New	Significant declines in prices of phone services due to productivity growth and

Evans (1996)	Zealand on price and quality telephone services and whether investors benefited.	improvement in services levels. Shareholders benefited significantly.
Ramamurti (1997)	Examines whether productivity, employment and need for operating subsidies are influenced by privatization of an Argentinean national railroad in 1990.	370% improvement in labour productivity and 78.7% decline in employment. Expansion, improvement and lower cost of services and largely eliminating the need for operating subsidies.
Newberry and Pollitt (1997)	Compares the performance of privatized firms to counterfactual situation of the 1990 restructuring and privatization.	Permanent cost reduction of 5% a year. Producers and shareholders benefit the most while consumers and the government lose.
Ros (1999)	Examines the effects of privatization and competition on network expansion and efficiency in 110 countries over 1986-95 using panel data regression analysis.	50% private ownership and above is significantly associated with higher teledensity and growth rates. Privatization increases efficiency and network expansion.
La Porta and Lopez-de-Silanes (1999)	Tests whether performance of 218 Mexican SOEs privatized through 1992 improves after privatization. Compares performance with industry matched firms and splits improvements between industry and firm specific influences.	Output of privatized firms increased 54.3%; employment declined by half; firms achieved 24% point increase in profitability, eliminating the need for subsidies of 12.7% of GDP, and higher product prices.
Wallsten (2000a)	Explores the impact of privatization, competition and regulation on telecommunications performance in 30 African and Latin American countries in 1984-97 using panel datasets.	Privatization is helpful when coupled with effective, independent regulation and when privatization is coupled with competition the outcome is the best.
Boylaud and Nicoletti (2000)	Investigates the effect of liberalisation and privatization on productivity, prices and quality of long distance and cellular telephone services in 23 OECD countries over 1991-97.	Competition brought about productivity and quality improvement and lower prices in telecom services but no clear effect of privatization.
Studies Examining Performance Changes for Firms Privatized Via Public Share Offering in Non-Transition Countries		
Megginson et al. (MNR) (1994)	Compares 3-year average post privatization performance ratios to 3-year pre-privatization values for 61 firms from 18 countries and 32 industries from 1961-89. Tests significance of median changes in post versus pre-privatization periods.	Significant post-privatization increases in output, operating efficiency, profitability, capital investment spending, and dividend payment. Documents significant decrease in leverage.
Boubakri and Cosset (1998)	Compares 3-year average post privatization performance ratios to 3-year pre-privatization values for 79 firms from 21 developing countries following MNR methodology.	Similar results to MNR except that performance improvements were larger than in MNR.
Boubakri and Cosset (1999)	Examines pre versus post privatization performance of 16 African firms through public share offering during 1989-96.	Significant increased capital spending by privatized firms but insignificant changes in profitability, efficiency, output and leverage.
D'Souza et al. (2000)	Examines pre versus post privatization performance changes for 17 national telecom companies privatized through share offerings during 1981-94.	Significant increases in profitability, output, operating efficiency, capital spending, number of access lines and average salary per employee after privatization.
Dewenter and Malatesta (2001)	Compares pre versus post privatization performance of 63 large companies over 1981-94 over short term and long term horizons.	Significant increases in profitability and decreases in leverage over the short and long term horizons.
Boardman	Compares 3 year average post privatization	Profitability doubles, and efficiency, sales

et al. (2000)	performance ratios to 5 year average pre privatization ratios for 9 Canadian firms during 1988-95 and computes long-run stock returns for divested firms.	and capital spending increase significantly while leverage and employment decrease significantly. Privatized firms outperform the Canadian stock market over all long term holding periods.
Boubakri et al. (2005)	Investigated the role of ownership and investor protection in post-privatization corporate governance by Analysing the performance of 170 newly privatized firms within 26 emerging countries privatized during the period 1980-97.	Found that governments relinquish ownership mainly to local institutions and foreign investors. Reports a positive significant association between the resulting private ownership and firms' performance.

Summary of Empirical Studies of Privatization in Transition Economies: Central and Eastern Europe

Claessens et al. (1997)	Examines determinants of performance improvement for 706 Czech firms during 1992-95. Using Tobin-Q, tests whether concentrated ownership improves Q more than dispersed ownership.	The more concentrated the post privatization ownership the more profitable and the more its market valuation.
Smith et al. (1997)	Examines the impact of foreign and employee ownership on firms using a sample of 22,735 firm-years of data drawn from period of "spontaneous privatization" in Slovenia 1989-92.	Percentage point increase in foreign ownership is associated with a 3.9% increase in value added, and for employee ownership with a 1.4% increase.
Weiss and Nikitin (1998)	Assesses the effect of changes in ownership on changes in performance of 125 privatized Czech firms during 1992-95 using robust estimation techniques and OLS.	Ownership concentration and composition jointly affect performance. Finds that concentration in the hands of large share holders significantly improves performance.
Claessens and Djankov (1999)	Examines the relation between ownership concentration and performance for 706 privatized Czech firms during 1992-97.	Finds that concentrated ownership is associated with higher performance and that foreign owners and investment funds improve performance more than bank sponsored funds.
Frydman et al. (2000)	Examines whether the imposition of hard budget constraints is alone sufficient to improve performance in the Czech Republic, Hungary and Poland using a sample of 216 firms.	Privatization added ten percent points to the revenue growth of a firm sold to outside owners.
Lizal et al. (2001)	Examines the performance effects of the wave of break ups of Czechoslovak SOEs on the subsequent performance of the master firm and the spin offs using data from 373 firms in 1991, and 262 in 92.	Immediate significant positive effect on profitability and efficiency of small and medium firms and negative for the larger firms in 1991. The results for 1992 are similar but not significant.

Summary of Empirical Studies of Privatization in Transition Economies: Russia & Former Soviet Republics

Barberis et al. (1996)	Surveys 452 Russian shops sold in early 1990s to measure the importance of alternative channels through which privatization promotes restructuring.	New owners and managers raise the value increasing restructuring. Finds that equity incentives don't improve performance instead there is a need for human capital to achieve transformation.
Earle and Estrin (1998)	Examines whether privatization, competition and hardening budget constraints improves efficiency by Russian firms.	10% point increase in private ownership raises real sales per employee by 3-5%. The impact of subsidies on the reduction of restructuring in SOEs is small and insignificant.

Djankov (1999a)	Investigates relation between ownership structure and enterprise restructuring in 960 firms privatized in 6 newly independent states between 95-97using survey data collected from the World Bank in 1997 from Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia and Ukraine.	Foreign ownership is positively associated with enterprise restructuring at high ownership levels while managerial ownership is positively related with enterprise restructuring at low and high levels but negatively related at intermediate levels.
Djankov (1999b)	Studies effects of different privatization modes on restructuring process in Georgia (92 firms by voucher privatization) and Moldova (149 firms) mostly acquired by investment funds while some was sold to management.	Privatization through management buy-outs is significantly associated with enterprise restructuring, while voucher privatized firms do not restructure more rapidly than SOEs.

Source: Megginson and Netter (2001)

Table A.2 Completed Privatization Transactions in Jordan

Company name	Privatization Procedure	Buyer/Tenet/ Operator	Proceeds (USD millions)		Date
Jordan Cement Factories Company/ JCFC	Partial sale of 33%	Lafarge	102	Total of 112	1998
	Block sale of 14.3%	Social Security Corporation	10		2000
Jordan Telecommunications	Sale of 40%	Consortium: France Telecom/Arab Bank	508	Total of 708.2	2000
	Sale of 8%	Social Security Corporation	114		2000
	Sale of 1%	Provident fund of the JIC			2000
	10.5% IPO	Local & regional investors	86.2		2002
Public Transport	Franchising	Three local investors	Annual fee: .7 in total		1999
Greater Amman Water	4 year management contract	Lema/French-Local joint venture	Annual fee: 2.2		1999
Ma'in Spa Complex	30 year Lease & Investment	French Accor & a local investor	-		1999
Airports Duty Free Shops	Sale for 12 years	Spanish Aldeasa Company	60.1, annual .5 & 8% of gross sales		2000
Jordan Flight Catering Ltd	80% Sale of shares	British Alpha Company	20.02 annual payment of 8% of annual sales		2001
Royal Jordanian Air Academy	Total sale	Local investors	5.8		2003
Arab Potash Company	26% of shares sold	Canadian PCS	173		2003
Assamra Water Treatment Plant	BOT	American-French consortium	-		2002
Aqaba Port/ Container Terminal	Management contract	Danish AP Moller Finance SA	-		2004
JIC Portfolio selling a number of enterprises with total proceeds of $152 as follows					**Date**
Jordan Himmeh Mineral	Invitation for Expressions of Interest				1997
Vegetable Oil Factories	Invitation for Expressions of Interest				1997
The Arab Pharmaceutical Manufacturing	Direct Sale through Amman Stock Exchange				1997
Jordan Industries and Matches	Direct Sale through Amman Stock Exchange				1997
Intermediate Petrochemicals Industries	Direct Sale through Amman Stock Exchange				1997
Jordan Sulpho-Chemicals	Direct Sale through Amman Stock Exchange				1997
Arab Investment and International Trade	Direct Sale through Amman Stock Exchange				1997
National Chlorine Industries	Direct Sale through Amman Stock Exchange				1997
Jordan New Cable	Direct Sale through Amman Stock Exchange				1997
National Multi Engineering Industries	Direct Sale through Amman Stock Exchange				1997
El-Zay Ready Wear Manufacturing	Direct Sale through Amman Stock Exchange				1997
Arab Food & Medical Appliances	Direct Sale through Amman Stock Exchange				1997

Jordan Tobacco & Cigarette	Direct Sale through Amman Stock Exchange	1997
Jordan Rock Wool Industries	Direct Sale through Amman Stock Exchange	1997
Jerusalem Insurance	Direct Sale through Amman Stock Exchange	1997
Jordan National Bank	Direct Sale through Amman Stock Exchange	1997
Jordan Kuwait Bank	Direct Sale through Amman Stock Exchange	1997
Jordan Electric Power	Direct Sale through Amman Stock Exchange	1997
Irbid District Electricity	Direct Sale through Amman Stock Exchange	1997
Universal Modern Industries	Direct Sale through Amman Stock Exchange	1997
Arab Jordan Investment Bank	Direct Sale through Amman Stock Exchange	1997
Jordan Tanning	Invitation for Expressions of Interest	1999
Jordan Worsted Mills	Invitation for Expressions of Interest	1999
Jordan Ceramic Industries	Invitation for Expressions of Interest	1999
The Housing Bank For Trade & Finance	Invitation for Expressions of Interest	1999
Jordan Dairy	Invitation for Expressions of Interest	1999
Petra Tourism Transport	Invitation for Expressions of Interest	1999
The Industrial, Commercial & Agricultural	Invitation for Expressions of Interest	1999
Cairo-Amman Bank	Invitation for Expressions of Interest	1999
Export & Finance Bank	Invitation for Expressions of Interest	1999
Aqaba Hotels	Invitation for Expressions of Interest	2000
Jordan Dead Sea Company (JODSCO)	Sold to Arab Potash through an exchange of shares of another company (Al-Safi Salt)	2000
Arab International Hotels	Invitation for Expressions of Interest	2000
Jordan Poultry Processing & Marketing	Invitation for Expressions of Interest	2000
Jordan Press Foundation Al Ra'I	Invitation for Expressions of Interest & through direct Sale through Amman Stock Exchange	2000 & 2001
Jordan Paper & Cardboard Factories	Invitation for Expressions of Interest	2001
Jordan Duty Free Shops	Invitation for Expressions of Interest& through direct Sale through Amman Stock Exchange	2001 & 2003
Jordan Cement Factories	Invitation for Expressions of Interest	2002
The Public Mining	Invitation for Expressions of Interest	2002
Jordan Petroleum Refinery	Invitation for Expressions of Interest	2002
Jordan National Shipping Line	Forming Technical & Directory Committees with the EPC	2002
General Maintenance	Invitation for Expressions of Interest	2003
National Textile & Plastic Industries	Direct Sale through Amman Stock Exchange	2003
Arab Potash	Forming Technical & Directory Committees with the EPC	2003

Source: The Executive Privatization Commission (EPC) 2007

Appendix B

Table B.1 Disclosure Studies in Developed Countries

Study	Country	Year	No. of firms	Disclosure index	Research Design	Findings
Studies Investigating Disclosure Levels (The Generalist Approach)						
Cerf (1961)	USA	1956-1957	527	31	Class means	Size, number of stockholders, and profitability are positively associated with disclosure
Copeland and Fredericks (1968)	USA	1964	200	Six specific indices	Rank correlations	A positive relationship between materiality and disclosure exists. This relationship, however, is statistically insignificant.
Singhvi and Desai (1971)	USA	1965-1966	155	34	Regression	Assets size, number of shareholders, rate of return, earnings margin, listing status and size of the company's CPA firms are positively associated with disclosure
Buzby (1975)	USA	1971	44 NYSE and AMEX firms plus 44 OTC firms	39 weighted items	Two matched samples, Univariate tests	A positive relation between disclosure in annual reports and the size of company assets exists. Disclosure and listing status are not related.
Stanga (1976)	USA	31/10/1972 to 30/ 9/ 1973	80 of the *Fortune* 1,000 firms'	79 weighted items	Disclosure scores and frequencies of disclosed items	Firm size, among large industrial firms, was not an important factor in explaining disclosure, while the industrial sector of the sample firms was related to the extent of disclosure.
Belkaoui and Kahl (1978)	Canada	1976	200 non-financial firms	30 weighted items based on a questionnaire	Kendall rank correlation, ANOVA	Size, industry type and liquidity were positively, associated with disclosure adequacy
Amernic and Maiocco (1981)	Canada	1967 1972 1977	60	42 weighted items, based on literature and judgment.	Differences in disclosure scores, ANOVA	Significant and consistent increases in the mean disclosure score over the period examined. They also found that cross listing in the U.S. and the type of industry were related to disclosure.
Craswell and Taylor (1992)	Australia	1984	98 Australian oil and gas companies	-	Univariate and multivariate tests	High-quality auditors could create pressure on the clients to provide comprehensive disclosure
Raffournier (1995)	Switzerland	1991	161 listed firms	Unweighted index of 30 items	Regression Analysis	Size and internationality were significantly associated with disclosure.

Studies investigating disclosure levels (mandatory and voluntary)

Cooke (1989a)	Sweden	1985	90	Unweighted disclosure index of 224 items	Multiple regression using step-wise	Size and listing status were significantly associated with disclosure.
Wallace et al. (1994)	Spain	1991	50	An unweighted disclosure index of 16 mandatory and 63 voluntary items	OLS and Ranked regression	Size, listing status and liquidity had a significant association with disclosure
Inchausti (1997)	Spain	Three years 1989-1991	49	Weighted disclosure index of 50 mandatory and 20 voluntary item	Stepwise Regression and panel data analyses	Significant association between disclosure and size, auditor type, stock exchange and profitability

Studies examining voluntary disclosure

Firth (1979)	UK	1976	180	Weighted disclosure index of 48 items based on questionnaire	Standard t-test, Wilcoxon matched pairs and Kendall's rank correlation	Size and listing status were significantly associated with voluntary disclosure
McNally et al. (1982)	New Zealand	1979	103	Weighted disclosure index 41 items based on literature, recent annual reports, and pilot-test by stockbrokers	Univariate tests	Size was the only factor to be significantly related to voluntary disclosure.
Firth (1984)	UK	1977	100 manufacturing firms (40 non-listed and 100 listed)	Weighted disclosure index of 48 items based on literature and a questionnaire (120 financial analysts).	Regression Analysis	No significant association between the amount of voluntary disclosure and the level of stock market risk
Cooke (1989b)	Sweden	1985	90	146 unweighted items, based on institutional recommendations, literature, and practicing accountants	Multiple regression using step-wise	Listing status and size were major explanatory variables for voluntary disclosure. In addition, firms categorized as "trading" disclosed information less voluntarily than did firms in other industries.
Lang and Lundholm (1993)	USA	1985-1989	751	Scores prepared by financial analyst	OLS and rank regression	Higher voluntary disclosure associated with better performing firms, large size firms and firms that issue securities
Hossain et al. (1995)	New Zealand	1991	55	Unweighted disclosure index of 95 items	Multivariate OLS	Size, leverage and listing status were significantly associated with voluntary disclosure
Depoers (2000)	France	1995	102	Unweighted disclosure index of 65 items	Multivariate linear regression (OLS), stepwise procedure	Foreign activity and size were the only variables to relate significantly with voluntary disclosure.

Table B.2 Disclosure Studies in Developing Countries

Study	Country	Year	No. Of firms	Disclosure index	Research Design	Findings
Studies Investigating Disclosure Levels (The Generalist Approach)						
Singhvi (1968)	India	1964/65	45	34 weighted items	Chi-square test	Size, management and number of stockholders were associated with disclosure
Cooke (1992)	Japan	1988	35	Relatively unweighted disclosure index of 165 items (including both mandatory and voluntary items).	Linear regression	Size was the most important variable to relate to disclosure. He also found that manufacturing corporations disclose significantly more information than other types of corporations.
Ahmed (1996)	Bangladesh	1988 - 1993	118	150 unweighted items mandatory and voluntary	Regression: logarithm of the odds ratio	Disclosures were significantly associated with audit firm, size and multi-nationality
Patton and Zelenka (1997)	Czech Republic	1993	50	A disclosure index constructed of three levels encompassing 37,12,17 items	Univariate and multivariate tests (regression)	Type of auditor and number of employees were significantly related with disclosure levels.
Marston and Robson (1997)	India	1983 - 1990	29	17 items (Barrett 1976)	Wilcoxon matched pairs	Size was significantly associated with mandatory and voluntary disclosures. Disclosure increased over time as a result of increased regulatory requirements.
Naser (1998)	Jordan	1994	84 non-financial	74 items	OLS regression and ranked OLS regression	Size, profitability and leverage were the main criteria explaining differences in the comprehensiveness of disclosure
Juhmani (2000)	Jordan	1997	40 non-financial	33 unweighted items	OLS regression model	Earnings (return on equity) significantly associated with disclosure
Naser et al. (2002)	Jordan	1998	132	86 unweighted items	Regression analysis	Size, audit firm size, gearing, profitability, and liquidity were significantly associated with depth of disclosure.
Mandatory Disclosure Studies						
Tai et al. (1990)	Hong Kong	1987	76	11 unweighted mandatory items	Univariate test	Non-compliance average rate of 22%, and size had a significant negative association with non-compliance.
Ahmed and Nicholls (1994)	Bangladesh	1988	63	94 relatively unweighted items	Univariate and multivariate tests (regression)	Multi-nationality, the size of the audit firm and to a lesser extent accountant's qualifications were significantly associated with mandatory disclosure.

Wallace and Naser (1995)	Hong Kong	1988-1992.	85 listed firms	A mandatory disclosure index of 142 unweighted items	Multivariate: OLS and rank OLS regression	Significant relation of mandatory disclosure and firm's book value of total assets, profit margin, type of independent auditor, and scope of business.
Owusu-Ansah (1998)	Zimbabwe	1994	47 non-financial companies	214 mandatory item	Regressions, OLS, rank OLS, and robust regression analyses	Profitability, ownership, company size, company age, and multinational affiliations were significantly associated with disclosure.
Voluntary Disclosure Studies						
Chow and Wong-Boren (1987)	Mexico	1982	52	Two disclosure indices of 24 items (one weighted and another unweighted) such that each sample firm had two scores.	Multivariate (linear regression	The extent of voluntary disclosure varied widely across Mexican firms, and that firm size was significantly associated with the extent of disclosure.
Hossain et al. (1994)	Malaysia	1991	67	78 relatively unweighted	Univariate Multivariate (OLS)	Size, ownership and listing status were significantly associated with voluntary disclosure.
Naser and Al-Khatib (2000)	Jordan	1996/1997	84 non-financial	Unweighted index of 30 items	Multiple regression	Size, profitability and leverage and government ownership were positively associated with disclosure, while individual ownership was negatively associated with disclosure.
Ferguson et al. (2002)	Hong Kong	1996	142	Unweighted disclosure index of 93 items	Univariate and multivariate linear regression	Firm type and leverage were significantly associated with disclosure.
Alsaeed (2005)	Saudi Arabia	2002-2003	40	20 unweighted items	Multiple linear regression analysis OLS	Firm size is significantly associated with voluntary disclosure

Table B.3 Comparative Disclosure Studies

Study	No. of Countries	Year	No. Of firms	Disclosure index	Research Design	Findings
Choi (1973)	Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden and Switzerland	Five-year period prior to July 1971	72 European firms	36 weighted and unweighted items	Matched pairs	Disclosure levels of Eurobond participants increased compared to non-Eurobond issuers.
Barrett (1976)	US (15), Japan (15), UK (15), France (15), Germany (15), Sweden (15), and the Netherlands (13)	Ten year period from 1963 to 1972	103 firms	17 weighted and unweighted items index based on literature and judgement.	Comparison of disclosure indices and subindices	Steady improvement in the overall level of corporate disclosure for firms during the period. British and American firms have shown significantly higher level of disclosure than any of the other five countries.
Belkaoui (1983)	55 countries	1979 Price Water-house data	-	267 techniques and principles	Regression models	No support for the hypotheses that political, economic and demographic environments affect the adequacy of disclosure.
Meek and Gray (1989)	Sweden, Netherlands, Germany & France	1985	28	10 voluntary items	Comparison of disclosure indices items	Companies have substantially exceeded exchange requirements through a wide range of voluntary disclosures.
Adhikari and Tondkar (1992)	35	1984-1986 1986-1988	-	44 items (weighted & unweighted)	Multiple regression	Equity market factors were significantly associated with levels of disclosure requirements.
Gray et al. (1995)	US, UK & Continental European countries	1989	116 U.S., 64 U.K., and 100 continental European	128 items, based on an analysis of international trends, actual reporting practices, and literature	ANOVA	Significant difference in Voluntary financial disclosure between internationally-listed and domestically-listed firms.
Meek et al. (1995)	5 countries; the US, UK, France, Germany and the Netherlands.	1989	116, 64, 16, 12, 18 respectively	Unweighted index of 85 items from strategic financial and non-financial information	Regression Analysis	Size, the country of the origin, and listing status were significantly related to voluntary disclosures.
Zarzeski (1996)	Seven industrialized countries: France, Germany, Hong Kong, Japan, Norway, UK, and the US.	For the years 1991, 1992 and 1993	256	Investor oriented disclosure index based on Adhikari & Tondkar (1992)	Univariate and Multivariate tests (OLS)	Disclosure levels were influenced significantly by level of foreign sales, debt to equity ratios, size, and cultural values.

Diga (1996)	5 countries comprising Asean	1993	145	40 unweighted items index	Univariate and Multivariate tests (multiple regression)	Size, type of industry, ownership type (foreign versus domestic), and country of origin significantly related to disclosure.
Williams (1999)	7 Asia Pacific nations	1995	356	Content analysis (number of sentences	3 linear regressions	Culture (uncertainty avoidance and masculinity); political and civil systems were significantly associated with voluntary disclosure.
Tan and Tower (1999)	Australian and Singaporean firms	1995-1996	186 half yearly reports	-	ANOVA, t-test, logistic & multiple regressions	Singaporean firms had significantly higher compliance levels than their Australian counterparts.
Jaggi and Low (2000)	28 countries	1991	503 firms	Relative unweighted disclosure index developed on CIFAR	Univariate, multivariate (6 regression models)	Higher disclosure was associated with firms from common law countries and multinational companies.
Camfferman and Cooke (2002)	2 countries (UK & Dutch firms)	1996	322 (161 from each country)	93 items based on the EU directives	Mann-Whitney, t-tests and regression analysis (van der Waerden approach)	Disclosure by U.K. companies was significantly greater than disclosure by Dutch companies. Size was the only significant variable in both countries.
Archambault and Archambault (2003)	33	1992-1993	621	85 unweighted items	Multivariate (linear regression)	Disclosure was influenced by culture, national systems, and corporate systems.
Ali et al. (2004)	3 countries Bangladesh, India & Pakistan	1998	566	131 mandatory items	OLS regression	Company size, profitability, and multi-nationality were significantly associated with mandatory disclosure.
Cahan, Rahman and Perera (2005)	17	1998-1999	216	Botosan (1997) index	OLS regression	Global diversification, number of analysts and size significantly influenced voluntary disclosure.

Table B.4 Corporate Governance Studies

Study	Country	Year	No. of firms	Disclosure index	Research Design	Findings
Developed Countries						
Forker (1992)	UK	1988-1989	182 UK quoted companies (the largest 97 and smallest 85).	Six discrete mutually exclusive disclosure classes	Univariate, bivariate (Chi square) and multivariate probit models	Administrative costs of disclosure and dominant personalities adversely influenced disclosure quality. A weak association between the quality of disclosure and the existence of audit committees and non-executive directors.
Malone et al. (1993)	US	1986	125 firms in the gas and oil industry	Weighted disclosure index of 129 items by surveying all gas and oil financial analysts	A regression model developed by backward elimination and multiple regression	Disclosure was significantly associated with listing status, ratio of debt to total equity and number of shareholders.
Mckinnon and Dalimunthe (1993)	Australia	1984 prior to AAS16 Financial Reporting by Segments	65 listed diversified Australian firms	1 for disclosure of segment information and 0 for no disclosure	Univariate and multivariate (simple probit) analysis	Disclosure was significantly associated with ownership structure, size, industry membership and the level of minority interest in subsidiaries.
Schadewitz and Blevins (1998)	Finland	1985 to 1993	573 interim reports of listed firms on Helsinki Stock Exchange	256 items	The regression specification error test, a linear regression model, and a back ward elimination approach of OLS	Disclosure was directly related to the quantitative measures of business risk, capital structure, size, market maturity, and was inversely related to institutional concentration of ownership.
Bujaki and McConomy (2002)	Canada	1997	272	25 corporate governance items	Linear regression	Unrelated directors, leverage, and size were related to extent of disclosure.
Developing Countries						
Hossain et al. (1994)	Malaysia	1991	67	78 relatively unweighted	Univariate and multivariate (OLS)	Size, listing status, and ownership structure were significantly associated with voluntary disclosure.
Chen and Jaggi (2000)	Hong Kong	1993-1994	87	142 unweighted items	OLS regression	Mandatory disclosure was positively associated with the proportion of INDs on corporate boards. This association was weaker for family controlled firms.
Ho and Wong	Hong Kong	1998	98	20 weighted items	Multivariate (regression	Voluntary disclosure was positively associated

(2001)					model)	with presence of audit committees and negatively associated with the presence of family members on corporate boards.
Haniffa and Cooke (2002)	Malaysia	1995	167	65 unweighted items	An extension of the Rank Regression method (Van der Waerden method)	Voluntary disclosure is negatively significant related to the existence of dominant personalities and the percentage of family members on the board and positively significant with the presence of a certain race as directors on the board (the bumiputra).
Chau and Gray (2002)	Hong Kong Singapore	1997	62	103 unweighted items	Linear regression	Extent of outside owners was positively associated with voluntary disclosure, while the control of families or insiders lowered the level of disclosure.
Eng and Mak (2003)	Singapore	1995	158	84 items encompassing strategic, non-financial and financial information	OLS regression	Lower managerial ownership and significant government ownership were associated with increased voluntary disclosure. Also, increased presence of outside directors reduced voluntary disclosures.
Gul and Leung (2004)	Hong Kong	1996	385	44 items	Two Stage Ordinary Least Squares (2SLS)	CEO duality and higher proportions of outside directors (ENED) were associated with lower voluntary disclosure.

Table B.5 IAS/IFRS Disclosure Studies

Study	Country	Year	No of Firms	Disclosure Index	Research Design	Findings
Evans and Taylor (1982)	France, Japan, UK, USA, and West Germany	1975-80	9-10 firms from each company	IAS2, IAS3, IAS4, IAS 6, IAS 7	Comparing percentage of compliance with each IAS	They concluded that IASs had little impact on accounting practices of the surveyed countries.
McKinnon and Janell (1984)	Sixty-four countries using the Price Waterhouse (PW) data	1979	-	Three IAS topics divided into 267 practices	Descriptive analysis	Reached the same conclusion as in Evans and Taylor (1982).
Doupnik and Taylor (1985)	16 countries using the Price Waterhouse (PW) data	1979 to 1983	-	IAS 1-8	Non-parametric tests	English-speaking countries showed higher conformity than the German-speaking and Southern European countries and that EU members complied more than non-member countries.
Nobes (1990)	US	1985	200 US listed firms	Three IAS standards	Simple ratios	The author found that most of the sampled companies did not comply with IAS requirements.
Purvis et al. (1991)	54 countries	1988 IASC survey data	-	26 IASs	Spearman's correlation, Cluster analysis	Compliance varied substantially between countries with an average of 76.3 percent. It also indicated that compliance with earlier standards was higher.
Al-Basteki (1996)	Bahrain	1991	26 firms	IASs	Univariate tests	15 companies adopted IASs based on the statements of the auditors' reports.
Street et al. (1999)	12 countries.	1996	49 firms	Ten IASs	-	20 out of the 49 complied fully with the ten IASs, and that non-compliance with IASs was significant.
Owusu-Ansah (2000)	Zimbabwe	1994	49 non-financial firms	214 items based on IASs including 22 IASs from 2-30	Comparison of actual disclosure with mandatory disclosure requirements	High level of compliance with respect to IAS 2,4,7,8,19 and full compliance with IAS 18. Low level of non-compliance with a rate of 52.6%.
Chamisa (2000)	Zimbabwe	1975-80-85-90	4 annual reports for each of 40 firms	46 requirements of IASs 1 to 22	Comparing rates of compliance with IASs between the four years	Listed companies in Zimbabwe voluntarily and significantly complied with certain provisions of IASs.
Joshi and Ramadhan (2002)	Bahrain	1999	36 firms	-	Questionnaire about degree of IASs adoption	86% adopted IASs. Full application to IAS 4 & 13, higher adoption to IAS 2 & 5, and moderate to IAS 7, 16, 18, 24, 10, 19.
Studies examining determinants of compliance/non-compliance						
Solas (1994)	Jordan	1988	45	IAS 1 and IAS 5 (31 items)	Univariate tests (Pearson independence	Compliance levels 46.35%. None of the variables tested were associated with disclosure.

					test)	
Dumontier and Raffournier (1998)	Switzerland	1994	133 listed firms	Three models to measure compliance with IASs, compare it with compliance with the EU directives and measuring compliance with EU directives only	Univariate and multivariate analyses (logistic regressions)	Size, internationality, listing status, auditor type and ownership diffusion were positively significantly related with IASs voluntary disclosure.
El-Gazzar (1999)	-	-	87 multinatio-nal firms	Compared their sample with control one from a group of firms not complying with IASs.	Wilcoxon test and Logit regression model	Firms voluntarily complied with IASs so as to enhance their exposure to foreign markets, improve customer recognition, secure foreign capital and reduce potential costs of operation abroad.
Murphy (1999)	Switzerland	1995	22 Swiss companies	Compared sample with a control group of 22 Swiss companies that used local standards	MANOVA and stepwise Discriminant analysis	Foreign activity variables, foreign exchange listings and foreign sales were significantly associated with the level of compliance with IASs.
Tower et al. (1999)	Six countries in the Asia Pacific region Australia, Hong Kong, Malaysia, Philippines, Singapore and Thailand	1997	Sixty listed companies (ten in each country).	Twenty-six IASs; IAS 1,2,5,7-11, 13,14, 16-25,27,28, 30-33, providing 512 information items	Multivariate regression techniques	Compliance levels with IASs were relatively high with a mean of 90.68%, and the country of reporting was the major compliance determinant.
Street and Bryant (2000)	Different countries	1998	41 with US listings or filings and a matching 41 companies with no US listing or filing	IASs extant in 1998 except IASs 11,15, 26 & 30	Stepwise regression and OLS	Overall level of disclosure of companies with US listings is greater than those with no US listings. Greater disclosure was associated with an accounting policies footnote and an audit opinion stating that ISAs were followed when the audit was conducted.
Street and Gray (2001)	Different countries	1999	279	IASs 2, 4, 8, 12, 14, 16, 17,19, 21, 22, 23, 29, 32, 33	Stepwise regression and OLS	Compliance with IASs was positively associated with having non-regional listings; that referred to the use of IASs; and the audit by a big 5+2 firm. Disclosure was significantly associated with country of domicile, and companies in the transportation, communications and electronics industries had

						disclosure compliance with IASs.
Abd-Elsalam and Weetman (2002)	Egypt	1996	72	IAS extant in 1996	Multivariate analysis using 'stepwise' and 'enter'	The extent of compliance with relatively less familiar aspects of IASs was related to the type of audit firm and to the presence of a specific statement of compliance. On the other hand, a lower degree of compliance with IASs disclosure was observed consistently across a range of company characteristics namely, legal form, size, profitability, share trading, type of business, type of audit firm, gearing, IAS compliance note and ISA compliance note.
Glaum and Street (2003)	Germany	2000	100 firms using IASs and 100 using GAAP listed on Germany's New Market	IASs & US GAAP	Multiple regression	The average compliance level with IASs was lower than that with US GAAP, and that the overall level of compliance was positively associated with size of the audit firm, audit report (referring to the use of ISA or US GAAP), choice between IASs or US GAAP, and listing status.
Susilowati et al. (2005)	Indonesia & Australia	Year ending 31 December 2001	30 top non-financial Indonesian companies and the 30 top non-financial Australian companies	440 items based on IFRSs	Regression analysis.	Australian firms were more transparent than their Indonesian counterparts. The presence of independent directors and a big five auditing firm were significantly associated with voluntary disclosure in both countries. The presence of an audit committee encouraged compliance with domestic accounting standards.

Appendix C

Table C.1 List of the companies included in the sample

1. Jordan electric power	41. Jordan investment & tourism transport.
2. Arab international hotels	42. Al Dawlia for hotels & malls
3. Irbid district electricity	43. United Arab investors
4. Jordan national shipping line	44. Jordan central holding
5. Jordan press foundation (Al Ra'I)	45. Specialized investment compounds
6. Jordan himmeh mineral	46. Union land development
7. Jordan express tourist transport	47. Arab east investment
8. Jordan poultry processing & marketing	48. Real estate development
9. Jordan dairy	49. Arabian steel pipes
10. Public mining	50. Arab aluminium industry
11. Arab pharmaceutical manufacturing	51. Arab chemical detergents industries
12. Industrial, Commercial, Agricultural	52. National steel industry
13. Jordan paper & cardboard factories	53. Dar Al dawa development & Investment
14. Jordan phosphate mines	54. The Jordan pipes manufacturing
15. Jordan ceramic industries	55. Jordan chemical industries
16. Jordan tanning	56. Universal chemical industries
17. Jordan industries & matches (JIMCO)	57. General investment
18. Jordan sulpho-chemicals	58. Woollen industries
19. Jordan cement factories	59. Jordan wood industries
20. Jordan rock wool industries	60. National cable & wire manufacturing
21. Universal modern industries	61. International tobacco & cigarettes
22. National chlorine industries	62. Jordan industrial resources
23. Jordan new cable	63. Arab engineering industries
24. El-Zay ready wear manufacturing	64. Union chemical & vegetable oil
25. Jordan petroleum refinery	65. Jordan steel
26. Arab potash	66. Arab electrical industries
27. Jordan hotels and tourism	67. Middle east pharmaceutical & chemical industries
28. Vehicles owners federation	68. Union tobacco & cigarette industries
29. Real estate investment (AQARCO)	69. International textile manufacturing
30. Jordan expatriates investment holing	70. Arab international food factories
31. Ad Dustor	71. National poultry slaughter houses
32. Arab International for Investment & Education	72. International ceramic industries
33. Al- Zarqa for education & Investment	73. Pearl sanitary paper converting
34. Al Ahlia commercial centres	74. Middle east complex for engineering
35. Unified for organization land transport	75. National aluminium industrial
36. Zara Investment	76. Al Ekbal printing & packaging
37. Arab financial Investment	77. Modern food industries & vegetable oil
38. Specialized investment Jordanian	78. Nutri dar
39. International for medical investment	79. Union advanced industries
40. Specialized trading & investment	80. National petroleum

Table C.2 Items in the voluntary disclosure categories

1. General Corporate Information
Summary of company major issues on first page
Commentary about the mother company
Brief history of the company
Description about plants/warehouses
Pictures of plants/machines
Detailed description of projects and spending to protect the environment
Pictures of company contribution to environment
Company detailed projects serving the community
Glossary of technical terms used in annual report
Advertising and publicity information
Information about regional political stability
Detailed information about affiliated companies
Company projects in compliance with international regulations
2. Strategic information
Information about the general outlook of the economy
Tables and graphics illustrating the outlook of the economy >3 years
Statement of corporate strategy- general
Likely effect of business strategy on present performance
Likely effect of new developments on future performance
Likely effect of strategy on share prices
Significant events affecting company strategies
Tables and graphics illustrating growth in the industry in the past 5 years
Statement of strategy - financial
Statement of strategy - marketing
Detailed discussion of marketing activities and changes in marketing prices (graphs)
Detailed capital expenditures
3. Information about directors
Picture of chairman only
Picture of general manager
Pictures of all directors
Comments/pictures of visitors to company premises
General manager speech
Board and committees meetings and discussions within the meetings
Detailed organizational structure for individual departments within company
4. Capital Market Data
Volume of shares traded (5 years trend)
Number of contracts/shares turn-over ratio (5 years) supported by graphs
Information about share prices (book compared to market value) supported by graphs
Domestic & foreign shareholdings

5. Product/ service information
Discussion about competition and comparative production figures with other companies/countries
Detailed discussion of reasons for change in demand (tables and graphs)
Discussion of major types of products/services
Detailed discussion of production (services) methods (provisions)
Pictures of major types of products
Detailed discussion of company past major accomplishments and projects
Detailed discussion of company recent accomplishments (tables & graphs)
Improvement in product (service) quality supported by graphs & tables
Comparative figures showing improvements in production/services for >2 years
Comparative figures for each type of product/service (graphs)
Reasons for changes in production/services
Detailed discussion of regional and local markets illustrated by graphs
customer numbers/distributions
Customer awards/ratings received
Customer satisfaction projects
New services/products
Changes in pricing policies
6. Financial Data
comparative figures of balance sheet and profit & loss ($\geq$5 years)
Methods of calculation of financial data
profitability ratios
Operating ratios
Changes in debt/Debt ratios
Change in sales/revenues
change in sales/revenues by product (service) illustrated by tables & charts
Comparative figures for sales/revenues$\geq$5years
Comparative figures for sales/revenues according to external markets (tables & charts)
Change in selling & administrative expenses
Change in inventory
Change in capital expenditures
Sales revenue forecasts
Liquidity ratios
7. Employee information
Employee appreciation
Discussion of employees welfare
Pictures of employees welfare
Information about work place safety
Pictures of work place safety
Information about work accidents illustrated by graphs
Detailed description of employees training programs, comparison with previous years
Pictures of training sessions and training premises
Detailed description of appointing policy for different types of positions/using different methods

Changes in employees number/reasons for this change supported by graphs & tables
Breakdown of employees by: age
position
type of contract
gender
Nationality
8. Segmental Reporting
One line of business production data
All lines of business
9. Research and Development: new developments
10. Revenues paid to the government

Table C.3 Definition and measurement of independent variables

Variable	Definition	Measurement	Source of information
Ownership Variables			
STO	State Ownership	Total percentage of ordinary shares held by the state	Company Guide
GAO	Government Agencies Ownership	Total percentage of ordinary shares held by government agencies	Company Guide
FOW	Foreign Ownership	Total percentage of ordinary shares held by foreign investors (non-Arab)	Company Guide
Arab	Arab Ownership	Total percentage of ordinary shares held by Arab investors	Company Guide
INDOW	Individual Ownership	Total percentage of ordinary shares held by domestic individuals holding 10% or less of the shares	Company Guide
IOW	Institutional Ownership	Total percentage of ordinary shares held by institutional investors	Company Guide
Corporate Governance Variables			
PNED	Proportion of non-executive directors	Number of outside directors to the total number of directors on the board	Company annual reports and Company Guide
FAM	Family Control	Proportion of family members on the board to total number of board members	Company annual reports and Company Guide
SBoard	Size of the Board	Total number of board members	Company annual reports and Company Guide
CEO	Role Duality	Dummy variable: 1 if CEO is chairman, 0 otherwise	Company Guide
AC	Audit Committee	Dummy variable: 1 if an audit committee is present, 0 otherwise	Company annual reports
Control Variables			
Asset	Total assets	Total Assets	Company Guide
MC	Market capitalization	Market value of company ordinary shares	Company Guide
NS	Net Sales	Net sales/ revenues	Company Guide
LEV	Leverage	Ratio of total liabilities to	Company Guide

		shareholders' equity	
LLev	Long-term Leverage	Ratio of long-term liabilities to shareholders' equity	Company Guide
GR	Gearing ratio	Total liabilities to total assets	Company Guide
LIQ	Liquidity ratio	Current ratio = ratio of current assets to current liabilities	Company Guide
PROF	Profitability	Return on equity	Company Guide
PM	Profit margin	Profit before tax/net sales	Company Guide
AUD	Size of auditor	Dummy variable: 1 if auditor is one of the Big 6 (in 1996), the Big 4 (in 2004), 0 otherwise	Company annual reports
Age	Company age	Number of years since establishment of company	Company annual reports
List	Listing status	Dummy variable: 1 if company listed on first market, 0 otherwise	Amman Stock Exchange website
Industry types	IND1: Infra-structure	1 if infra-structure, 0 otherwise	Company guide
	IND2: Manufacturing	0 default level	Company guide
	IND3: Services	1 if services, 0 otherwise	Company guide
PR	Privatized	Dummy variable: 1 if company has been privatized in 2004, 0 otherwise	The Executive Privatization Commission
Y	Year, a proxy for the changes in regulation (external governance in voluntary disclosure models and disclosure regulation in mandatory disclosure models)	Dummy variable: 1 for the 2004 annual reports, 0 for the 1996 annual reports	Company annual reports

Table C.4 Descriptive Statistics for Privatized Firms

Panel A:1996, N = 27

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.1677	0.1370	0.1079	0.0278	0.4400	1.47679	0
Ownership Variables							
STO	13.67	8.43	16.35	0.00	55.37	1.28744	0
GAO	10.88	5.14	15.23	0.00	57.80	1.93327	0
FOW	0.842	0.041	2.477	0.000	12.421	4.32220	0
Arab	7.44	3.19	9.99	0.00	35.22	1.56087	0
INDOW	39.98	40.64	23.49	0.19	88.81	-0.0481492	0.741
IOW	20.88	17.36	13.63	0.00	42.58	0.0520571	0.179
Governance Variables							
PNED	0.6157	0.6667	0.1411	0.3333	0.8333	-0.268232	0.411
FAM	0.1069	0.00	0.1284	0.00	0.3571	0.561424	0
SBoard	10.333	11.00	2.038	6.000	14.000	-0.0785045	0.391
CEO	0.2963	0.00	0.4653	0.00	1.000	-	-
AC	0.00	0.00	0.00	0.00	0.00	-	-
Control Variables							
Asset	49550511	12866879	97516930	314506	380391696	2.58617	0
MC	37351092	10100000	92336979	434863	454261500	4.06014	0
NS	37341051	6453355	98025222	0	493458976	4.22357	0
LEV	92.9	49.0	140.5	0.3	571.7	3.04508	0
LLev	15.78	2.05	24.42	0.00	95.59	1.95023	0
GR	64.42	68.27	19.92	14.89	99.70	-1.02295	0.03
LIQ	5.26	1.97	16.63	0.40	88.15	5.13100	0
PROF	3.67	8.69	19.36	-75.49	24.65	-2.82500	0
PM	9.26	9.78	42.15	-168.82	87.90	-2.77752	0
AUD	0.4815	0.00	0.5092	0.0000	1.00	0.0785584	-
Age	22.56	23.00	14.95	1.00	58.00	0.371534	0.558
List	0.8889	1.00	0.3203	0.00	1.00	-	-
IND1	0.1481	0.00	0.3620	0.00	1.00	-	-
IND2	0.00	0.00	0.00	0.00	0.00	-	-
IND3	0.2593	0.00	0.4466	0.00	1.00	-	-

Panel B:2004, N = 27

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.2635	0.2027	0.1609	0.0845	0.6494	1.43669	0
Ownership Variables							
STO	2.40	0.00	5.74	0.00	26.88	3.38455	0
GAO	11.09	5.37	15.52	0.00	60.21	2.21117	0
FOW	3.86	0.09	10.50	0.00	48.53	3.60079	0
Arab	11.11	6.53	17.14	0.00	86.79	3.55961	0
INDOW	32.20	26.62	22.05	0.14	66.20	0.138865	0.09
IOW	27.45	24.75	21.04	0.54	69.59	0.406373	0.106
Governance Variables							
PNED	0.6096	0.6429	0.1691	0.3333	0.8889	-0.208321	0.146
FAM	0.1210	0.00	0.1698	0.00	0.6000	1.27616	0
SBoard	9.556	9.00	2.375	4.00	14.000	-0.149047	0.134
CEO	0.1481	0.00	0.3620	0.00	1.0000	-	-
AC	0.6667	1.00	0.4804	0.00	1.0000	-	-
Control Variables							
Asset	56056143	14445330	98680380	1739424	368831000	2.21885	0
MC	90957860	16830000	219462845	430303	915664820	3.25864	0
NS	59311277	7064271	170531459	82319	861840893	4.35683	0
LEV	84.1	27.0	108.8	1.7	340.1	1.41813	0
LLev	14.41	0.00	22.17	0.00	74.65	1.48448	0
GR	68.19	78.77	25.60	22.72	98.32	-0.744489	0
LIQ	4.030	2.260	5.010	0.740	25.750	3.39864	0

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
PROF	6.03	7.90	15.52	−38.41	31.93	−1.08125	0.013
PM	16.11	17.52	29.38	−67.77	71.90	−0.563275	0.525
AUD	0.8148	1.00	0.3958	0.00	1.0000	−	−
Age	30.56	31.00	14.95	9.00	66.00	0.371534	0.558
List	0.5926	1.0000	0.5007	0.00	1.00	−	−
IND1	0.1481	0.00	0.362	0.00	1.00	−	−
IND2	0.00	0.00	0.00	0.00	0.00	−	−
IND3	0.2593	0.00	0.4466	0.00	1.00	1.16442	−

Panel C: 1996−2004, N = 54

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Voldis	0.2156	0.1781	0.1441	0.0278	0.6494	1.58601	0
Ownership Variables							
STO	8.04	0.28	13.40	0.00	55.37	2.06577	0
GAO	10.99	5.26	15.23	0.00	60.21	2.01598	0
FOW	2.35	0.04	7.71	0.00	48.53	4.88526	0
Arab	9.27	3.71	14.02	0.00	86.79	3.53306	0
INDOW	36.09	39.71	22.91	0.14	88.81	0.0663562	0.067
IOW	24.17	23.33	17.87	0.00	69.59	0.550029	0.07
Governance Variables							
PNED	0.6126	0.6548	0.1542	0.333	0.888889	−0.237176	0.047
FAM	0.1139	0.00	0.1493	0.00	0.60	1.09458	0
SBoard	9.944	10.00	2.227	4.000	14.0	−0.193719	0.102
CEO	0.2222	0.00	0.4196	0.00	1.00	1.37479	−
AC	0.3333	0.00	0.4758	0.00	1.00	0.727472	−
Control Variables							
Asset	52803327	13310602	97225953	314506	380391696	2.32641	0
MC	64154476	12333500	168944351	430303	915664820	4.01881	0
NS	48326164	6696483	138213283	0	861840893	4.69466	0
LEV	88.5	40.1	124.6	0.3	571.7	2.53599	0
LLev	15.09	0.82	23.11	0.00	95.59	1.71199	0
GR	66.31	71.38	22.80	14.89	99.70	−0.75617	0.001
LIQ	4.64	1.98	12.18	0.40	88.15	6.40175	0
PROF	4.85	8.23	17.42	−75.49	31.93	−2.23562	0
PM	12.68	11.55	36.15	−168.82	87.90	−2.32001	0
AUD	0.6481	1.00	0.4820	0.00	1.00	−0.638323	−
Age	26.56	26.50	15.35	1.00	66.00	0.323892	0.505
List	0.7407	1.00	0.4423	0.00	1.00	−	−
IND1	0.1481	0.00	0.3586	0.00	1.00	−	−
IND2	0.00	0.00	0.00	0.00	0.00	−	−
IND3	0.2593	0.00	0.4423	0.00	1.00	−	−
Y	0.50	0.500	0.5047	0.00	1.00	−	−

Table C.5 Descriptive statistics for the non-privatized firms

Panel A:1996, N = 53

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.1189	0.0959	0.0814	0.0192	0.4557	2.00637	0.000
Ownership Variables							
STO	4.56	0.00	17.45	0.00	99.95	4.33438	0.000
GAO	3.76	0.00	8.25	0.00	33.84	2.44173	0.000
FOW	0.872	0.000	2.594	0.00	15.000	4.38823	0.000
Arab	6.62	2.21	11.24	0.00	52.97	2.93415	0.000
INDOW	48.67	48.22	19.92	0.00	87.39	-0.361704	0.362
IOW	26.74	22.48	18.30	0.00	74.36	0.591848	0.118
Governance Variables							
PNED	0.5899	0.60	0.1911	0.00	0.9167	-0.899067	0.066
FAM	0.1859	0.20	0.1749	0.00	0.7140	0.637973	0.000
SBoard	9.509	9.00	1.793	6.00	13.00	0.264681	0.016
CEO	0.3962	0.00	0.4938	0.00	1.00	–	–
AC	0.00	0.00	0.00	0.00	0.00	–	–
Control Variables							
AUD	0.2453	0.00	0.4344	0.00	1.00	–	–
Asset	19570124	7810295	53894356	1104214	390773547	6.55941	0.000
LEV	61.5	40.3	147.7	-9.7	1088.3	6.70441	0.000
PROF	5.67	2.11	20.35	-36.95	128.48	4.13744	0.000
LIQ	18.59	1.98	69.27	0.12	399.90	4.96202	0.000
IND1	0.0566	0.00	0.2333	0.00	1.00	–	–
IND2	0.00	0.00	0.00	0.00	0.00	–	–
IND3	0.3774	0.00	0.4894	0.00	1.00	–	–
Age	9.79	3.00	11.85	1.00	47.00	1.65590	0.000
List	0.6792	1.00	0.4712	0.00	1.00	–	–
MC	13031217	6120000	22531321	1210000	154000000	5.12107	0.000
NS	9413963	1829566	34851160	0	254435320	6.93947	0.000
PM	3.01	5.37	57.43	-224.44	100.85	-1.99829	0.000
GR	71.68	69.57	18.62	8.41	99.77	-0.567905	0.175
LLev	7.30	0.00	19.65	0.00	116.21	4.12808	0.000

Panel B:2004, N = 53

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.2224	0.20	0.1203	0.0588	0.6197	1.28572	0.002
Ownership Variables							
STO	4.87	0.00	18.64	0.00	100.00	4.13531	0.000
GAO	4.24	0.26	8.70	0.00	44.28	2.91270	0.000
FOW	3.15	0.11	13.74	0.00	96.99	6.44245	0.000
Arab	7.56	2.30	12.21	0.00	52.70	2.55921	0.000
INDOW	39.91	38.89	19.03	0.00	78.64	0.07110	0.875
IOW	27.45	22.91	19.80	0.00	78.68	0.50211	0.037
Governance Variables							
PNED	0.5795	0.5714	0.2404	0.00	0.9167	-0.554115	0.058
FAM	0.2281	0.20	0.2359	0.00	1.0000	0.970169	0.000
SBoard	8.981	9.00	2.249	5.00	14.000	0.309067	0.037
CEO	0.3962	0.00	0.4938	0.00	1.0000	–	–
AC	0.7170	1.00	0.4548	0.00	1.0000	–	–
Control Variables							
AUD	0.3962	0.00	0.4938	0.00	1.0000	–	–
Asset	30372852	11089142	53646757	1401542	316319524	3.87090	0.000
LEV	73.4	32.6	166.4	0.9	1185.4	6.00032	0.000
PROF	5.96	8.19	25.78	-150.91	52.05	-4.40041	0.000
LIQ	4.85	2.24	9.62	0.03	53.88	4.28573	0.000
IND1	0.0566	0.00	0.2333	0.00	1.0000	–	–
IND2	0.00	0.00	0.00	0.00	0.00000	–	–

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
IND3	0.3774	0.00	0.4894	0.00	1.0000	–	–
Age	17.79	11.00	11.85	9.00	55.00	1.65590	0.000
List	0.7170	1.00	0.4548	0.00	1.0000	–	–
MC	29587043	11880000	44724353	700000	242250000	2.98877	0.000
NS	17033918	6492779	38959303	13945	272562165	5.70477	0.000
PM	-17.4	11.2	268.5	-1882.8	230.6	-6.70216	0.000
GR	68.62	74.60	23.34	6.23	98.16	-0.936598	0.002
LLev	7.80	0.00	14.77	0.00	66.40	2.26289	0.000

Panel C: 1996-2004, N = 106

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Voldis	0.1707	0.1388	0.1147	0.0192	0.6197	1.47690	0.000
Ownership Variables							
STO	4.71	0.00	17.97	0.00	100.00	4.17171	0.000
GAO	3.997	0.027	8.441	0.00	44.280	2.66124	0.000
FOW	2.012	0.025	9.910	0.00	96.986	8.71079	0.000
Arab	7.09	2.22	11.69	0.00	52.97	2.69438	0.000
INDOW	44.29	44.90	19.88	0.00	87.39	-0.117264	0.535
IOW	27.10	22.70	18.98	0.00	78.68	0.539256	0.003
Governance Variables							
PNED	0.5847	0.60	0.2162	0.00	0.9167	-0.688478	0.007
FAM	0.2070	0.20	0.2078	0.00	1.0000	0.964347	0.000
SBoard	9.245	9.00	2.042	5.00	14.000	0.201254	0.001
CEO	0.3962	0.00	0.4914	0.00	1.0000	–	–
AC	0.3585	0.00	0.4818	0.00	1.0000	–	–
Control Variables							
AUD	0.3208	0.00	0.4690	0.00	1.0000	–	–
Asset	24971488	8904431	53788518	1104214	390773547	5.06877	0.000
LEV	67.4	35.1	156.7	-9.7	1185.4	6.23169	0.000
PROF	5.82	5.80	23.11	-150.91	128.48	-1.58954	0.000
LIQ	11.72	2.19	49.69	0.03	399.90	6.94057	0.000
IND1	0.0566	0.00	0.2322	0.00	1.00	–	–
IND2	0.00	0.00	0.00	0.00	0.00	–	–
IND3	0.3774	0.00	0.4870	0.00	1.00	–	–
Age	13.79	10.00	12.46	1.00	55.00	1.38375	0.000
List	0.6981	1.0000	0.4613	0.00	1.00	–	–
MC	21309130	9530028	36210468	700000	242250000	3.72859	0.000
NS	13223940	4601660	36984563	0	272562165	6.09374	0.000
PM	-7.2	8.6	193.5	-1882.8	230.6	-8.86949	0.000
GR	70.15	72.67	21.07	6.23	99.77	-0.858040	0.004
LLev	7.55	0.00	17.30	0.00	116.21	3.60976	0.000
Y	0.5	0.5	0.502	0	1	–	–

Table C.6 Descriptive Statistics for the Whole Sample

Panel A: 1996, N = 80							
Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.135	0.11	0.0934	0.0192	0.4557	1.77963	0
Ownership variables							
STO	7.63	0.00	17.52	0.00	99.95	3.06652	0
GAO	6.16	0.62	11.51	0.00	57.80	2.50740	0
FOW	0.862	0.00	2.539	0.00	15.00	4.29310	0
Arab	6.90	2.22	10.78	0.00	52.97	2.53807	0
INDOW	45.74	47.33	21.44	0.00	88.81	-0.300361	0.183
IOW	24.77	22.47	17.01	0.00	74.36	0.608205	0.088
Corporate Governance							
PNED	0.5986	0.6125	0.1753	0.00	0.9167	-0.855324	0.049
FAM	0.1592	0.1818	0.1642	0.00	0.7140	0.751627	0
SBoard	9.788	10.000	1.907	6.00	14.000	0.188943	0.005
CEO	0.3625	0.00	0.4838	0.00	1.000	-	-
AC	0.00	0.00	0.00	0.00	0.00	-	-
Control Variables							
Asset	29688505	8904431	72423275	314506	390773547	4.08142	0
MC	21292817	7720000	57206353	434863	454261500	6.24080	0
NS	18852105	3727263	64327897	0	493458976	5.98274	0
LEV	72.1	43.6	145.2	-9.7	1088.3	5.43023	0
LLev	10.83	0.00	22.11	0.00	116.21	2.82103	0
GR	69.06	69.07	19.31	8.41	99.77	-0.6921	0.074
LIQ	14.09	1.98	57.35	0.12	399.90	5.93522	0
PROF	4.99	3.65	19.92	-75.49	128.48	2.06366	0
PM	3.55	6.02	51.94	-224.44	100.85	-2.23218	0
AUD	0.325	0.00	0.4713	0.00	1.00	0.761620	-
Age	14.10	8.50	14.24	1.00	58.00	1.04663	0
List	0.7500	1.00	0.4357	0.00	1.00	-1.17688	-
IND1	0.0875	0.00	0.2843	0.00	1.00	2.97576	-
IND2	0.00	0.00	0.00	0.00	0.00	-	-
IND3	0.3375	0.00	0.4758	0.00	1.00	0.700515	-
Panel B: 2004, N = 80							
Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.2363	0.2014	0.1357	0.0588	0.6494	1.45415	0
Ownership Variables							
STO	4.04	0.00	15.52	0.00	100.00	4.84771	0
GAO	6.55	1.02	11.82	0.00	60.21	2.78882	0
FOW	3.39	0.10	12.68	0.00	96.99	5.95147	0
Arab	8.76	3.68	14.06	0.00	86.79	3.22842	0
INDOW	37.31	35.48	20.30	0.00	78.64	0.0171699	0.519
IOW	27.45	24.04	20.10	0.00	78.68	0.457949	
Corporate Governance							
PNED	0.5896	0.6364	0.2183	0.00	0.9167	-0.569670	0.02
FAM	0.1919	0.1744	0.2207	0.00	1.0000	1.12877	0
SBoard	9.175	9.000	2.293	4.00	14.000	0.154328	0.016
CEO	0.3125	0.0000	0.4664	0.00	1.0000	0.824582	-
AC	0.7000	1.0000	0.4611	0.00	1.0000	-0.889640	-
Control Variables							
Asset	39040962	13293155	72447020	1401542	368831000	3.08538	0
MC	50299693	13906250	134241773	430303	915664820	5.31420	0
NS	31302527	6549134	104760374	13945	861840893	6.74853	0
LEV	77.0	30.0	148.8	0.9	1185.4	5.58625	0
LLev	10.03	0.00	17.75	0.00	74.65	1.96690	0

GR	68.48	75.18	23.96	6.23	98.32	-0.847847	0
LIQ	4.576	2.250	8.325	0.030	53.880	4.59118	0
PROF	5.99	8.11	22.73	-150.91	52.05	-4.27931	0
PM	-6.1	12.4	219.0	-1882.8	230.6	-8.17151	0
AUD	0.5375	1.00	0.5017	0.00	1.00	-0.153313	-
Age	22.10	16.50	14.24	9.00	66.0	1.04663	0
List	0.6750	1.00	0.4713	0.00	1.00	-0.761620	-
IND1	0.0875	0.00	0.2843	0.00	1.00	2.97576	-
IND2	0.00	0.00	0.00	0.00	0.00	-	-
IND3	0.3375	0.00	0.4758	0.00	1.00	0.700515	-
Privatized	0.3375	0.00	0.4758	0.00	1.00	0.700515	-

Panel C: 1996-2004, N = 160

Variable	Mean	Median	StDev	Minimum	Maximum	Skewness	Normality(P)
Vol Dis	0.1858	0.1507	0.1267	0.0192	0.6494	1.59021	0
Ownership Variables							
STO	5.84	0.00	16.60	0.00	100.00	3.75350	0
GAO	6.356	0.807	11.634	0.00	60.212	2.62928	0
FOW	2.127	0.038	9.203	0.00	96.986	8.05807	0
Arab	7.830	3.067	12.521	0.00	86.792	3.09368	0
INDOW	41.52	42.86	21.24	0.00	88.81	-0.112515	0.11
IOW	26.11	23.07	18.61	0.00	78.68	0.546976	0
Corporate Governance							
PNED	0.5941	0.6305	0.1974	0.00	0.9167	-0.686775	0.002
FAM	0.1756	0.1818	0.1946	0.00	1.0000	1.10229	0
SBoard	9.481	9.000	2.125	4.000	14.000	0.0840584	0
CEO	0.3375	0.0000	0.4743	0.0000	1.0000	0.693833	-
AC	0.3500	0.0000	0.4785	0.0000	1.0000	0.634939	-
Control Variables							
Asset	34364734	10614768	72359217	314506	390773547	3.52669	0
MC	35532076	9907500	103945166	430303	915664820	6.42052	0
NS	25077316	5558579	86878533	0	861840893	7.09381	0
LEV	74.5	36.0	146.6	-9.7	1185.4	5.45882	0
LLev	10.43	0.00	19.99	0.00	116.21	2.56107	0
GR	68.77	72.65	21.70	6.23	99.77	-0.808617	0
LIQ	9.33	2.18	41.13	0.03	399.90	8.24649	0
PROF	5.49	6.43	21.31	-150.91	128.48	-1.71171	0
PM	-1.3	9.1	158.7	-1882.8	230.6	-10.6501	0
AUD	0.4313	0.00	0.4968	0.00	1.00	0.280271	-
Age	18.10	13.00	14.75	1.00	66.00	0.923772	0
List	0.7125	1.00	0.4540	0.00	1.00	-0.947936	-
IND1	0.0875	0.00	0.2835	0.00	1.00	2.94737	-
IND2	0.00	0.00	0.00	0.00	0.00	-	-
IND3	0.3375	0.00	0.4743	0.00	1.00	0.693833	-
Y	0.500	0.50	0.5016	0.00	1.00	-	-

Table C.7 Pearson Correlation Coefficients (Rank Transformed). Panel A: Whole sample 1996: N=80

	VOLDIS rank	STO rank	GAO rank	FOW rank	Arab rank	INDOW rank	IOW rank	PNED rank	FAM rank
STO rank	0.450***								
GAO rank	0.264**	0.431***							
FOW rank	0.327***	0.056	0.258**						
Arab ran	0.055	-0.111	-0.003	0.021					
INDOW rank	-0.314***	-0.302***	-0.379***	-0.124	-0.130				
IOW rank	-0.271**	-0.358***	-0.076	0.018	0.151	-0.249**			
PNED rank	0.018	-0.050	0.049	0.089	0.181	0.076	-0.071		
FAM rank	-0.047	-0.191*	-0.350***	0.042	-0.071	0.159	0.173	-0.056	
SBoard rank	0.226**	0.215*	0.228**	0.247**	0.156	0.027	-0.164	-0.008	-0.208*
CEO	-0.181	-0.221**	-0.177	-0.203*	-0.124	0.185	0.047	-0.007	0.345***
AUD	0.309***	0.264**	0.263**	0.311***	0.091	-0.361***	0.010	0.028	-0.033
List	0.309***	0.220**	0.295***	0.172	0.028	-0.148	-0.068	-0.136	0.104
Age rank	0.435***	0.412***	0.477***	0.254**	0.182	-0.381***	-0.137	-0.106	-0.094
Asset rank	0.460***	0.186*	0.239**	0.439***	0.280**	-0.218*	-0.140	-0.110	-0.124
LEV rank	0.227**	0.089	0.180	0.105	0.063	-0.055	-0.075	-0.092	-0.120
PROF rank	0.238**	0.245**	0.282**	0.301***	0.142	-0.197*	-0.021	-0.149	0.098
LIQ rank	-0.038	0.030	0.035	-0.000	0.010	-0.214*	0.070	0.128	-0.015
IND 1	0.444***	0.417***	0.249**	0.167	-0.003	-0.309***	-0.402***	-0.106	-0.195*
IND 3	-0.195	-0.061	-0.132	-0.133	0.045	-0.089	0.218*	0.017	0.000
MC rank	0.474***	0.207*	0.313***	0.467***	0.314***	-0.312***	-0.106	0.017	-0.153
NS rank	0.449***	0.272**	0.387***	0.377***	0.159	-0.208*	-0.122	-0.046	-0.106
PM rank	0.099	0.129	0.146	0.248**	0.185	-0.107	-0.008	-0.034	0.056
GR rank	-0.181	-0.053	-0.123	-0.062	-0.072	0.025	0.044	0.143	0.099
LLev rank	0.465***	0.206*	0.229**	0.306***	0.107	-0.153	-0.120	-0.013	-0.006
PR	0.276**	0.576***	0.489***	0.121	0.074	-0.188*	-0.135	0.206*	-0.216*

	SBoard rank	CEO	AUD	list	Age rank	Asset rank	LEV rank	PROF rank
CEO	-0.204*							
AUD	0.314***	-0.190*						
List	0.076	-0.105	0.216*					
Age rank	0.175	-0.273***	0.339***	0.531***				
Asset rank	0.405***	-0.111	0.369***	0.121	0.303***			
LEV rank	0.203*	0.034	0.195*	0.066	0.270**	0.362***		
PROF rank	0.162	-0.163	0.102	0.181	0.556***	0.338***	0.072	
LIQ rank	-0.045	-0.016	-0.083	0.006	-0.130	-0.208*	-0.665***	-0.143
IND 1	0.304***	-0.234**	0.257**	0.077	0.351***	0.457***	0.304***	0.216*
IND 3	-0.068	0.122	0.013	-0.137	-0.280**	-0.107	-0.054	-0.060
MC rank	0.339***	-0.124	0.405***	0.205*	0.336***	0.879***	0.213*	0.422***
NS rank	0.291***	-0.079	0.464***	0.360***	0.614***	0.659***	0.523***	0.497***
PM rank	0.313***	-0.126	0.105	-0.067	0.237**	0.246**	-0.016	0.703***
GR rank	-0.158	-0.019	-0.161	0.020	-0.232**	-0.349***	-0.931***	-0.123
LLev rank	0.216*	-0.035	0.348***	0.054	0.305***	0.537***	0.643***	0.173
PR	0.202*	-0.098	0.238**	0.229**	0.446***	0.186*	0.199*	0.122

	LIQ rank	IND 1	IND 3	MC rank	NS rank	PM rank	GR rank	LLev rank
IND 1	-0.185							
IND 3	-0.019	-0.221**						
MC rank	-0.041	0.365***	-0.027					
NS rank	-0.338***	0.419***	-0.288***	0.632***				
PM rank	0.011	0.041	0.185	0.350***	0.196*			
GR rank	0.737***	-0.296***	0.091	-0.154	-0.482***	0.097		
LLev rank	-0.442***	0.392***	-0.026	0.391***	0.485***	0.045	-0.622***	
PR	-0.097	0.153	-0.118	0.218*	0.282**	0.039	-0.163	0.268**

Pearson Correlation Coefficients (Normal scores Transformed). Panel B: Whole sample 1996: N=80

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor	FAM nor
STO nor	0.451***								
GAO nor	0.313***	0.387***							
FOW nor	0.344***	0.006	0.228**						
Arab nor	0.058	-0.142	-0.024	-0.010					
INDOW nor	-0.315***	-0.408***	-0.390***	-0.108	-0.116				
IOW nor	-0.28**	-0.438***	-0.101	0.051	0.145	-0.181			
PNED nor	-0.116	-0.253**	0.041	-0.120	0.248**	0.339***	0.062		
FAM nor	-0.103	-0.211*	-0.364***	0.100	-0.076	0.173	0.175	-0.376***	
SBoard nor	0.266**	0.227**	0.217*	0.225**	0.128	0.011	-0.124	0.124	-0.178
CEO	-0.201*	-0.230**	-0.183	-0.179	-0.133	0.212*	0.038	0.017	0.357***
AUD	0.307***	0.281**	0.289***	0.291***	0.067	-0.361***	0.008	-0.240**	-0.017
Asset nor	0.526***	0.194*	0.249**	0.393***	0.261**	-0.234**	-0.124	-0.082	-0.078
LEV nor	0.288***	0.108	0.217*	0.130	-0.001	-0.085	-0.114	-0.022	-0.134
PROF nor	0.194*	0.202*	0.228**	0.261**	0.122	-0.170	0.004	-0.110	0.129
LIQ nor	-0.064	0.045	0.018	-0.002	0.056	-0.212*	0.092	0.074	-0.017
IND1	0.498***	0.495***	0.282**	0.161	-0.029	-0.355**	-0.423***	-0.276**	-0.190*
IND3	-0.182	-0.080	-0.116	-0.157	0.048	-0.070	0.226**	0.046	-0.009
Age nor	0.468***	0.375***	0.461***	0.265**	0.184	-0.334**	-0.155	-0.010	-0.117
List	0.260**	0.188*	0.289***	0.169	0.028	-0.122	-0.039	-0.050	0.085
MC nor	0.469***	0.171	0.286***	0.429***	0.332***	-0.298***	-0.061	-0.104	-0.095
NS nor	0.468***	0.295***	0.388***	0.364***	0.126	-0.195	-0.125	-0.076	-0.099
PM nor	0.068	0.105	0.129	0.221**	0.157	-0.107	-0.017	-0.151	0.062
GR nor	-0.241**	-0.073	-0.161	-0.086	-0.001	0.062	0.080	0.021	0.116
LLev nor	0.484***	0.231**	0.264**	0.281**	0.045	-0.189*	-0.141	-0.122	-0.024
Pr	0.259**	0.504***	0.479***	0.01	0.079	-0.18	-0.161	0.037	-0.226**

	SBoard nor	CEO	AUD	Asset nor	LEV nor	PROF nor	LIQ nor	IND1
CEO	-0.198*							
AUD	0.328***	-0.190*						
Asset nor	0.415***	-0.118	0.379***					
LEV nor	0.205*	0.015	0.209*	0.392***				
PROF nor	0.190*	-0.185	0.065	0.298***	-0.004			
LIQ nor	-0.056	-0.016	-0.097	-0.190*	-0.629***	-0.131		
IND1	0.495***	0.282**	0.161	-0.029	-0.355***	-0.423***	-0.276**	-0.190*
IND3	-0.080	-0.116	-0.157	0.048	-0.070	0.226**	0.046	-0.009
Age nor	0.197*	-0.294***	0.330***	0.365***	0.362***	0.486***	-0.158	0.419***
List	0.063	-0.105	0.216*	0.130	0.094	0.144	0.009	0.077
MC nor	0.383***	-0.099	0.399***	0.868***	0.189*	0.354***	-0.016	0.419***
NS nor	0.336***	-0.094	0.458***	0.677***	0.576***	0.430***	-0.372***	0.499***
PM nor	0.335***	-0.159	0.087	0.195*	0.019	0.632***	-0.021	0.036
GR nor	-0.167	0.011	-0.176	-0.389***	-0.897***	-0.116	0.728***	-0.345***
LLev nor	0.235**	-0.047	0.299***	0.552***	0.683***	0.122	-0.403***	0.464***
Pr	0.201*	-0.098	0.239**	0.154	0.210*	0.075	-0.093	0.153

	IND3	Age nor	List	MC nor	NS nor	PM nor	GR nor	LLev nor
Age nor	-0.290***							
List	-0.137	0.506***						
MC nor	0.004	0.287***	0.133					
NS nor	-0.287***	0.637***	0.339***	0.582***				
PM nor	0.180	0.200*	-0.088	0.320***	0.170			
GR nor	0.140	-0.338***	0.008	-0.125	-0.552***	0.069		
LLev nor	-0.053	0.373***	0.048	0.336***	0.489***	0.014	-0.661***	
Pr	-0.118	0.429***	0.229**	0.116	0.287**	0.017	-0.174	0.261**

Table C.8 Pearson Correlation Coefficients (Rank transformed) Panel A: whole sample 2004: N=80

	Voldis rank	STO rank	GAO rank	FOW rank	Arab rank	INDOW rank	IOW rank	PNED rank	FAM rank
STO rank	0.267**								
GAO rank	0.174	0.146							
FOW rank	0.357***	-0.132	0.154						
Arab rank	-0.077	-0.046	0.068	-0.027					
INDOW rank	-0.089	-0.348***	-0.043	0.070	-0.144				
IOW rank	0.0157	-0.222**	-0.178	-0.005	-0.114	-0.116			
PNED rank	-0.201*	-0.240**	0.012	-0.125	0.148	0.158	0.145		
FAM rank	-0.023	-0.274**	-0.183	0.244**	-0.121	0.201*	0.191*	-0.543***	
SBoard rank	0.395***	0.052	0.519***	0.169	0.134	0.001	-0.013	-0.066	-0.114
CEO	-0.101	-0.201*	-0.198*	0.052	0.030	0.300***	0.041	-0.134	0.522***
AC	-0.197*	0.135	-0.045	-0.008	0.030	-0.144	0.008	-0.109	-0.108
AUD	0.104	0.105	0.229**	0.089	0.190*	-0.270**	-0.016	-0.151	-0.022
Asset rank	0.488***	0.214*	0.350***	0.464***	0.177	-0.115	-0.236**	-0.233**	0.048
LEV rank	0.277**	0.331***	0.261**	0.109	-0.056	-0.008	-0.119	-0.075	-0.178
Prof rank	0.168	-0.005	-0.064	0.133	0.057	0.001	0.006	0.148	-0.013
LIQ rank	0.003	-0.131	-0.061	0.043	0.019	0.129	0.008	0.188*	-0.076
IND1	0.474***	0.600***	0.249**	0.141	0.015	-0.260**	-0.432***	-0.280**	-0.304***
IND3	-0.096	-0.346***	-0.075	-0.029	0.172	-0.053	0.231**	0.234**	0.057
PR	0.111	0.217*	0.382***	0.014	0.195*	-0.163	0.006	0.022	-0.230**
Age rank	0.195*	0.364***	0.327***	0.183	0.089	-0.092	-0.067	0.021	-0.133
List	0.079	-0.046	0.094	0.107	0.186*	0.198*	-0.092	0.004	0.219*
MC rank	0.492***	0.138	0.329***	0.470***	0.236**	-0.163	-0.232**	-0.159	0.058
NS rank	0.391***	0.247**	0.287**	0.429***	0.035	-0.053	-0.201*	-0.266**	0.075
PM rank	-0.019	-0.174	-0.157	0.096	0.161	-0.026	0.144	0.238**	0.029
GR rank	-0.236**	-0.293***	-0.236**	-0.097	0.121	0.021	0.067	0.104	0.128
LLEV rank	-0.216*	0.260**	0.240**	0.062	-0.041	0.003	-0.011	-0.045	-0.226**

	SBoard rank	CEO	AC	AUD	Asset rank	LEV rank	Prof rank	LIQ rank
CEO	-0.220**							
AC	0.020	-0.324***						
AUD	0.361***	-0.078	-0.170					
Asset rank	0.447***	0.030	0.175	0.324***				
LEV rank	0.200*	-0.106	0.181	0.112	0.377***			
Prof rank	-0.081	0.148	-0.089	-0.016	0.118	-0.168		
LIQ rank	-0.129	0.030	-0.134	-0.096	-0.191*	-0.647***	0.353***	
IND1	0.205*	-0.209*	0.203*	0.110	0.453***	0.233**	0.089	-0.018
IND3	0.019	0.089	-0.110	0.026	-0.031	-0.199*	0.078	-0.007
PR	0.145	-0.253**	-0.052	0.397***	0.078	0.025	-0.018	0.076
Age rank	0.134	-0.041	-0.108	0.149	0.160	0.006	0.045	0.171
List	0.016	0.122	0.245**	-0.215*	0.166	-0.110	0.402***	0.171
MC rank	0.453***	0.050	0.125	0.348***	0.907***	0.237**	0.268**	-0.074
NS rank	0.351***	0.031	0.164	0.237**	0.824***	0.323***	0.218*	-0.118
PM rank	-0.114	0.215*	-0.179	-0.006	-0.037	-0.477***	0.682***	0.482***
GR rank	-0.175	0.052	-0.191*	-0.121	-0.381***	-0.944***	0.191*	0.722***
LLEV rank	0.242**	-0.137	0.157	0.139	0.417***	0.687***	-0.324***	-0.473***

	IND1	IND3	PR	Age rank	List	MC rank	NS rank	PM rank	GR rank
IND3	-0.221**								
PR	0.153	-0.118							
Age rank	0.351***	-0.280**	0.446***						
List	0.120	0.044	-0.126	0.040					
MC rank	0.392***	0.013	0.067	0.203*	0.191*				
NS rank	0.424***	-0.268**	0.050	0.272**	0.203*	0.754***			
PM rank	-0.062	0.481***	0.025	-0.044	0.368***	0.093	-0.198*		
GR rank	-0.214*	0.194*	0.019	0.063	0.083	-0.217*	-0.330***	0.486***	
LLEV rank	0.271**	-0.085	0.135	0.039	-0.153	0.219*	0.273**	-0.427***	-0.723***

Panel B: Normal Scores Transformed variables whole sample 2004: N=80

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor	FAM nor
STO nor	0.335***								
GAO nor	0.207*	0.156							
FOW nor	0.365***	-0.120	0.103						
Arab nor	-0.058	-0.101	0.048	-0.047					
INDOW nor	-0.137	-0.407***	-0.111	-0.029	-0.135				
IOW nor	-0.204*	-0.283**	-0.200*	-0.065	-0.077	-0.031			
PNED nor	-0.193	-0.270**	0.011	-0.109	0.171	0.161	0.237**		
FAM nor	-0.044	-0.270**	-0.221**	0.199*	-0.120	0.237**	0.164	-0.512***	
SBoard nor	0.418***	0.090	0.492***	0.178	0.102	-0.013	-0.002	-0.012	-0.131
CEO	-0.105	-0.211*	-0.203*	0.033	0.036	0.288***	0.034	-0.144	0.533***
AC	0.192*	0.155	-0.063	0.002	-0.006	-0.163	0.011	-0.103	-0.137
AUD	0.123	0.111	0.231**	0.095	0.191*	-0.279**	0.002	-0.139	0.006
Asset nor	0.529***	0.255**	0.335***	0.480***	0.158	-0.196*	-0.253**	-0.252**	0.035
LEV nor	0.306***	0.319***	0.311***	0.091	-0.064	0.021	-0.121	-0.048	-0.180
PROF nor	0.162	-0.043	-0.101	0.139	0.088	-0.051	-0.002	0.124	-0.003
LIQ nor	-0.002	-0.081	-0.108	0.045	0.049	0.089	-0.036	0.147	-0.084
IND1	0.528***	0.657***	0.241**	0.171	-0.013	-0.313***	-0.470***	-0.291***	-0.286***
IND3	-0.097	-0.340***	-0.069	-0.045	0.152	-0.000	0.253**	0.209*	0.029
Age nor	0.278**	0.372***	0.305***	0.233**	0.102	-0.136	-0.081	0.020	-0.137
List	0.117	-0.046	0.057	0.079	0.181	0.205*	-0.087	0.013	0.187*
MC nor	0.517***	0.155	0.319***	0.497***	0.222**	-0.224**	-0.251**	-0.167	0.047
NS nor	0.465***	0.283**	0.271**	0.444***	0.003	-0.122	-0.202*	-0.254**	0.057
PM nor	-0.021	-0.170	-0.195*	0.115	0.160	-0.014	0.112	0.188*	0.037
GR nor	-0.246**	-0.255**	-0.280**	-0.090	0.144	-0.009	0.055	0.074	0.100
LLev nor	0.250**	0.279**	0.250**	0.043	-0.038	0.017	-0.026	-0.018	-0.235**
PR	0.151	0.182	0.377***	0.029	0.192*	-0.178	0.009	0.025	-0.231**

	SBoard nor	CEO	AC	AUD	Asset nor	LEV nor	PROF nor	LIQ nor
CEO	-0.208*							
AC	0.038	-0.324***						
AUD	0.336***	-0.078	-0.170					
Asset nor	0.504***	0.018	0.200*	0.314***				
LEV nor	0.224**	-0.135	0.170	0.074	0.379***			
PROF nor	-0.084	0.143	-0.061	-0.010	0.154	-0.212*		
LIQ nor	-0.117	0.061	-0.113	-0.094	-0.153	-0.610***	0.403***	
IND1	0.657***	0.241**	0.171	-0.013	-0.313***	-0.470***	-0.291***	-0.286***
IND3	-0.340***	-0.069	-0.045	0.152	-0.000	0.253**	0.209*	0.029
Age nor	0.137	-0.056	-0.079	0.145	0.236**	0.126	0.055	0.120
List	0.037	0.122	0.245**	-0.215*	0.199*	-0.101	0.427***	0.192*
MC nor	0.474***	0.045	0.129	0.353***	0.889***	0.200*	0.286***	-0.022
NS nor	0.414***	0.012	0.192*	0.225**	0.853***	0.351***	0.256**	-0.083
PM nor	-0.106	0.244**	-0.144	-0.039	-0.018	-0.492***	0.708***	0.533***
GR nor	-0.196*	0.049	-0.173	-0.077	-0.380***	-0.903***	0.214*	0.708***
LLev nor	0.264**	-0.136	0.161	0.123	0.400***	0.691***	-0.312***	-0.448***
PR	0.127	-0.253**	-0.052	0.397***	0.093	0.058	-0.021	0.086

	IND1	IND3	PR	Age nor	List	MC nor	NS nor	PM nor	GR nor
IND3	-0.221**								
PR	0.153	-0.118							
Age nor	0.419***	-0.290***	0.429***						
List	0.120	0.044	-0.126	0.047					
MC nor	0.457***	0.005	0.085	0.293***	0.225**				
NS nor	0.493***	-0.265**	0.065	0.358***	0.229**	0.764***			
PM nor	-0.050	0.491***	0.000	-0.064	0.399***	0.113	-0.133		
GR nor	-0.229**	0.210*	0.006	-0.038	0.051	-0.176	-0.352***	0.486***	
LLev nor	0.324***	-0.113	0.159	0.126	-0.128	0.175	0.302***	-0.421***	-0.692***

Table C.9 Panel A: Pooled Sample of Privatized firms (Rank Transformation): N =54

	Voldis rank	STO rank	GAO rank	FOW rank	ARAB rank	INDOW rank	IOW rank	PNED rank	FAM rank
STO rank	0.013								
GAO rank	0.273**	0.109							
FOW rank	0.482***	-0.098	0.179						
ARAB rank	0.245*	0.002	-0.062	-0.086					
INDOW rank	-0.274*	-0.264*	-0.247*	0.091	-0.314**				
IOW rank	-0.188	-0.250*	-0.088	-0.109	-0.091	-0.243*			
PNED rank	-0.222	-0.326**	-0.086	-0.324**	0.048	0.156	0.141		
FAM rank	-0.062	-0.070	-0.165	0.186	-0.021	0.178	0.231*	-0.422***	
SBoard rank	0.230*	0.241*	0.265*	0.279**	0.141	0.021	-0.296**	-0.175	0.005
CEO	-0.333**	-0.034	-0.236*	-0.343**	-0.011	0.234*	0.083	0.085	0.257*
AC	0.323**	-0.224	0.078	0.098	0.281**	-0.194	0.035	-0.091	-0.091
AUD	0.170	-0.163	0.234*	0.310**	0.164	-0.374***	0.223	-0.201	-0.026
Asset rank	0.520***	0.079	0.425***	0.541***	0.390***	-0.124	-0.189	-0.148	-0.061
LEV rank	0.139	0.189	0.249*	0.193	0.100	0.059	-0.032	-0.053	-0.233*
PROF rank	0.318**	0.201	0.128	0.200	0.028	-0.131	-0.096	0.070	0.063
LIQ rank	0.162	-0.046	0.044	-0.084	0.062	-0.203	0.014	0.133	0.105
IND1	0.542***	0.226	0.187	0.434***	0.269**	-0.120	-0.475***	-0.227*	-0.210
IND3	-0.142	0.034	0.085	-0.065	-0.197	-0.174	0.298*	0.125	0.080
Y	0.392***	-0.458***	-0.002	0.161	0.168	-0.151	0.141	-0.023	0.000
Age rank	0.557***	0.094	0.112	0.396***	0.237*	-0.088	-0.279**	-0.237*	-0.078
List	0.107	0.224	0.224	0.158	0.092	0.174	-0.260**	-0.216	0.111
MC rank	0.593***	0.082	0.472***	0.493***	0.403***	-0.239*	-0.172	-0.131	-0.052
NS rank	0.387***	0.149	0.326**	0.515***	0.161	0.037	-0.215	-0.261*	-0.025
PM rank	0.108	0.057	0.041	0.063	-0.087	-0.133	0.161	0.212	0.016
GR rank	-0.154	-0.191	-0.241*	-0.210	-0.107	-0.055	0.047	0.065	0.226
LLEV rank	0.287**	0.112	0.242*	0.313**	0.233*	-0.081	-0.035	-0.086	-0.151

	SBoard rank	CEO	AC	AUD	Asset rank	LEV rank	PROF rank	LIQ rank
CEO	-0.275**							
AC	0.008	-0.283**						
AUD	0.101	-0.166	0.192					
Asset rank	0.465***	-0.160	0.204	0.350**				
LEV rank	0.121	-0.106	0.076	0.053	0.474***			
PROF rank	0.090	-0.100	-0.068	0.076	0.325**	-0.117		
LIQ rank	-0.045	0.063	-0.068	-0.015	-0.190	-0.743***	0.197	
IND1	0.347**	-0.223	0.147	0.089	0.615***	0.388***	0.324**	-0.211
IND3	-0.081	0.294**	-0.149	0.170	-0.019	-0.296**	0.195	0.206
Y	-0.174	-0.178	0.707***	0.349**	0.087	-0.194	0.037	0.179
Age rank	0.076	-0.180	0.028	0.070	0.402***	0.082	0.398***	0.039
List	0.333**	-0.090	-0.120	0.007	0.304**	-0.003	0.211	0.117
MC rank	0.470***	-0.171	0.252*	0.427***	0.906***	0.273**	0.494***	-0.005
NS rank	0.309**	-0.220	0.149	0.233*	0.772***	0.431***	0.399***	-0.247*
PM rank	0.083	0.120	-0.086	0.190	0.130	-0.402***	0.620***	0.382***
GR rank	-0.131	0.131	-0.081	-0.041	-0.485***	-0.996***	0.095	0.735***
LLev rank	0.265*	-0.194	0.154	0.162	0.611***	0.791***	-0.029	-0.468***

	IND1	IND3	Y	Age rank	List	MC rank	NS rank	PM rank	GR rank
IND3	-0.247*								
Y	0.000	0.000							
Age rank	0.589***	-0.141	0.256*						
List	0.247*	-0.132	-0.338**	0.062					
MC rank	0.589***	0.041	0.160	0.413***	0.336**				
NS rank	0.615***	-0.301**	0.063	0.515***	0.333**	0.656***			
PM rank	-0.020	0.681***	0.091	0.029	-0.014	0.311**	-0.074		
GR rank	-0.395***	0.315**	0.189	-0.101	-0.016	-0.281**	-0.444***	0.418**	
LLEV rank	0.420***	-0.147	-0.049	0.192	-0.016	0.403***	0.415***	-0.230*	-0.808***

Panel B: Pooled Sample of Privatized firms (Normal Scores): N = 54

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor	FAM nor
STO nor	0.052								
GAO nor	0.305**	0.059							
FOW nor	0.525***	-0.099	0.182						
Arab nor	0.268**	-0.013	-0.120	-0.057					
INDOW nor	-0.348***	-0.318**	-0.301**	0.035	-0.337**				
IOW nor	-0.162	-0.311**	-0.070	-0.129	-0.129	-0.192			
PNED nor	-0.212	-0.299**	-0.089	-0.364***	0.075	0.146	0.197		
FAM nor	-0.032	-0.074	-0.194	0.181	-0.011	0.150	0.231*	-0.484***	
SBoard nor	0.278**	0.263*	0.306**	0.290**	0.081	0.005	-0.250*	-0.149	-0.000
CEO	-0.308**	-0.046	-0.241*	-0.341**	-0.013	0.263**	0.063	0.069	0.262*
AC	0.349***	-0.237*	0.069	0.144	0.251*	-0.214	0.070	-0.064	-0.071
Asset nor	0.588***	0.092	0.440***	0.551***	0.322**	-0.142	-0.176	-0.130	-0.036
MC nor	0.662***	0.090	0.461***	0.526***	0.339**	-0.272**	-0.196	-0.129	-0.034
NS nor	0.463***	0.123	0.316**	0.536***	0.062	0.055	-0.211	-0.216	-0.012
LEV nor	0.183	0.148	0.263*	0.208	0.063	0.022	-0.075	-0.054	-0.189
LLev nor	0.324**	0.087	0.247*	0.277**	0.191	-0.086	-0.032	-0.039	-0.158
GR nor	-0.194	-0.151	-0.258*	-0.222	-0.068	-0.019	0.085	0.062	0.184
LIQ nor	0.176	-0.002	0.031	-0.072	0.101	-0.189	0.043	0.109	0.090
Prof nor	0.345**	0.174	0.140	0.205	0.029	-0.131	-0.127	0.157	0.060
PM nor	0.136	0.076	0.046	0.087	-0.112	-0.036	0.125	0.223	0.017
AUD	0.217	-0.143	0.245*	0.326**	0.138	-0.354***	0.207	-0.179	0.018
Age nor	0.589***	0.078	0.088	0.419***	0.213	-0.133	-0.274**	-0.229*	-0.082
List	0.115	0.240*	0.220	0.161	0.075	0.146	-0.306**	-0.180	0.077
IND 1	0.589***	0.239*	0.186	0.467***	0.249*	-0.152	-0.456***	-0.204	-0.213
IND 3	-0.152	0.029	0.084	-0.069	-0.175	-0.121	0.251*	0.108	0.081
Y	0.402***	-0.462***	-0.011	0.184	0.157	-0.158	0.169	-0.022	0.032

	SBoard nor	CEO	AC	Asset nor	MC nor	NS nor	LEV nor	LLev nor
CEO	-0.252*							
AC	0.005	-0.283**						
SIZE nor	0.536***	-0.151	0.191					
MC nor	0.506***	-0.164	0.237*	0.885***				
NS nor	0.385***	-0.204	0.165	0.791***	0.666***			
LEV nor	0.177	-0.128	0.070	0.516***	0.269**	0.499***		
LLev nor	0.302**	-0.193	0.139	0.605***	0.362***	0.434***	0.795***	
GR nor	-0.183	0.148	-0.073	-0.524***	-0.275**	-0.507***	-0.997***	-0.808***
Liq nor	-0.033	0.062	-0.059	-0.181	0.007	-0.280**	-0.744***	-0.457***
Prof nor	0.107	-0.149	-0.052	0.313**	0.492***	0.376***	-0.115	-0.041
PM nor	0.125	0.119	-0.091	0.127	0.305**	-0.032	-0.352***	-0.211
AUD	0.116	-0.166	0.192	0.339**	0.431***	0.240*	0.053	0.128
Age nor	0.083	-0.233*	0.096	0.409***	0.421***	0.533***	0.210	0.267*
List	0.348***	-0.090	-0.120	0.296**	0.338**	0.317**	0.038	0.003
IND 1	0.365***	-0.223	0.147	0.653***	0.622***	0.653***	0.426***	0.467***
IND 3	-0.038	0.294**	-0.149	-0.076	-0.001	-0.288**	-0.314**	-0.167
Y	-0.169	-0.178	0.707***	0.071	0.151	0.078	-0.177	-0.052

	GR nor	Liq nor	Prof nor	PM nor	AUD	Age nor	List	IND 1	IND 3
Liq nor	0.739***								
Prof nor	0.099	0.221							
PM nor	0.371***	0.356***	0.606***						
AUD	-0.043	0.009	0.069	0.192					
Age nor	-0.227*	-0.042	0.361***	-0.060	0.057				
List	-0.054	0.102	0.206	-0.022	0.007	0.074			
IND 1	-0.431***	-0.213	0.293**	-0.011	0.089	0.620***	0.247*		
IND 3	0.329**	0.238*	0.204	0.667***	0.170	-0.189	-0.132	-0.247*	
Y	0.174	0.185	0.055	0.076	0.349***	0.284**	-0.338**	0.000	-0.000

Table C.10 Pooled Non-Privatized firms N = 106: Panel A: Rank transformed

	VOLDIS rank	STO rank	GAO rank	FOW rank	ARAB rank	INDOW rank	IOW rank	PNED rank
STO rank	0.299***							
GAO rank	0.097	0.096						
FOW rank	0.373***	-0.130	0.214**					
ARAB rank	-0.107	-0.273***	0.028	0.037				
INDOW rank	-0.235**	-0.218**	-0.153	-0.134	-0.068			
IOW rank	-0.171*	-0.324***	-0.078	0.102	0.085	-0.164*		
PNED rank	-0.156	-0.202**	0.079	-0.018	0.246**	0.239**	0.068	
FAM rank	0.062	-0.207**	-0.194**	0.184*	-0.092	0.132	0.156	-0.506***
SBoard rank	0.132	0.011	0.307***	0.112	0.113	0.053	0.024	0.076
CEO	-0.049	-0.194**	-0.088	0.035	-0.042	0.228**	0.014	-0.100
AC	0.478***	0.072	0.019	0.197**	-0.010	-0.247**	0.041	-0.049
AUD	0.247**	0.120	0.095	0.183*	0.098	-0.247**	-0.073	-0.212**
Age rank	0.353***	0.210**	0.378***	0.234**	0.092	-0.318***	-0.012	0.091
List	0.154	0.044	0.149	0.080	0.093	-0.041	0.008	0.041
Asset rank	0.455***	0.079	0.152	0.441***	0.134	-0.228**	-0.172*	-0.180*
LEV rank	0.220**	0.177*	0.152	0.024	-0.062	-0.062	-0.150	-0.045
PROF rank	0.236**	0.015	0.118	0.279***	0.154	-0.183*	0.072	-0.013
LIQ rank	-0.092	-0.042	-0.014	0.085	0.005	0.048	0.037	0.165*
IND1	0.342***	0.643***	0.182*	-0.085	-0.240**	-0.390***	-0.383***	-0.337***
IND3	-0.081	-0.227**	-0.128	-0.075	0.260***	-0.041	0.181*	0.172*
Y	0.866***	0.276***	0.107	0.358***	-0.199**	-0.156	-0.153	-0.069
MC rank	0.403***	0.013	0.172*	0.502***	0.224**	-0.264***	-0.123	-0.173*
NS rank	0.491***	0.135	0.249**	0.395***	0.078	-0.269***	-0.105	-0.135
PM rank	0.092	-0.081	-0.020	0.235**	0.268***	-0.077	0.089	0.022
GR rank	-0.176*	-0.148	-0.105	0.014	0.097	0.074	0.093	0.065
LLEV rank	0.316***	0.136	0.086	0.108	-0.086	-0.038	-0.068	-0.103

	FAM rank	SBoard rank	CEO	AC	AUD	Age rank	List	Asset rank
SBoard rank	-0.196**							
CEO	0.460***	-0.142						
AC	0.015	-0.139	-0.163*					
AUD	0.087	0.353***	-0.061	0.034				
Age rank	0.018	-0.003	-0.035	0.311***	0.232**			
List	0.206**	-0.095	0.071	0.149	-0.076	0.340***		
Asset rank	0.080	0.314***	0.050	0.196**	0.340**	0.199**	0.054	
LEV rank	-0.136	0.238**	0.014	0.025	0.145	0.087	-0.052	0.271***
PROF rank	0.077	-0.080	0.058	0.194**	0.036	0.444***	0.346***	0.205**
LIQ rank	-0.091	-0.137	-0.016	-0.007	-0.111	0.042	0.079	-0.180*
IND1	-0.236**	0.169*	-0.198**	0.072	0.182*	0.177*	-0.017	0.322***
IND3	-0.035	0.011	0.006	-0.014	0.007	-0.248**	0.003	-0.065
Y	0.122	0.039	0.039	0.393***	0.202**	0.369***	0.164*	0.341***
MC rank	0.084	0.252***	0.074	0.226**	0.354***	0.224**	0.057	0.873***
NS rank	0.078	0.239**	0.071	0.311***	0.406***	0.496***	0.215**	0.730***
PM rank	0.078	0.009	0.074	0.107	0.004	0.209	0.172**	0.115*
GR rank	0.097	-0.184*	-0.032	-0.042	-0.148	-0.041	0.084	-0.277***
LLEV rank	-0.038	0.191*	-0.015	0.044	0.183*	0.076	-0.058	0.352***

	LEV rank	PROF rank	LIQ rank	IND1	IND3	Y	MC rank	NS rank
PROF rank	-0.043							
LIQ rank	-0.615***	0.085						
IND1	0.151	0.031	-0.015					
IND3	-0.053	-0.046	-0.109	-0.191**				
Y	0.219**	0.207**	-0.097	0.245**	-0.117			
MC rank	0.127	0.264***	-0.044	0.194**	0.007	0.307***		
NS rank	0.376***	0.417***	-0.195**	0.267***	-0.235**	0.397***	0.689***	
PM rank	-0.146	0.692***	0.180*	-0.040	0.230**	0.016	0.215**	0.078
GR rank	-0.904***	0.002	0.719***	-0.136	0.089	-0.177*	-0.077	-0.362***
LLEV rank	0.583****	-0.096	-0.453***	0.233**	-0.003	0.266***	0.163*	0.345***

	PM rank	GR rank
GR rank	0.203**	
LLEV rank	-0.210**	-0.611***

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor	FAM nor
STO nor	0.342***								
GAO nor	0.134	0.112							
FOW nor	0.334***	-0.145	0.147						
Arab nor	-0.089	-0.294***	0.017	-0.015					
INDOW nor	-0.239**	-0.298***	-0.175*	-0.151	-0.038				
IOW nor	-0.213**	-0.392***	-0.135	0.087	0.125	-0.090			
PNED nor	-0.148	-0.244**	0.037	-0.001	0.250***	0.286***	0.135		
FAM nor	0.030	-0.224**	-0.205**	0.178*	-0.096	0.168*	0.145	-0.480***	
SBoard nor	0.163*	0.019	0.306***	0.072	0.099	0.050	0.045	0.103	-0.190*
CEO	-0.063	-0.207**	-0.086	0.024	-0.045	0.229**	0.011	-0.110	0.463***
AC	0.458***	0.081	-0.009	0.181*	-0.019	-0.242**	0.034	-0.047	0.004
AUD	0.253***	0.151	0.102	0.165*	0.086	-0.267***	-0.057	-0.207**	0.116
Asset nor	0.489***	0.122	0.145	0.380***	0.144	-0.281***	-0.165*	-0.209**	0.084
LEV nor	0.265***	0.204**	0.214**	0.039	-0.104	-0.077	-0.160	-0.031	-0.144
PROF nor	0.190*	-0.026	0.037	0.246**	0.158	-0.191**	0.096	-0.015	0.085
LIQ nor	-0.100	-0.017	-0.070	0.082	0.045	0.007	0.014	0.108	-0.079
IND1	0.379***	0.731***	0.218**	-0.089	-0.263***	-0.461***	-0.452***	-0.370***	-0.223**
IND3	-0.081	-0.232**	-0.110	-0.104	0.232**	-0.011	0.213**	0.160	-0.058
Age nor	0.392***	0.248***	0.343***	0.229**	0.098	-0.329***	-0.012	0.084	0.008
List	0.119	0.019	0.129	0.045	0.095	-0.013	0.037	0.059	0.179*
MC nor	0.411***	0.028	0.169*	0.466***	0.236**	-0.290***	-0.110	-0.182*	0.092
NS nor	0.513***	0.204**	0.255***	0.367***	0.061	-0.320***	-0.094	-0.150	0.077
PM nor	0.080	-0.087	-0.061	0.202**	0.252***	-0.098	0.076	0.002	0.077
GR nor	-0.211**	-0.150	-0.173*	-0.001	0.143	0.085	0.082	0.035	0.096
LLev nor	0.314***	0.180*	0.133	0.080	-0.130	-0.055	-0.089	-0.099	-0.046
Y	0.506***	0.042	0.096	0.256***	0.055	-0.220**	0.003	0.006	0.098

	SBoard nor	CEO	AC	AUD	Asset nor	LEV nor	PROF nor	LIQ nor
CEO	-0.132							
AC	-0.127	-0.163*						
AUD	0.336***	-0.061	0.034					
Asset nor	0.331***	0.029	0.206**	0.352***				
LEV nor	0.216**	0.006	0.053	0.143	0.305***			
PROF nor	-0.081	0.047	0.179*	0.037	0.206**	-0.098		
LIQ nor	-0.135	0.001	-0.138	-0.018	-0.166*	-0.591***	0.107	
IND1	0.163*	-0.198**	0.072	0.182*	0.363***	0.214**	0.023	-0.003
IND3	0.041	0.006	-0.014	0.007	-0.034	-0.071	-0.016	-0.088
Age nor	0.016	-0.076	0.324***	0.257***	0.252***	0.185*	0.374***	0.000
List	-0.110	0.071	0.149	-0.076	0.080	-0.044	0.337***	0.097
MC nor	0.292***	0.068	0.220**	0.358***	0.867***	0.133	0.241**	-0.012
NS nor	0.245**	0.051	0.327***	0.398***	0.737***	0.427***	0.388***	-0.218**
PM nor	-0.003	0.081	0.112	-0.006	0.090	-0.135	0.666***	0.203**
GR nor	-0.167*	-0.033	-0.068	-0.137	-0.309***	-0.858***	-0.019	0.712***
LLev nor	0.181*	-0.021	0.048	0.140	0.354***	0.615***	-0.115	-0.427***
Y	-0.138	-0.000	0.748***	0.162*	0.186*	0.051	0.208**	-0.036

	IND1	IND3	Age nor	List	MC nor	NS nor	PM nor	GR nor	LLev nor
IND3	-0.191**								
Age nor	0.230**	-0.241**							
List	-0.017	0.003	0.327***						
MC nor	0.229**	0.028	0.248***	0.070					
NS nor	0.325***	-0.236**	0.520***	0.216**	0.688***				
PM nor	-0.030	0.253***	0.200**	0.190*	0.191**	0.094			
GR nor	-0.172*	0.106	-0.144	0.075	-0.067	-0.415***	0.174*		
LLev nor	0.300***	-0.030	0.148	-0.051	0.112	0.336***	-0.221**	-0.608***	
Y	0.000	-0.000	0.432***	0.041	0.234**	0.335***	0.171*	-0.071	0.037

Table C.11 Pooled Private Firms Sample: N= 98. Panel A: Normal Scores transformation

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor
STO nor	0.102							
GAO nor	0.028	-0.075						
FOW nor	0.390***	-0.107	0.159					
Arab nor	-0.001	-0.112	0.051	-0.086				
INDOW nor	-0.085	0.073	-0.120	-0.225**	-0.180*			
IOW nor	-0.055	-0.071	-0.025	0.021	-0.012	-0.335***		
PNED nor	-0.034	0.016	0.121	-0.048	0.190*	0.145	-0.032	
FAM nor	0.141	-0.069	-0.204**	0.166	-0.172*	0.077	0.060	-0.631***
SBoard nor	0.097	-0.136	0.262***	0.069	0.134	0.140	0.139	0.160
CEO	0.028	-0.049	-0.048	0.001	-0.120	0.180*	-0.089	-0.194*
AC	0.471***	0.001	0.010	0.200**	-0.002	-0.261***	0.067	-0.041
AUD	0.219**	-0.041	0.087	0.182*	0.144	-0.200**	0.043	-0.133
Asset nor	0.443***	-0.092	0.065	0.438***	0.215**	-0.145	-0.062	-0.077
LEV nor	0.194*	0.226**	0.058	0.027	-0.104	-0.005	-0.104	0.027
Prof nor	0.191*	-0.131	0.020	0.254**	0.181*	-0.212**	0.135	-0.031
LIQ nor	-0.095	-0.154	-0.003	0.107	0.083	0.025	0.051	0.136
IND3	-0.005	-0.083	-0.068	-0.132	0.184*	-0.108	0.132	0.114
Age nor	0.294***	0.050	0.228**	0.246**	0.153	-0.323***	0.121	0.132
List	0.119	0.053	0.063	0.018	0.078	-0.044	0.039	0.017
MC nor	0.400***	-0.112	0.161	0.500***	0.265***	-0.214**	-0.065	-0.085
NS nor	0.450***	0.024	0.157	0.404**	0.116	-0.225**	0.029	-0.056
PM nor	0.098	-0.196*	-0.024	0.210**	0.275***	-0.117	0.086	-0.018
GR nor	-0.148	-0.175*	-0.027	0.020	0.158	0.034	0.026	-0.007
LLev nor	0.221**	0.036	-0.044	0.093	-0.101	0.079	0.039	-0.028
Y	0.548***	0.044	0.142	0.268***	0.055	-0.267***	-0.013	-0.007

	FAM nor	SBoard nor	CEO	AC	AUD	Asset nor	LEV nor	Prof nor
SBoard nor	-0.171*							
CEO	0.438***	-0.106						
AC	0.048	-0.151	-0.155					
AUD	0.172*	0.352***	-0.019	0.044				
Asset nor	0.172*	0.294***	0.083	0.230**	0.366***			
LEV nor	-0.137	0.133	0.040	0.036	0.193*	0.200**		
Prof nor	0.103	-0.092	0.063	0.180*	0.052	0.231**	-0.151	
LIQ nor	-0.067	-0.113	0.017	-0.032	-0.198*	-0.124	-0.577***	0.123
IND3	-0.115	0.073	-0.048	0.005	0.053	0.010	-0.041	-0.001
Age nor	0.089	-0.086	-0.004	0.317***	0.290***	0.201**	0.028	0.377***
List	0.185*	-0.156	0.083	0.159	-0.054	0.077	-0.141	0.330***
MC nor	0.158	0.275***	0.092	0.228**	0.347***	0.870***	0.057	0.294***
NS nor	0.167	0.177*	0.124	0.340***	0.406***	0.706***	0.320***	0.410***
PM nor	0.088	0.019	0.090	0.107	-0.015	0.137	-0.120	0.672***
GR nor	0.093	-0.092	-0.058	-0.063	-0.188*	-0.223**	-0.834***	0.005
LLev nor	0.003	0.090	0.031	0.051	0.180*	0.243**	0.547***	-0.164
Y	0.128	-0.149	-0.000	0.729***	0.201**	0.225**	0.055	0.211**

	LIQ nor	IND3	Age nor	List	Mc nor	NS nor	PM nor	GR nor	LLev nor
IND3	-0.079								
Age nor	0.061	-0.203**							
List	0.146	0.011	0.268***						
MC nor	0.026	0.046	0.261***	0.096					
NS nor	-0.179*	-0.207**	0.446***	0.195*	0.686***				
PM nor	0.185*	0.271***	0.243**	0.210**	0.245**	0.134			
GR nor	0.700***	0.093	0.007	0.165	0.011	-0.324***	0.156		
LLev nor	-0.394***	0.018	-0.018	-0.141	0.038	0.200**	-0.200**	-0.546***	
Y	-0.042	0.000	0.470***	0.044	0.251**	0.368***	0.170*	-0.076	0.057

Table C.12 Pooled Whole Sample: N= 160. Panel A: Rank transformed

	Voldis rank	STO rank	GAO rank	FOW rank	ARAB rank	INDOW rank	IOW rank	PNED rank	FAM rank
STO rank	0.262***								
GAO rank	0.226***	0.290***							
FOW rank	0.420***	-0.058	0.218***						
ARAB rank	0.022	-0.092	0.028	0.015					
INDOW rank	-0.278***	-0.283***	-0.218***	-0.075	-0.153*				
IOW rank	-0.169**	-0.300***	-0.127	0.032	0.015	-0.186**			
PNED rank	-0.024	-0.106	-0.100	-0.084	-0.052	0.123	0.060		
FAM rank	-0.001	-0.238***	-0.259***	0.162**	-0.092	0.168**	0.190**	0.037	
SBoard rank	0.279***	0.223***	0.313***	0.296***	0.120	-0.076	-0.110	-0.01	-0.149*
CEO	-0.148*	-0.203**	-0.189**	-0.088	-0.053	0.248***	0.046	0.096	0.424***
AC	0.420***	-0.038	0.012	0.168**	0.078	-0.215***	0.040	0.049	-0.010
AUD	0.275***	0.147*	0.252***	0.239***	0.155**	-0.338***	0.004	0.012	-0.021
Asset rank	0.486***	0.170**	0.302***	0.474***	0.244***	-0.206***	-0.180**	0.005	-0.007
LEV rank	0.218***	0.224***	0.223***	0.079	0.008	-0.034	-0.117	0.031	-0.184**
PROF rank	0.271***	0.104	0.112	0.259***	0.118	-0.152*	0.008	-0.085	0.061
LIQ rank	-0.023	-0.050	-0.007	0.034	0.016	-0.037	0.035	-0.112	-0.035
IND1	0.425***	0.495***	0.244***	0.149*	0.006	-0.281***	-0.418***	-0.150*	-0.248***
IND3	-0.115	-0.184**	-0.101	-0.083	0.114	-0.072	0.224***	0.072	0.024
Y	0.472***	-0.134*	0.053	0.242***	0.089	-0.202**	0.056	0.046	0.054
List	0.144*	0.107	0.185**	0.108	0.096	0.037	-0.084	-0.154*	0.164**
Age rank	0.442***	0.335***	0.399***	0.275***	0.169**	-0.324***	-0.084	-0.163*	-0.103
MC rank	0.516***	0.131*	0.318***	0.508***	0.285***	-0.285***	-0.156**	-0.049	-0.003
NS rank	0.485***	0.227***	0.331***	0.443***	0.125	-0.185**	-0.150*	0.017	0.009
PM rank	0.112	-0.035	-0.011	0.204**	0.179**	-0.108	0.093	-0.103	0.061
GR rank	-0.184**	-0.190**	-0.183**	-0.054	0.038	0.032	0.076	-0.064	0.149*
LLEV rank	0.314***	0.232***	0.236***	0.171**	0.038	-0.080	-0.064	0.090	-0.130

	SBoard rank	CEO	AC	AUD	Asset rank	LEV rank	PROF rank	LIQ rank
CEO	-0.078							
AC	0.178**	-0.191**						
AUD	0.252***	-0.141*	0.075					
Asset rank	0.440***	-0.044	0.196**	0.371***				
LEV rank	0.087	-0.046	0.045	0.143*	0.354***			
PROF rank	0.102	-0.008	0.096	0.065	0.253***	-0.080		
LIQ rank	-0.046	0.007	-0.083	-0.191**	-0.654***	0.121		
IND1	0.250***	-0.221***	0.097	0.177**	0.449***	0.261***	0.162**	-0.090
IND3	-0.026	0.106	-0.053	0.019	-0.065	-0.143*	0.031	-0.018
Y	0.144*	-0.053	0.734***	0.215***	0.152*	-0.060	0.174**	0.051
List	0.068	0.015	0.061	-0.032	0.136*	-0.031	0.306***	0.091
Age rank	0.179**	-0.169**	0.193**	0.303***	0.267***	0.122	0.387***	0.036
MC rank	0.436***	-0.043	0.242***	0.417***	0.895***	0.191**	0.378***	-0.037
NS rank	0.381***	-0.042	0.240***	0.378***	0.764***	0.399***	0.400***	-0.208***
PM rank	0.106	0.039	0.050	0.059	0.127	-0.260***	0.700***	0.255***
GR rank	-0.077	0.027	-0.058	-0.134*	-0.351***	-0.940***	0.057	0.725***
LLEV rank	0.224***	-0.082	0.067	0.233***	0.468***	0.673***	-0.087	-0.456***

	IND1	IND3	Y	List	Age rank	MC rank	NS rank	PM rank	GR rank
Ind3	-0.221***								
y	-0.000	-0.000							
List	0.099	-0.043	-0.083						
Age rank	0.357***	-0.242***	0.326***	0.232***					
MC rank	0.370***	-0.009	0.248***	0.171**	0.325***				
NS rank	0.418***	-0.270***	0.229***	0.252***	0.484***	0.715***			
Pm rank	-0.013	0.336***	0.166**	0.151*	0.169**	0.258***	0.044		
GR rank	-0.248***	0.162*	0.050	0.056	-0.078	-0.159*	-0.385***	0.298***	
LLEV rank	0.330***	-0.052	-0.012	-0.054	0.166**	0.280***	0.367***	-0.212***	-0.682***

Panel B: Normal Scores transformed variables

	Voldis nor	STO nor	GAO nor	FOW nor	Arab nor	INDOW nor	IOW nor	PNED nor	FAM nor
STO nor	0.297***								
GAO nor	0.259***	0.271***							
FOW nor	0.421***	-0.073	0.174**						
Arab nor	0.044	-0.139*	0.011	-0.007					
INDOW nor	-0.302***	-0.369***	-0.261***	-0.114	-0.143*				
IOW nor	-0.194**	-0.372***	-0.150*	0.009	0.029	-0.112			
PNED nor	-0.140*	-0.249***	0.019	-0.103	0.197**	0.239***	0.151*		
FAM nor	-0.029	-0.247***	-0.282***	0.154*	-0.094	0.188**	0.177**	-0.471***	
SBoard nor	0.316***	0.216***	0.275***	0.300***	0.118	-0.101	-0.089	-0.007	-0.116
CEO	-0.162**	-0.211***	-0.193**	-0.097	-0.054	0.258***	0.036	-0.076	0.436***
AC	0.418***	-0.028	-0.002	0.180**	0.066	-0.221***	0.046	-0.051	-0.009
AUD	0.288***	0.158**	0.262***	0.236***	0.146*	-0.346***	0.013	-0.179**	0.006
Asset nor	0.539***	0.193**	0.292***	0.454***	0.219***	-0.241***	-0.173**	-0.178**	0.006
LEV nor	0.265***	0.221***	0.265***	0.092	-0.031	-0.048	-0.129	-0.033	-0.182**
PROF nor	0.239***	0.067	0.057	0.231***	0.121	-0.156**	0.012	0.030	0.071
LIQ nor	-0.031	-0.009	-0.038	0.039	0.048	-0.063	0.018	0.114	-0.040
IND1	0.479***	0.562***	0.251***	0.170**	-0.021	-0.333***	-0.448***	-0.284***	-0.237***
IND3	-0.127	-0.186**	-0.089	-0.102	0.102	-0.039	0.239***	0.142*	0.005
Age nor	0.492***	0.324***	0.377***	0.298***	0.173**	-0.316***	-0.103	0.003	-0.106
List	0.130	0.092	0.160**	0.088	0.092	0.055	-0.073	-0.007	0.136*
MC nor	0.556***	0.133*	0.311***	0.498***	0.272***	-0.313***	-0.157**	-0.143*	0.012
NS nor	0.530***	0.256***	0.321***	0.439***	0.096	-0.208***	-0.148*	-0.158**	-0.000
PM nor	0.101	-0.037	-0.040	0.196**	0.167**	-0.100	0.068	0.045	0.068
GR nor	-0.222***	-0.173**	-0.224***	-0.069	0.063	0.046	0.075	0.039	0.138*
LLev nor	0.330***	0.253***	0.256***	0.141*	0.000	-0.093	-0.079	-0.062	-0.139*
Y	0.464***	-0.132*	0.047	0.241***	0.092	-0.196**	0.060	0.004	0.080

	SBoard nor	CEO	AC	AUD	Asset nor	LEV nor	PROF nor	LIQ nor
CEO	-0.094							
AC	0.171**	-0.191**						
AUD	0.268***	-0.141*	0.075					
SIZE nor	0.457***	-0.055	0.193**	0.367***				
LEV nor	0.117	-0.062	0.074	0.145*	0.383***			
PROF nor	0.102	-0.025	0.091	0.053	0.248***	-0.126		
LIQ nor	-0.026	0.017	-0.031	-0.098	-0.167**	-0.626***	0.144*	
IND1	0.273***	-0.221***	0.097	0.177**	0.511***	0.314***	0.143*	-0.074
IND3	0.001	0.106	-0.053	0.019	-0.072	-0.167**	0.057	-0.003
Age nor	0.191**	-0.196**	0.223***	0.296***	0.326***	0.248***	0.335***	-0.024
List	0.071	0.015	0.061	-0.032	0.156**	-0.015	0.295***	0.100
MC nor	0.445***	-0.048	0.234***	0.417***	0.883***	0.189**	0.362***	-0.005
NS nor	0.412***	-0.061	0.254***	0.379***	0.770***	0.465***	0.373***	-0.232***
PM nor	0.135*	0.042	0.057	0.040	0.107	-0.233***	0.677***	0.262***
GR nor	-0.090	0.033	-0.082	-0.130	-0.379***	-0.907***	0.052	0.717***
LLev nor	0.235***	-0.086	0.061	0.196**	0.467***	0.691***	-0.108	-0.424***
Y	0.146*	-0.053	0.734***	0.215***	0.137*	-0.012	0.146*	0.025

	IND1	IND3	Age nor	List	MC nor	NS nor	PM nor	GR nor	LLev nor
IND3	-0.221***								
Age nor	0.417***	-0.251***							
List	0.099	-0.043	0.237***						
MC nor	0.427***	-0.016	0.370***	0.192**					
NS nor	0.492***	-0.270***	0.546***	0.251***	0.711***				
PM nor	-0.006	0.343***	0.148*	0.169**	0.236***	0.064			
GR nor	-0.280***	0.183**	-0.202***	0.040	-0.152*	-0.449***	0.264***		
LLev nor	0.394***	-0.079	0.238***	-0.046	0.238***	0.386***	-0.220***	-0.676***	
Y	0.000	-0.000	0.348***	-0.083	0.231***	0.235***	0.152*	-0.003	-0.020

*** Correlation is significant at 0.01 level (2-tailed)
** Correlation is significant at 0.05 level (2-tailed)
* Correlation is significant at 0.1 level (2-tailed)

Appendix D

Table D.1 Mandatory Disclosure Checklist of the Year 1996

General
Basis of Reporting
1. Name of the enterprise whose financial statements are being presented;
2. Enterprise's country of incorporation;
3. Legal form of the enterprise;
4. Currency in terms of which financial statements are expressed;
5. Brief description of nature of activities of the enterprise;
6.Period covered by the financial statements.
Accounting Policies
Description of all significant accounting policies adopted in the preparation and presentation of financial statements.
a. General
(1) Basis of consolidation or combination;
(2) Translation of foreign currency transactions;
(3) Overall valuation policy (e.g. historical cost, general purchasing power, replacement value);
(4) Subsequent events;
(5) Leases, hire purchase, instalment transactions and related interest;
(6) Construction contracts;
(7) Taxes on income;
(8) Franchises.
b. Assets
(1) Receivables;
(2) Inventories (including work in progress);
(3) Investments;
(4) Property, plant, and equipment and depreciation on depreciable assets;
(5) Research and development costs;
(6) Goodwill and the amortization policy;
(7) Intangibles assets and amortization thereon.
c. Liabilities, provisions and reserves
(1) current and long-term liabilities;
(2) Deferred revenues;
(3) commitments and contingencies;
(4) Warranties;
(5) Provision for pension costs and contributions to retirement plans;
(6) Provisions for severance costs;
(7) Reserves (e.g., general reserve, statutory reserve).
d. Revenue and expenses
(1) Methods of revenue recognition;
(2) Gains and losses on disposal of property, plant and equipment.
3. If fundamental assumptions such as going concern, consistency, and the use of accrual accounting are not adhered to in the preparation of the financial statements, this fact should be disclosed.

Related Party Disclosures
Where transactions have taken place between related parties the following disclosures are required to be made by the reporting entity:
a. The nature of the related party relationship;
b. The types of related party transactions; and
c. The elements of the transactions necessary for an understanding of the financial statements including:
(1) An indication of the volume of the transactions either as an amount or as an appropriate proportion;
(2) Amounts or appropriate proportions of outstanding items;
(3) Pricing policies.
3. Aggregation of items of similar nature is permitted, unless separate disclosure is needed for an understanding of the effects of the related party transactions on the financial statements of the reporting enterprise.
Contingencies and Commitments
1. When the amount of a contingent loss cannot be recognized as an expense and a liability because probable loss could not be estimated, the existence of a contingent loss should be disclosed in the financial statements unless the possibility of a loss is remote.
2. The existence of contingent gains should be disclosed if it is probable that the gain will be realized. It is important, however, that the disclosure should avoid giving misleading implications as to the likelihood of realization.
3. When disclosure of contingencies is made as required the following information is to be disclosed:
a. The nature of the contingency;
b. The uncertain factors that have a bearing on the future outcome; and
c. Either of the following (1) An estimate of the financial effect of such contingency, or
(2) Disclosure that such an estimate cannot be made.
Events Occurring After Balance Sheet Date (Subsequent Events)
When subsequent events are disclosed the following information should be provided:
a. The nature of the subsequent event;
b. Either of the following: (1) The estimate of the effect it has on the financial statements, or
(2) Disclosure of the fact that such an estimate cannot be made.
Dividends proposed or declared after the balance sheet date but before approval of the financial statements should either be adjusted for or disclosed.
Comparative Financial Statements
Financial Statements should show comparative figures for the preceding period.
Other disclosures
1. Restrictions on the title of assets.
2. Securities provided in respect of liabilities.
3. Methods of providing for pension and retirement plans.
4. Contingent assets and contingent liabilities, quantified if possible.
5. Commitments towards future capital expenditures.
Balance Sheet
Cash
1. The amount of cash which includes: a. Cash on hand, and
b. Current and other accounts with banks.
2. Cash that is not available for use, like balances frozen in foreign banks by exchanges restrictions should be disclosed.
Receivables
Current receivables should be segregated into the following categories:
1. Trade accounts receivables and notes receivable;
2. Receivables from directors;

3. Intercompany receivables;
4. Receivables from associates; and
5. Other receivables and prepaid expenses.

Marketable Securities (other than long-term)

The market value of marketable securities to be disclosed if different from the carrying amount.

Inventories

1. The accounting policies and the cost formula used in inventory valuation.

2. Total carrying amount and the breakdown of the carrying amount by appropriate sub-classifications, such as merchandise, production supplies, work in progress and finished goods.

3. Carrying amount of inventories carrying at net realizable value.

4. Carrying amount of inventories pledged as security for liabilities.

5. The amount of any reversal of write-down that is recognized as income, along with disclosure of circumstances or events that led to the reversal.

6. When the cost of inventories is determined using the last-in, first-out (LIFO) formula, disclose the difference between the amount of inventories as shown in the balance sheet.

7. Disclose either of the following:

a. Cost of inventories reported in expense for the period; or

b. Operating costs, applicable to revenues, recognized as expenses for the period, classified by their nature

Property, Plant and Equipment (PP&E)

1. Separate disclosure is required for the following items:

a. Land and building;

b. Plant and equipment;

c. Other categories of PP&E;

d. Accumulated depreciation;

e. Leaseholds; and

f. Assets being acquired on the instalment purchase plan.

2. In respect of each class (i.e. groupings of assets of a similar nature and use) of PP&E, the following disclosures are required:

a. Measurement basis used for the determination of the gross carrying amount; if more than one basis has been employed then also the gross carrying amount determined in accordance with that basis in each category;

b. The depreciation method(s) used;

c. Either the useful lives or the depreciation rates used;

d. The gross carrying amount and the accumulated depreciation at the beginning and the end of the period;

e. A reconciliation of the carrying amount at the beginning and the end of the period disclosing:

(1) Additions;

(2) Disposals;

(3) Acquisitions by means of business combinations;

(4) Increases/decreases resulting from revaluations;

(5) Reductions in carrying value;

(6) Amounts written back to the asset accounts;

(7) Depreciation;

(8) Net exchange differences arising from translation of financial statements of a foreign entity; and

(9) Other changes if any.

3. Additional disclosure to be made include the following:

a. Whether in arriving at the recoverable amounts of items of PP&E, expected future cash flows were discounted to their present values;

b. The existence and amounts of restrictions on title, and PP&E pledged as security for liabilities;

c. The accounting policy for restoration costs relating to items of PP&E;

d. The amount of expenditures in respect of PP&E in the course of construction; and

e. The amount of outstanding commitments for acquisition of PP&E.
4. In case items of PP&E are stated at revalued amounts, disclose the following information:
a. The basis used to revalue the items of PP&E;
b. The effective date of revaluation;
c. Whether an independent party prepared the valuation;
d. The nature of the indices used to determine replacement costs;
e. The carrying amount of each class of PP&E that would have been included in the financial statements had the assets been carried at cost less accumulated depreciation basis; and
f. The revaluation surplus, including the movements for the period in that account and disclosure of any restrictions on the distribution of the balance in the revaluation surplus account to shareholders.
Other Long-term Assets
Disclose the following items separately including the method and period of depreciation and any unusual write-offs during the period:
1. Long-term investments
a. Disclosures about investments in subsidiaries include the following:
(1) (a) When certain subsidiaries have not been consolidated and these instead have been accounted for as if they were passive investments, the reason for not consolidating the subsidiary.
(b) The names of any enterprises in which more than one-half of the voting power is owned directly or indirectly through subsidiaries, but which, because of control, are not subsidiaries.
(2) A parent company, which is itself a wholly owned subsidiary, and which is not presenting consolidated financial statements have not been presented, together with the bases on which subsidiaries are accounted for in its separate financial statements as well as the name and registered office of its parent that publishes consolidated financial statements.
(3) In separate financial statements of a parent company, investments in subsidiaries that would otherwise be included in the consolidated financial statements should be either:
(a) Accounted for using the equity method; or
(b) Carried at cost or revalued amounts under the parent's accounting policy for long-term investments A description of the method used to account for these subsidiaries should be disclosed.
(4) The following disclosures are required in consolidated financial statements:
(a) A listing of significant subsidiaries, including the name, country of incorporation or residence, proportion of ownership interest and, if different, proportion of voting power held;
(b) The nature of relationship between the parent and a subsidiary of which the parent does not own, directly or indirectly through subsidiaries, more than one-half of the voting power, but which is being accounted for as a subsidiary due to the existence of effective control;
© The effect of the acquisition and disposal of subsidiaries on the financial position at the reporting date, and the results for the period and the corresponding amounts for the preceding period; and
(d) The fact that uniform accounting policies were not used for like transactions and other events affecting the parent and the subsidiaries, together with the proportion of the items in the consolidated financial statements to which the different accounting policies have been applied, if applicable
b. Investments in associates
(1) If an investment in an associate is carried at cost or revalued amounts, when the equity method would be appropriate accounting method for the associate if the investor issued consolidated financial statements, the investor is required to disclose what would have been the effect had the equity method been applied.
(2) Investments in associates accounted for using the equity method should be classified as long-term assets and separately set forth in the balance sheet. The investor's share of profits or losses of such investments should be disclosed as a separate item in the income statement and the investor's share of any extraordinary item or prior period items should be separately disclosed as well.
(3) The following disclosures are also required: (a) An appropriate listing and description of significant associates, including the proportion of ownership interest and, if different, the proportion of voting power.
(b) The method(s) used to account for such investments.
c. Other long-term investments

(1) (a) The accounting policies for: 1] The determination of the carrying amounts of investments; and
2] The treatment of revaluation surplus upon the sale of a revalued investment.
(b) The market value of marketable securities, if they are not carried at market values;
© The Fair values of investment properties, if they are accounted for as long-term investments and not carried at fair value;
(d) Significant restrictions on the realizability of investments or the remittance of income and the proceeds of disposal;
(e) In the case of long-term investment carried at revalued amounts: 1] The policy regarding the frequency of revaluations;
2] The date of the latest revaluation; and
3] The basis of revaluation and whether an external appraisal was obtained.
(f) The changes in the revaluation surplus for the period and the nature of such changes; and
(g) In the case of those entities whose principal business is the holding of investments, an analysis of the portfolio of investments.
2. Long-term receivables should be categorized as follows:
a. Trade accounts receivables and notes receivables;
b. Receivables from directors;
c. Intercompany receivables;
d. Receivables from associates; and
e. Others.
3. Other long-term assets
The following should be disclosed separately, including if applicable, the method and period of depreciation and any unusual write-offs during the period:
a. Goodwill;
b. Patents, trademarks, and similar assets;
c. Deferred expenditures (carried forward, e.g., preliminary expenses, reorganization expenses, and deferred taxes).

Current Liabilities

The following should be disclosed separately:
1. Bank loans and overdrafts;
3. Payables, categorized as to:
a. Accounts payable and notes payable;
b. Current portions of long-term liabilities;
c. Related parties (associates, directors, and intercompany);
d. Income taxes payable;
e. Dividends payable; and
f. Other payables and accrued expenses.

Long-term Liabilities

The following should be disclosed separately, net of the portion payable within one year (which should be included with current liabilities):
1. Secured loans;
2. Unsecured loans;
3. Intercompany loans; and
4. Loans from associates.
A summary of interest rates, repayment terms, covenants, conversion features and amounts of unamortized premiums or discounts should be disclosed.

Financial Instruments

a. For each class of either financial assets, financial liability or equity instrument, whether recognized in the balance sheet or not, disclose the following:

(1) Information concerning the extent and nature of the instrument, including significant terms and conditions which may affect the amount, timing or certainty of future cash flows; and
(2) The accounting policies and methods used to account for the instruments, including relevant criteria for recognition and the basis of measurement employed.
b. For each class of either financial asset or financial asset or financial liability, whether recognized in the balance sheet or not, disclose the following information about exposure to interest rate risk:
(1) The dates of contractual repricing or maturity, whichever comes first; and
(2) The effective interest rates, if applicable.
c. For each class of financial asset, whether recognized in the balance sheet or not, disclose the following information about exposure to credit risk:
(1) The amount which represents the maximum credit risk exposure as of the balance sheet date, without regard to any collateral held, should the other party fail to perform under the terms of the instruments; and
(2) Any significant concentrations of credit risk.
d. For each class of financial asset or financial liability, whether or not recognized in the balance sheet, disclose fair value information, unless this cannot be developed on a timely basis with sufficient reliability, in which case that fact must be stated, together with relevant information about the principal characteristics which would be determinative of the fair values of the instruments.
e. When financial assets are carried at amounts in excess of fair values, disclose the following:
(1) The carrying amounts and fair values of individual assets or appropriately grouped assets; and
(2) The reasons for not presenting the assets at fair values, including the nature of any evidence supporting management's belief that the carrying amounts will be recovered.
f. For instruments accounted for as hedges of anticipated transactions, disclose the following information:
(1) A description of the anticipated transactions, including the timing of expected occurrence;
(2) A description of the hedging instruments used; and
(3) The amount of any deferred (unrecognized gains or losses) as well as the expected timing of recognition.

Other Liabilities and Provisions

The significant items included in other liabilities and in provisions and accruals should be separately disclosed. Examples are provisions for pensions, deferred income taxes, etc.

Deferred Tax Liabilities and Assets

1. Tax assets and tax liabilities should be presented separately from other assets and liabilities; deferred tax assets and liabilities should be distinguished from those arising from current tax expense.
2. If a classified balance sheet is presented, current tax assets and liabilities should be set forth separately from noncurrent tax assets and liabilities.
3. Tax assets and tax liabilities relating to different jurisdictions should be presented separately.
4. Tax assets and tax liabilities relating to different enterprises in a group which are taxed separately by the taxation authorities should not be offset unless there is a legally enforceable right of offset.
5. When utilization of deferred tax assets is dependent upon future profitability in excess of amounts from the reversals of taxable temporary differences, and the entity has incurred losses in either the current or preceding period, the amount of deferred tax asset should be disclosed together with the nature of any evidence of its realizability.

Retirement Benefits

1. For defined contribution plans, the following disclosures are required:
a. A general description of the plans either individually or grouped, with an indication of the groups covered;
b. The amount recognized as expense during the period;
c. Any other significant matters that would affect comparability of the financial statements for the period with those of the prior period.
2. For defined benefits plans, the following disclosures are required:
a. A general description of the plans either individually or grouped, with an indication of the groups covered;
b. The accounting policies adopted for retirement benefit costs, including the actuarial methods used;
c. A statement about whether the plans are funded or not;

d. The amount recognized as expense during the period;
e. The actuarial present values of promised plan benefits as of the date of the most recent valuations;
f. If the plans are funded, the fair value of plan assets also as of the date of the most recent valuations;
g. If the amounts funded since the inception of the plans differ from the amounts recognized as expense over the same period, the amount of any resulting assets or liabilities and the funding approaches adopted;
h. A statement of the principal actuarial assumptions used in determining expense, and information about significant changes in those assumptions;
i. The date of the most recent actuarial valuations and the frequency of such valuations; and
j. Any other significant matters that would affect comparability of the financial statements for the period with those of the prior period, including matters about plan terminations, curtailments, or settlements.
Leases- From the Standpoint of Lessees
1. For finance leases:
a. The amount of assets that are the subject of finance leases at each balance sheet date.
b. Liabilities relating to the assets that are the subject of finance leases should be presented separately from other liabilities differentiating between current and noncurrent portions.
c. Commitments for minimum lease payments in the summary form, giving the amounts and the periods in which they become due.
2. For finance and operating leases:
a. Significant financing restrictions imposed by leasing arrangement, like limitations on additional borrowing or further leasing;
b. The nature of renewal options, purchase options or escalation clauses in the leasing arrangement;
c. The nature of any contingent rentals based on usage or sales; and
d. The nature of any other contingent liabilities arising from the leasing arrangement.
Leases- From the Standpoint of Lessors
Disclosure is required of the following at each balance sheet date:
1. Gross investment in finance leases.
2. Related unearned finance income.
3. Unguaranteed residual values of leased assets.
4. If significant portion of business comprises of operating leases, the amount of each major class of asset and related accumulated depreciation.
5. Disclosure of the basis used for allocating income so as to produce a constant periodic rate of return, indicating whether the return relates to the net investment outstanding or the net cash investment outstanding in the lease. If more than one basis used, the bases should be disclosed.
Stockholders' Equity
1. For each class of share capital disclose:
a. Par or legal value;
b. Number of shares authorized, issued, and outstanding;
c. Number of shares held in treasury;
d. Movements in share capital accounts during the period;
e. The amount of cumulative preference dividends in arrears;
f. Reacquired shares; and
g. Shares reserved for future issuance under options and sales arrangements, including terms and amounts.
2. For other equity accounts, disclose separately the following:
a. Capital paid-in in excess of par value;
b. Revaluation surplus;
c. Reserves; and
d. Retained earnings.
Income Statement
Basic Disclosures

1. Sales or other operating income;
2. Depreciation;
3. Interest income;
4. Income from investments;
5. Interest expense;
6. Taxes on income;
7. Extraordinary charges;
8. Extraordinary credits;
9. Significant intercompany transactions; and
10. Net profit or loss for the period

Investments

1. Disclosure is required of the following significant amounts included in income:
a. Interest, royalties, dividends and rentals on long-term and current investments;
b. Profits and losses on disposal of current investments; and
c. Changes in value of such investments
2. The following should be included in income:
a. Investment income from: (1) Unrealized gains and losses on current investments carried at market value, where such a policy has been adopted; and
(2) Reductions in market value and reversals of such reductions needed to carry current investments at the lower of cost and market.
b. In relation to long-term investments, reductions of the carrying amount for other than a temporary decline in value and reversals of such reductions; and
c. Profits and losses on disposals of long-term investments.

Income Taxes

1. Tax expense related to profit or loss from ordinary activities should be presented on the face of the income statement
2. The major components of tax expense should be presented separately. These commonly would include the following:
a. Current tax expense;
b. The amount of deferred tax expense relating to the origination and the reversal of timing differences;
c. The amount of deferred tax expense relating to changes in tax rates or the imposition of new taxes;
d. The amount of the benefit arising from a previously unrecognized tax loss, tax credit or temporary difference of a prior period that is used to reduce current taxes;
e. The amount of a benefit from a previously unrecognized tax loss, tax credit, or temporary difference of a prior period that is used to reduce deferred taxes;
f. Deferred tax expense related to a write-down of a deferred tax asset; and
g. The amount of tax expense relating to changes in accounting policies and correction of fundamental errors.
3. The following items also require separate disclosure:
a. Tax expense relating to items which are charged or credited to equity;
b. Tax expense relating to extraordinary items;
c. The amount and future availability of unrecognized tax assets, including any arising from business combinations, temporary differences, and tax loss or credit carry forwards;
d. An explanation, including a quantitative reconciliation, of the relationship between tax expense per the statement of income and the tax which would be computed by applying the applicable tax rates to pre-tax accounting income; when an applicable rate cannot be determined the numerical reconciliation may be deleted, but the reasons why a rate cannot be determined must then be set forth; and
e. The nature of temporary differences and of unused tax losses and tax credits that give rise to deferred tax assets and liabilities.

Extraordinary Items

1. The net profit or loss for the period should be comprised of:
a. Profit or loss from ordinary activities; and
b. Extraordinary items.
2. Each of the above components should be disclosed on the on the face of the income statement.
3. The nature and the amount of each extraordinary item should be separately disclosed.

Discounted Operations

The following disclosures are required to be made for each discontinued operation:
1. The nature of the discontinued operation;
2. The industry and geographical segments in which it is reported;
3. The effective date of discontinuance for accounting purposes;
4. The manner of discontinuance;
5. Gain or loss on discontinuance and the accounting policy used in measuring that gain or loss; and
6. The revenue and the profit and loss from the ordinary activities of the operation for the current period along with the corresponding figures for each period presented.

Segment Data

1. A description of each reported industry segment and the composition of each reported geographical segment should be set forth.
2. For each reported industry segment and geographical segment, disclose the following information:
a. Sales or operating revenues, distinguishing revenues from outside customers from inter-segment sales;
b. Segment results;
c. Segment assets employed, either in terms of monetary amounts or as percentages of consolidated totals; and
d. The basis used to price inter-segment transfers.
3. A reconciliation should be provided between the total of the individual segment data and the corresponding aggregated information in the financial statements.
4. If the composition of the segments changes or the accounting for segments has materially changes, this should be disclosed. The nature of the change, an explanation of the reasons therefore, and the effect of the change should be provided.

Research and Development

1. Research costs should be recognized as an expense in the period in which they are incurred and should not be recognized as an asset in the subsequent period.
2. In relation to the R&D costs, The following disclosures must be made:
a. Accounting policies adopted for R&D costs;
b. Amount of R&D costs recognized as an expense in the period;
c. The amortization method(s) used;
d. The useful lives or amortization rates used; and
e. A reconciliation of the balance of unamortized development costs at the beginning and the end of the period showing
(1) Development costs recognized as an asset;
(2) Development costs recognized as an expense;
(3) Development costs allocated to other assets; and
(4) Development costs written back.

Foreign Currency Translation

1. Disclosure is required of the following:
a. The amount of exchange differences included in net profit or loss for the period;
b. Net exchange differences classified as a separate component of equity, and a reconciliation of the amount of such exchange differences at the beginning and the end of the period; and
c. Amount of exchange differences that arose during the period and which is included in the carrying value of an asset.

2. If the reporting currency is different from the currency of the country in which the enterprise is domiciled, disclosure is required of the following:
a. The reason for using a different currency; and
b. The reason for any change in the reporting currency.
3. When there is a change in classification of a significant foreign operation, the following disclosures are required:
a. The nature of the change;
b. The reason for the change;
c. The impact of the change in classification on the shareholders' equity; and
d. The impact of the net profit or loss for each period presented as if the change had occurred at the beginning of the period presented.
4. Disclosure is required of the method selected to translate:
a. Goodwill arising on the acquisition of a foreign entity; and
b. Fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign entity.
5. A change in exchange rates occurring after the balance sheet date which is of such an importance that nondisclosure would affect the ability of users of the financial statements to make proper evaluations and decisions should be disclosed.
Business Combinations and Consolidations
1. For all business combinations, the following disclosures are required in the period in which a business combination takes place:
a. The names and descriptions of the combining enterprises;
b. The method of accounting for the combination;
c. The effective date of the combination for accounting purposes; and
d. A description of any operations of the combining entities which are to be disposed of.
2. For business combinations accounted for as acquisitions, the following disclosures are also required:
a. The percentage of voting shares acquired;
b. The cost of the acquisition and the nature of the consideration paid or payable; and
c. The nature and amount of any restructuring, plant closure or similar costs provided for in connection with the acquisition and recognized at that time.
3. The following disclosures are required in the financial statements:
a. The treatment being used to account for goodwill or negative goodwill, including the amortization period;
b. Justification of an estimated life for goodwill longer than 5 years, if applicable;
c. Justification for an amortization method other than straight-line, if applicable, including identification of the method used; and
d. A reconciliation of goodwill and negative at the beginning and end of the reporting period, showing:
(1) The gross amount and the accumulated amortization at the beginning of the period;
(2) Any additional goodwill or negative goodwill recorded during the period;
(3) Amortization charged during the period;
(4) Any other write-offs during the period; and
(5) The gross amount and the accumulated amortization at the end of the period.
4. If in an acquisition the fair values of assets and liabilities obtained or of consideration paid can only be provisionally determined at the end of the period in which it occurred, this must be stated and explained. Subsequent adjustments to the provisional fair values should be disclosed and explained in the financial statements of the period in which they occur.
5. For uniting of interests, the following disclosures are also required:
a. A description and amount of shares issued, together with the percentage of each entity's voting shares exchanged to effect the uniting;
b. The amounts of assets and liabilities contributed by each entity; and

c. Sales revenue, other operating revenues, extraordinary items and net profit of loss of each enterprise prior to the date of the combination that are included in the net profit or loss of the combined entity as reported in the financial statements.
6. If a business combination occurs after the date of the financial statements, the disclosures set forth above should nonetheless be made, unless impractical to do so, in which case that fact should be stated.

Cash Flow Statement

Basis of Presentation

1. A cash flow statement (CFS) should be prepared and presented as an integral part of an enterprise's financial statements for each period for which the financial statements are presented.
2. The CFS should report cash flows during the period classified by:
a. Operating activities;
b. Investing activities; and
c. Financing activities.

Format

1. Cash flows from operating activities should be reported using either:
a. The direct method under which major classes of gross cash receipts and gross cash payments are disclosed; or
b. The indirect method, wherein net profit or loss for the period is adjusted for the following:
(1) The effects of noncash transactions;
(2) Any deferrals or accruals of past or future operating cash receipts or payments; and
(3) Items of income or expense related to investing or financing cash flows.
2. An enterprise should generally report (separately) major gross cash receipts and payments from investing and financing activities.
3. Cash flows arising from extraordinary items should be classified as either: operating, investing or financing activities. Each of these items should be disclosed separately.
4. Cash flows from interest received and dividends received and dividends paid should be classified consistently as either: operating, investing or financing activities. Each of these items should be disclosed separately.
5. In relation to cash and cash equivalents, a cash flow statement should:
a. Disclose the policy which it adopts in determining the components;
b. Disclose the components; and
c. Present a reconciliation of the amounts in its CFS with similar items reported in the balance sheet.
6. The effect of exchange rate changes on cash equivalents held or due in foreign currency should be presented separately from cash flows from operating, investing and financing.
7. Noncash transactions arising from investing and financing activities should be excluded from CFS. Such transactions do not require the use of cash and cash equivalents and thus should be disclosed elsewhere in the financing statements by way of a note that provides all the relevant information about these activities.
8. Cash payments and receipts relating to taxes on income should be separately disclosed and classified as cash flows from operating activities unless they could be specifically be identified with financing and/or investing activities.
9. In relation to acquisitions or disposals of subsidiaries or other business units which should be presented separately and classified as investing activities, an enterprise should disclose the following:
a. The total purchase or sale price;
b. Portion of the consideration discharged by cash and cash equivalents;
c. Amount of cash and cash equivalents acquired or disposed; and
d. Amount of assets and liabilities (other than cash and cash equivalents) summarized by major category.
10. Significant cash and cash equivalent balances held by the enterprise which are not available for use by the group should be disclosed by the enterprise along with a commentary by management.

Table D.2 Mandatory Disclosure Checklist of the Year 2004

General
1. (a) A balance sheet;
(b) An income statement;
© A statement of changes in equity showing either (I) all changes inequity or (ii) changes in equity other than those arising from transactions or (ii) changes with equity holders acting in their capacity as equity holders.
(d) A cash flow statement; and
(e) Notes, comprising a summary of significant accounting policies & other explanatory notes.
2. Financial statements should be clearly identified and distinguished from other information in the same published document.
3. Clearly identify each component of the financial statements.
4. (a) The date when the financial statements were authorized for issue;
(b) The body who gave that authorization; and
(c) Whether the entity's owners or others have the power to amend the financial statements after issue.
5. (a) The name of the reporting entity or other means of identification, and any change in that information from the preceding balance sheet date;
(b) Whether the financial statements cover the individual entity or a group of entities;
(c) The balance sheet date or the period covered by the financial statements whichever is appropriate to the related component of the financial statement;
(d) The presentation currency; and
(e) Level of precision used in the presentation of figures in the financial statement.
6. Disclose that the financial statements comply with IFRS.
Other disclosures
(a) Present information about: (I) the basis of the financial statements; and
(ii) The specific accounting policies selected and applied for significant transactions and events.
(b) Disclose the information required by IFRS that is not presented elsewhere in the financial statements.
(c) Provide additional information that is not presented on the face of the financial statements but is relevant to the understanding of any of them.
2. Present the notes to the financial statements in a systematic manner.
3. Each item on the face of the balance sheet, income statement and cash flow statement should be cross-referenced to any related information in the notes.
4. (a) Disclose comparative information unless an IFRS permits or requires otherwise;
(b) Include comparative information in narrative and descriptive information when it is relevant to an understanding of the current period's financial statements;
(c) Disclose the nature, amount of, and reason for, any reclassification of comparative amounts; and
(d) When it is impracticable to reclassify comparative amounts disclose the reason for not reclassifying and the nature of the changes that would have been made if amounts were reclassified.
5 (a) The entity's domicile;
(b) The entity's legal form;
(c) The entity's country of incorporation;
(d) The address of the entity's registered office;
(e) Description of the nature of the entity's operations and its principal activities;
(f) Name of the parent entity (or other controlling shareholder); and
(g) Name of the ultimate parent entity.
If neither the parent entity nor the ultimate parent entity presents financial statements available for public use, disclose the name of the next most senior parent that does so.

6. Companies may present outside the financial statements a financial review by management that describes and explains the main features of the entity's financial performance and financial position, and the principal uncertainties it faces.

Accounting policies

1 (a) The measurement basis (or bases) used in the accounts (for example, historical cost); and
(b) The other accounting policies used that are relevant to an understanding of the financial statements.
2. In consolidated financial statements, all consolidate entities, including subsidiaries and associates, should use uniform accounting policies for like transactions and other events.
3. In accordance with the transition provisions of each standard, disclose whether any standards have been adopted by the reporting entity before the effective date.

2. Specific policies

1. Consolidation principles, including accounting for: (a) subsidiaries; and (b) associates.
2. Business combinations.
3. Joint ventures, including the method the venturer use to recognize its interests in jointly controlled entities.
4. Foreign currency transactions and translation
5. Property, plant and equipment – for each class: (a) Measurement basis (for example, cost less accumulated depreciation and impairment losses, or revaluation less subsequent depreciation);
(b) Depreciation method (for example, the straight-line method); and
(c) The useful lives or the depreciation rates used.
6. Investment property. Disclose: (a) whether the entity applies the fair value model or the cost model;
(b) If it applies the fair value model, whether, and in what circumstances, property interests held under operating leases are classified and accounted for as investment property;
(c) When classification is difficult, the criteria the entity uses to distinguish investment property from owner-occupied property and from property held for sale in the ordinary course of business;
(d) The fair value of investment property, including a statement on whether the determination of fair value was supported by market evidence; and
(e) The extent to which the fair value of investment property is based on a valuation by an independent valuer who holds a recognized and relevant professional qualification.
7. Other intangible assets. Disclose, for each class (distinguishing between internally generated and acquired assets):(a) accounting treatment (cost less amortization);
(b) Whether the useful lives are indefinite or finite;
(c) Amortization period and methods used for intangible assets with finite useful lives (for example, the straight-line method);
(d) That intangible assets with indefinite useful lives have been subjected to impairment review at least annually and whenever there is an indication that the intangible asset may be impaired; and
(e) Capitalization of other expenditure.
8. Research and development costs.
9. Borrowing costs *(for example, expensed or capitalized as part of a qualifying asset).*
10. For each class of financial asset, financial liability and equity instrument, disclose the accounting policies and methods adopted, including the criteria for recognition and the basis of measurement.
As part of the disclosure of an entity's accounting policies, disclose, for each category of financial assets, whether regular way purchases and sales of financial assets are accounted for at trade date or at settlement date.
(a) The criteria applied in determining when to recognize a financial asset or financial liability, and when to derecognize it;
(b) The measurement basis applied to financial assets and financial liabilities on initial recognition and subsequently; and
(c) The basis on which income and expenses arising from financial assets and financial liabilities are recognized and measured.
11. Leases.
12. Inventories, including the cost formula used (for example, FIFO or weighted average cost).
13. Provisions.

14. Employee benefit costs – including policy for recognizing actuarial gains and losses.
15. Share-based payments.
16. Taxes, including deferred taxes.
17. Revenue recognition.
18. The method adopted to determine the stage of completion of transactions involving the rendering of services.
19. Construction contracts, including:(a) methods used to determine contract revenue recognized; and
(b) Methods used to measure stage of completion of contracts in progress.
20. Government grants:(a) accounting policy; and
(b) Method of presentation in financial statements.
21. Definition of cash and cash equivalents.
22. Segment reporting :(a) definition of business and geographical segments; and
(b) The basis for allocation of costs between segments.
23. Any other significant accounting policy that is not specifically required by IFRS, but is selected and applied in accordance with IAS 8.
24. The accounting policies section or other notes should describe management's judgments, apart from those involving estimations, made in the process of applying the entity's accounting policies.

Changes in accounting policy

1. Where a change in accounting policy is made on the adoption of an IFRS, provide the disclosures in accordance with the specific transitional provisions of that standard.
2. On initial application of a relevant standard or interpretation, disclose:(a) the title of the standard or interpretation;
(b) That the change in accounting policy is made in accordance with its transitional provisions, when applicable;
(c) The nature of the change in accounting policy;
(d) A description of the transitional provisions, when applicable;
(e) The transitional provisions that might have an effect on future periods, when applicable;
(f) The amount of the adjustment for the current period and each prior period presented, to the extent practicable:(i) for each financial statement line item affected; and if IAS 33 applies to the entity, the impact on basic and diluted earnings per share;
(g) The amount of the adjustment relating to periods before those presented, to the extent practicable; and
(h) If the retrospective application required is impracticable for a particular prior period, or for periods before those presented, the circumstances that led to the existence of that condition and a description of how and from when the change in accounting policy has been applied.
3. If an entity has not applied a new relevant standard or interpretation that has been issued but is not yet effective, disclose:(a) the fact that the entity did not apply the new standard or interpretation that has been issued but is not yet effective; and
(b) Known or reasonably estimable information relevant to assessing the possible impact that application of the new standard or interpretation will have on the entity's financial statements in the period of initial application.
4. On a voluntary change in accounting policy, disclose:(a) the nature of the change in accounting policy in order to provide reliable and more relevant information;
(b) The reasons why applying the new accounting policy provides reliable and more relevant information;
(c) The amount of the adjustment for the current period and each prior period presented, to the extent practicable:(i) for each financial statement line item affected;
(ii) If IAS 33 applies to the entity, the impact on basic and diluted earnings per share;
(d) The amount of the adjustment relating to periods before those presented, to the extent practicable; and
(e) If the retrospective application required is impracticable for a particular prior period, or for periods before those presented, the circumstances that led to the existence of that condition and a description of how and from when the change in accounting policy has been applied.

Income statement (and related notes)

1. The face of the income statement should include (a) Revenue;
(b) Finance costs;
(c) Share of the profit or loss of associates and joint ventures accounted for using the equity method;

(d) A single amount comprising the total of:(i) the post-tax profit or loss of discontinued operations;(ii) the post-tax gain or loss recognized on the remeasurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operations;
(e) Tax expense; and
(f) Profit or loss.
2. The following items should be disclosed on the face of the income statement as allocations of profit or loss for the period: (a) Profit or loss attributable to minority interest; and
(b) Profit or loss attributable to the parent's equity holders.
3. Disclose, either on the face of the income statement, in the statement of changes in equity or in the notes, the amount of dividends recognized as distributions to equity holders during the period, and the related amount per share.
4. Disclose the nature and amount of a change in an accounting estimate that has an effect in the current period or that is expected to have an effect in future periods. If it is impracticable to estimate the amount, disclose this fact.
1. When a class of similar items of income and expense are material, their nature and amount should be disclosed separately.
2. Disclose the amount of each significant category of revenue recognized during the period, including revenue arising from:(a) the sale of goods;
(b) The rendering of services;
(c) Interest;
(d) Royalties; and
(e) Dividends
3. Disclose the amount of non-cash revenue arising from exchanges of goods or services included in each significant category of revenue.
4. Disclose the accounting treatment applied to any fee received in an arrangement that has the legal form of a lease but that in substance does not involve a lease under IAS 17, the amount recognized as income in the period, and the line item of the income statement in which it is included.
6. Analyze the items below revenue using a classification based on either the nature of expense or their function within the entity. If analyzed by nature of expenses, this comprises: (a) other income;(b) changes in inventories of finished goods and work in progress;(c) raw materials and consumables used;(d) employee benefit costs; (e) depreciation and amortization expense; and (f) other expenses. Or
7. If analyzed by function of expenses, this comprises:(a) cost of sales;(b) gross profit;(c) other income;(d) distribution costs;(e) administrative expenses; and(f) other expenses.
8. Entities classifying expenses by function should disclose additional information on the nature of expenses. 9. Such information should include: (a) depreciation and amortization expense; and (b) employee benefits costs.
10. Employee benefits – disclose:(a) the expense for defined contribution plans;
(b) For defined benefit plans – the total expense for each of the following, and the line item(s) of the income statement in which they are included:(i) current service cost;
(ii) Interest cost;
(iii) Expected return on plan assets;
(iv) Expected return on any reimbursement right recognized as an asset;
(v) Actuarial gains and losses;
(vi) Past service cost; and
(vii) The effect of any curtailment or settlement.
(c) For defined benefit plans:(i) The actual return on plan assets; and
(ii) The actual return on any reimbursement right recognized as an asset;
(d) The expense resulting from other long-term employee benefits, if significant; and
(e) The expense resulting from termination benefits, if significant.
11. Disclose research and development expenditure recognized as an expense during the period.

12. Disclose the amount of foreign exchange differences recognized in profit or loss except for those arising on financial instruments measured at fair value through profit or loss in accordance with IAS 39.
13. Disclose for each class of assets the following amounts recognized during the period, and the line item(s) of the income statement in which they are included: (a) impairment losses; and (b) reversals of impairment losses.
14. Disclose the following amounts recognized during the period and the line item(s) of the income statement in which they are included: (a) amortization of intangible assets (by each class); recognized as income; and
(b) Excess of acquirer's interest in the net fair value of acquirer's assets, liabilities and contingent liabilities over cost.
15. Investment property – disclose:(a) Rental income;
(b) Direct operating expenses including repairs and maintenance arising from investment property that generated rental income during the period; and
(c) Direct operating expenses including repairs and maintenance arising from investment property that did not generate rental income during the period.
16. Disclose the following material items resulting from financial assets and financial liabilities: (a) income; (b) expense; (c) gains; and (d) losses.
17. The disclosures in paragraph 16 above should include the following:(a) total interest income and expense calculated using the effective interest method for financial assets and financial liabilities that are not at fair value through profit or loss;
(b) For available for sale assets, the amount that was removed from equity and recognized in profit or loss for the period;
(c) The amount of interest income that has been accrued on impaired loans in accordance with IAS 39;and
(d) Total gains and losses from fair value adjustments of recognized assets and liabilities analyzed into the following categories:(i) available-for-sale assets;(ii) financial assets and liabilities at fair value through profit or loss; and (iii) hedging instruments.
18. Disclose the nature and amount of any impairment loss recognized in profit or loss for a financial asset, separately for each significant class of financial asset.

Income tax

1. Disclose the major components of tax expense (income).
2. Provide an explanation of the relationship between tax expense (income) and accounting profit in either of the following forms: (a) numerical reconciliation between tax expense (income) and product of accounting profit, multiplied by the applicable tax rate(s), disclosing also the basis on which the applicable tax rate(s) is (are) computed (see IAS 12 para 85); or (b) a numerical reconciliation between the average effective tax rate and the applicable tax rate, disclosing also the basis on which the applicable tax rate is computed (see IAS 12 para 85).
3. Provide an explanation of changes in the applicable tax rate(s) compared to the previous period.

Extraordinary items

1. Items of income and expense should not be presented as extraordinary items anywhere, neither on the face of the income statement nor in the notes.

Statement of changes in shareholders' equity

1. Present as a primary financial statement: (i) a statement of all changes in equity; or (ii) a statement of income and expense recognized in equity.
2. The statement of changes in equity should disclose the following:(a) profit or loss for the period;
(b) Each item of income and expense for the period that is recognized directly in equity, as required by other standards and interpretations, and the total of these items
(c) Total income and expense for the period (calculated as the sum of (a) and (b) above), showing separately the total amounts attributable to the parent's equity holders and to minority interest; and
(d) For each component of equity, the effects of changes in accounting policies and corrections of errors recognized in accordance with IAS 8.
(e) Transactions with equity holders: (i) issue of share capital;
(ii) Purchase of own shares; and
(iii) Contracts that will be settled by the entity (receiving or) delivering a fixed number of its own equity instruments in exchange for a fixed amount of cash or another financial asset;

(f) Transaction costs, relating to issue of share capital, deducted from shareholders' equity;
(g) Distributions to owners *(for example, dividends)*;
(h) A reconciliation between the carrying amount at the beginning and end of the period for the following items (separately disclosing each movement);(I) each class of share capital;
(ii) Share premium;
(iii) Own shares (treasury shares);
(iv) Each reserve in share holders' equity;
(v) Retained earnings; and
(i) The equity conversion element of convertible debt.
General Disclosures 1. A description of the nature and purpose of each reserve within shareholders' equity, including restrictions on the distribution of the revaluation reserves.
2. The aggregate current and deferred tax relating to items charged or credited to equity.
3. The amount of impairment losses and the amount of reversals of impairment losses, recognized directly in equity during the period, for each class of assets.
4. Disclose the following for each class of share capital either on the face of the balance sheet or in the notes (a) The number of shares authorized;
(b) The number of shares issued and fully paid, and issued but not fully paid;
(c) Par value per share, or that the shares have no par value;
(d) A reconciliation of the number of shares outstanding at the beginning and end of the year;
(e) The rights, preferences and restrictions attached to each class of share capital, including restrictions on the distribution of dividends and the repayment of capital;
(f) Shares in the entity held by the entity itself or by the entity's subsidiaries or associates; and
(g) Shares reserved for issuance under options and sales contracts, including the terms and amounts.
5. Certain types of preference shares must be classified as liabilities *(not in equity).*
7. Disclose the amount of dividends proposed or declared before the financial statements were authorized for issue but not recognized as a distribution to equity holders during the period, and the related amount per share.
8. Disclose the amount of any cumulative preference dividends not recognized.
Balance sheet (and related notes)
1. The face of the balance sheet should include the following line items,(a) property, plant and equipment;
(b) Investment property;
(c) Intangible assets;
(d) Financial assets – for example, investments (excluding amounts shown under (e), (h) & ((I)
(e) Investments accounted for using the equity method;
(f) Biological assets;
(g) Inventories;
(h) Trade and other receivables;
(i) Cash and cash equivalents;
(j) Trade and other payables;
(k) Provisions;
(l) Financial liabilities (excluding amounts shown under (j) and (k));
(m) Liabilities and assets for current tax, as defined in IAS 12;
(n) Deferred tax liabilities and deferred tax assets, as defined in IAS 12
(o) Minority interest (presented within equity); and
(p) Issued capital and reserves attributable to equity holders of the parent.
Additional line items, headings and subtotals should be presented the face when such presentation is relevant
2. Disclose further sub-classifications of the line items presented, classified in a manner appropriate to the entity's operations, either on the face of the balance sheet or in the notes to the balance sheet.
3. Is the current/non-current distinction of assets and liabilities made on the face of the balance sheet? (i) Yes – ensure that classification rules are applied ;(ii) No – in this exception, ensure that a presentation based on liquidity provides information that is reliable and more relevant. Ensure also that assets and liabilities are

presented broadly in order of their liquidity.
4. Whichever method of presentation in paragraph 3 above is applied, disclose the non-current portion (the amount expected to be recovered or settled after more than 12 months) for each asset and liability item that combines current and non-current amounts.

Measurement uncertainty

1.The notes should include details of information about the key assumptions concerning the future, and other key sources of estimation uncertainty at the balance sheet date, that have a significant risk (a) the nature of these assets and liabilities; and
(b) Their carrying amount as at the balance sheet date.
2. For each class of provision, provide:(a) a brief description of the nature of the obligation and of the expected timing of any resulting outflows of economic benefits;
(b) An indication of the uncertainties about the amount or timing of those outflows;
(c) The amount of any expected reimbursement, stating the amount of any asset that has been recognized for that expected reimbursement.
4. (a) Methods and assumptions applied in determining fair values for:(i)investment property
(ii) Property, plant and equipment;
(iii) Intangible assets;
(iv) Impairment of assets – basis and key assumptions for determining fair value less costs to sell;
(v) Business combinations – basis for determining fair value of instruments issuable in a business combination;
(vi) Financial instruments;
(vii) Share-based payments;
(viii) Agricultural produce and biological assets;
(c) Nature, timing and certainty of cash flows relating to the following:(i) contingencies;
(ii) Financial instruments – terms and conditions that may affect the amount, timing and certainty of future cash flows;
(iii) Public service concession arrangements – terms and conditions that may affect the amount, timing and certainty of future cash flows; and
(iv) Insurance – information about nature, timing and uncertainty of future cash flows from insurance contracts;
(d) Other relevant disclosures:(i)impairment of assets;
(ii) Post-employment defined benefit plans – ;
(iii) Insurance – process used to determine assumptions;
(iv) Retirement benefit plan entities – actuarial assumptions.

Property, plant and equipment

1. Disclose the gross carrying amount and the accumulated depreciation (including accumulated impairment losses) for each class of property, plant and equipment (PPE), at the beginning and end of each period presented.
2. Provide a reconciliation of the carrying amount for each class of PPE at the beginning and end of each period presented showing:(a) additions;
(b) Disposals;
(c) Acquisitions through business combinations;
(d) Increases or decreases during the period that result from revaluations and impairment losses recognized or reversed directly in equity under IAS 36;
(e) Impairment losses recognized during the period;
(f) Impairment losses reversed during the period;
(g) Depreciation;
(h) Net exchange differences on the translation of financial statements into a different presentation currency and on translation of a foreign operation into the presentation currency of the reporting entity; and
(i) Other movements.
3. For PPE stated at revalued amounts, disclose:(a) the effective date of the revaluation;
(b) Whether an independent valuer was involved;
(c) The methods and significant assumptions applied in estimating the items' fair values;

(d) The extent to which the items' fair values were determined directly by reference to observable prices in an active market or recent market transactions on arm's length terms, or the extent to which they were estimated using other valuation techniques; and
(e) For each revalued class of PPE, the carrying amount that would have been recognized had the assets been carried under the cost model.
4. Disclose the existence and amounts of PPE whose title is restricted.
5. Disclose the amounts of PPE pledged as security for liabilities.
6. Disclose the amount of expenditures on account of PPE in the course of construction.
7. If it is not disclosed separately on the face of the income statement, disclose the amount of compensation from third parties for items of PPE that were impaired, lost or given up and that is included in profit or loss.
8. Borrowing costs. Disclose:(a) the amount of borrowing costs capitalized during the period; and
(b) The capitalization rate used to determine the amount of borrowing costs eligible for capitalization.
9. Provide the net carrying amount for each class of assets held under finance leases.
Investment property
1. Provide a reconciliation of the carrying amount of investment property at the beginning and end of each period presented showing the following:
(a) Additions;
(b) Additions from acquisitions through business combinations;
(c) Capitalized subsequent expenditure;
(d) Disposals;
(e) Depreciation (where the cost model in IAS 40 is used);
(f) Impairment losses and impairment losses reversed;
(g) Net gains or losses from fair value adjustments;
(h) Net exchange differences arising on the translation of the financial statements into a different presentation currency and on translation of a foreign operation into the presentation currency of the reporting entity;
(i) Transfers to and from: inventories; and owner-occupied property; and
(j) Other movements.
2. If there has been no valuation by an independent professionally qualified valuer, disclose that fact.
3. If the fair value model is used, but certain investment properties are carried under the IAS 16 cost model because of the lack of a reliable fair value, provide: (a) A description of the investment property;
(b) An explanation of why fair value cannot be reliably measured;
(c) The range of estimates within which fair value is highly likely to lie;
(d) If the entity disposes of investment property whose fair value previously could not be measured reliably, disclose: (i) That the entity has disposed of the investment property not carried at fair value;
(ii) The carrying amount of that investment property at the time of sale; and
(iii) The gain or loss on disposal.
4. If the cost model is used, disclose the fair value of investment property.
5. Disclose the existence and amounts of restrictions on the reliability of investment property or the remittance of income and proceeds of disposal.
6. If the cost model is used, disclose:(a) depreciation methods used;
(b) The useful lives or the depreciation rates used; and
(c) The gross carrying amount and the accumulated depreciation: (i) at the beginning of the period; and (ii) at the end of the period.
7. When a valuation obtained for investment property is adjusted significantly for the purpose of the financial statements, disclose:(a) a reconciliation between the valuation obtained and the adjusted valuation included in the financial statements;
(b) Separately, in the reconciliation: (i) The aggregate amount of any recognized lease obligations that have been added back; and
(ii) Any other significant adjustments.

Intangible assets (excluding goodwill)
1. A reconciliation of the carrying amount in respect of each class of intangible asset, distinguishing between:(a) internally generated intangible assets; and
(b) Other intangible assets.
The reconciliation should show the following:(a) gross carrying amount and accumulated amortization at the beginning of the period;
(b) Additions (indicating separately those from internal development, those acquired separately, and those acquired through business combinations);
(c) Retirements and disposals (disclose separately the assets reclassified as held for sale or included in a disposal group classified as held for sale);
(d) Increases or decreases resulting from revaluations and from impairment losses recognized or reversed directly in equity
(e) Impairment losses recognized during the period;
(f) Impairment losses reversed during the period;
(g) Amortization;
(h) Exchange differences from the translation of the financial statements into a different presentation currency and from the translation of a foreign operation into the presentation currency;
(i) Other movements; and
(j) The gross carrying amount and accumulated amortization at the end of the period.
2. For intangible assets with indefinite useful lives, disclose:(a) the carrying amount; and
(b) The reasons supporting the assessment of an indefinite useful life.
3. Provide the description, carrying amount and remaining amortization period of any individual intangible asset that is material to the financial statements of the entity as a whole.
4. For intangible assets carried at revalued amounts, disclose for each class of intangible assets:(a) the effective date of the revaluation;(b) the carrying amount of revalued intangible assets; and(c) the carrying amount that would have been included in the financial statements if the assets had been carried at cost less depreciation.
5. Disclose the method and significant assumptions applied in estimating the fair values of the intangible assets.
6. Disclose: (a) The existence and amounts of intangible assets whose title is restricted; and (b) The amounts of intangible assets pledged as security for liabilities.
7. For intangible assets acquired through a government grant and initially recognized at fair value (see IAS 38 para 44), disclose:(a) The fair value initially recognized for these assets;(b) Their carrying amount; and (c) Whether they are carried at cost less depreciation or at revalued amounts.
Goodwill and 'negative goodwill'
1. Provide a reconciliation of the carrying amount of goodwill, showing:(a) Gross carrying amount and accumulated impairment losses at the beginning of the period;
(b) Additions;
(c) Adjustments resulting from the subsequent recognition of deferred tax assets during the period;
(d) Disposals;
(e) Impairment losses recognized during the period;
(f) Net exchange differences arising during the period;
(g) Other changes during the period; and
(h) Gross carrying amount and accumulated impairment losses at the end of the period.
Associates
1. Associates accounted for using the equity method. Disclose:(a) Associates as a separate item under non-current assets;
(b) Separately, the investor's share of any discontinued operations of associates.
2. Disclose that investments in associates include goodwill (less accumulated impairment) on the acquisition of the investment in the associate.
3. The following disclosures should be made: (a) The fair value of investments in associates (individually) for which there are published price quotations;

(b) Summarized financial information of associates (individually for each significant associate), including the aggregated amounts of assets, liabilities, revenues and profit or loss;
(c) The reasons why the presumption that an investor does not have significant influence is overcome if the investor holds, directly or indirectly through subsidiaries, less than 20% of the voting or potential voting power of the investor but concludes that it has significant influence;
(d) The reasons why the presumption that an investor has significant influence is overcome if the investor holds, directly or indirectly through subsidiaries, 20% or more of the voting or potential voting power of the investor but concludes that it does not have significant influence;
(e) The reporting date of an associate's financial statements, when it is different from that of the investor, and the reason for using a different reporting date;
(f) The nature and extent of any significant restrictions on associates' ability to transfer funds to the investor in the form of cash dividends, or repayment of loans or advances;
(g) The unrecognized share of an associate's losses, both for the period and cumulatively, if an investor has discontinued recognition of its share of an associate's losses;
(h) The fact that an associate is not accounted for using the equity method; and
(i) Summarized financial information of associates, either individually or in groups that are not accounted for using the equity method, including the amounts of total assets, total liabilities, revenues and profit or loss.
4. The investor's share of changes recognized directly in the associate's equity should be recognized directly in equity by the investor and should be disclosed in the statement of changes in equity.
5. (a) The investor's share of an associate's contingent liabilities incurred jointly with other investors; and
(b) Those contingent liabilities that arise because the investor is liable for all or part of the liabilities of the associate.
Joint ventures
1. A venturer should disclose:(a) a listing and description of interests in significant joint ventures and the proportion of ownership interest held in jointly controlled entities;
(b) The aggregate amounts of each of current assets, long-term assets, current liabilities, long-term liabilities, income and expenses related to its interests in joint ventures.
2. Disclose separately from other contingent liabilities:(a) Any contingent liabilities that the venturer has incurred in relation to its interests in joint ventures and its share in each of the contingent liabilities that have been incurred jointly with other venturers;
(b) Its share of the contingent liabilities of the joint ventures themselves for which it is contingently liable; and
(c) The contingent liabilities that arise because the venturer is contingently liable for the liabilities of the other venturers of a joint venture.
3. Disclose separately from other commitments the aggregate of:(a) any capital commitments of the venturer in relation to its interests in joint ventures and its share in the capital commitments that have been incurred jointly with other venturers; and
(b) Its share of the capital commitments of the joint ventures themselves.
Subsidiaries
1. In consolidated financial statements, disclose: (a) Summarized financial information of subsidiaries, either individually or in groups, that are not consolidated, including the amounts of total assets, total liabilities, revenues and profit or loss;
(b) The nature of the relationship between the parent and a subsidiary when the parent does not own, directly or indirectly through subsidiaries, more than half of the voting power;
(c) The reasons why the ownership, held directly or indirectly through subsidiaries, of more than half of the voting or potential voting power of an investor does not constitute control;
(d) The reporting date of a subsidiary's financial statements when it is different from that of the parent, and the reason for using a different reporting date or period; and
(e) The nature and extent of any significant restrictions (for example, resulting from borrowing arrangements or regulatory requirements) on the ability of subsidiaries to transfer funds to the parent in the form of cash dividends or to repay loans or advances.

2. When separate financial statements are prepared for a parent that elects not to prepare consolidated financial statements, disclose: (a) The fact that the financial statements are separate financial statements; and
(i) That the exemption from consolidation has been used;
(ii) The name and country of incorporation or residence of the entity whose consolidated financial statements that comply with IFRS have been produced for public use; and
(iii) The address where those consolidated financial statements are obtainable;
(b) A list of significant investments in subsidiaries, jointly controlled entities and associates, including: (i) the name;
(ii) Country of incorporation or residence;
(iii) Proportion of ownership interest and;
(iv) If different, proportion of voting power held; and
(c) A description of the method used to account for the investments listed under (b) above.
3. When a parent (other than a parent covered by IAS 27 para 41 – see paragraph 2 above), venturer with an interest in a jointly controlled entity or an investor in an associate prepares separate financial statements, disclose:(a) The fact that the statements are separate financial statements and the reasons why those statements are prepared if not required by law;
(b) A list of significant investments in subsidiaries, jointly controlled entities and associates, including: (i) the name;
(ii) Country of incorporation or residence;
(iv) If different, proportion of voting power held; and
(c) A description of the method used to account for the investments listed under (b) above.

Investments – financial assets

1. Under IAS 39 financial assets are classified into: (a) held at fair value through profit or loss (including trading);
(b) Held-to-maturity;
(c) Loans and receivables; and
(d) Available-for-sale.
2. Although not required by IAS 39, it is useful to disclose a reconciliation of the carrying amount of investments at the beginning and end of the period showing movements, impairment losses and exchange differences arising on translation of the financial statements of a foreign entity when investments are significant.
3. For available-for-sale financial assets, disclose: (a) the amount of any gain or loss that was recognized in equity during the current period; and
(b) The amount that was removed from equity and reported in net profit or loss for the period.
4. If the entity has reclassified a financial asset as one required to be measured at cost or amortized cost rather than at fair value, disclose the reason for the reclassification

Inventory

1. Disclose the carrying amount of inventories in total, sub-classified by main categories appropriate to the entity.
2. Disclose the carrying amount of inventories carried at fair value less costs to sell.
3. Disclose the amount of inventories and the amount of write-down recognized as expenses during the period.
4. Disclose the amount of, and circumstances or events leading to, the reversal of any write-down that is recognized as a reduction in the amount of inventories recognized as expense in the period.
5. Disclose the carrying amount of inventories pledged as security for liabilities.
6. Where inventories combine current and non-current amounts, disclose the amount of the non-current portion that is expected to be recovered or settled after more than 12 months.

Trade and other receivables

1. (a) Trade receivables;
(b) Receivables from subsidiaries (in standalone accounts);

(c) Receivables from related parties (see Section A5.21);
(d) Other receivables; and
(e) Prepayments
2. Impairment losses recognized during the period on receivables should be disclosed.
3. Where trade and other receivables combine current and non-current amounts, disclose the amount of the non-current portion that is expected to be recovered or settled after more than 12 months.

Income taxes

1. Deferred tax assets and deferred tax liabilities should be presented separately on the face of the balance sheet.
2. Current income tax assets and liabilities should be presented separately on the face of the balance sheet.
3. Deferred tax assets (liabilities) should be classified as non-current assets (liabilities) if a distinction between current and non-current assets and liabilities is made on the face of the balance sheet.
4. Disclose the amount of the non-current portion of deferred or current taxes that is expected to be recovered or settled after more than 12 months.
5. (a) The amount (and expiry date, if any) of deductible temporary differences, unused tax losses, and unused tax credits for which no deferred tax asset is recognized in the balance sheet;
(b) The aggregate amount of temporary differences associated with investments in subsidiaries, branches and associates and interests in joint ventures, for which deferred tax liabilities have not been recognized
6. In respect of each type of temporary difference, and in respect of each type of unused tax losses and unused tax credits, disclose: (a) the amount of the deferred tax assets and liabilities recognized in the balance sheet for each period presented; and
(b) The amount of the deferred tax income or expense recognized in the income statement, if this is not apparent from the changes in the amounts recognized in the balance sheet
7. Disclose the amount of a deferred tax asset and the nature of the evidence supporting its recognition, when:(a) The utilization of the deferred tax asset is dependent on future taxable profits in excess of the profits arising from the reversal of existing taxable temporary differences; and
(b) The entity has suffered a loss in either the current or preceding period.
9. If income taxes are payable at a higher or lower rate if part or all of the net profit or retained earnings is paid out as a dividend, disclose: (a) The nature of the potential income tax consequences that would result from the payment of dividends; and
(b) The amounts of the potential income tax consequences practically determinable, and whether there are any potential income tax consequences not practically determinable.

15. Trade and other payables

1. Payables should be disclosed in a manner appropriate to the entity's operations, with the following specific disclosures:(a) Trade payables;
(b) Payables to subsidiaries (in standalone accounts);
(c) Payables to related parties (see Section A5.21);
(d) Other payables;
(e) Accruals; and
(f) Deferred income.
2. Where any of the above items combine current and non-current amounts, disclose the amount of the non-current portion that is expected to be recovered or settled after more than 12 months.

16. Provisions

1. For each class of provision, disclose: (a) the carrying amount at the beginning of the period;
(b) Exchange differences from the translation of foreign entities' financial statements
(c) Provisions acquired through business combinations;
(d) Additional provisions made in the period and increases to existing provisions
(e) Amounts used (incurred and charged against the provision);
(f) Amounts reversed unused;
(g) The increase during the period in the discounted amount arising from the passage of time and the effect of

any changes in the discount rate; and
(h) The carrying amount at the end of the period.
2. Where any provision combines current and non-current amounts, disclose the amount of the non-current portion that is expected to be recovered or settled after more than 12 months.

17. Post employment benefits – defined benefit plans

1. Provide a general description of the type of defined benefit plan.
2. Provide a reconciliation of the assets and liabilities recognized in the balance sheet, showing at least: (a) the present value at the balance sheet date of defined benefit obligations that are wholly unfunded;
(b) The present value (before deducting the fair value of plan assets) at the balance sheet date of defined benefit obligations that are wholly or partly funded;
(c) The fair value of any plan assets at the balance sheet date;
(d) The net actuarial gains or losses not yet recognized in the balance sheet;
(e) The past service cost not yet recognized in the balance sheet;
(f) Any amount not recognized as an asset; and
(g) The amounts recognized in the balance sheet date (i) the fair value at the balance sheet date of any right to reimbursement recognized as an asset; and
(ii) A brief description of the link between the reimbursement and the related obligation.
3. Where the amounts recognized in the balance sheet combine current and non-current amounts, disclose the amount of the non- current portion.
4. Disclose the amounts included in the fair value of plan assets for:(a) each category of the reporting entity's own financial instruments; and
(b) Any property occupied by, or other assets used by, the reporting entity.
5. Provide a reconciliation showing the movements during the period in the net liability (or asset) recognized in the balance sheet.
6. Disclose the principal actuarial assumptions used as at the balance sheet date, including: (a) the discount rates;
(b) The expected rates of return on any plan assets for the periods presented in the financial statements;
(c) The expected rate of return for the periods presented in the financial statements on any reimbursement right recognized as an asset;
(d) The expected rates of salary increases;
(e) Medical-cost trend rates; and
(f) Any other material actuarial assumptions used.
8. For multi-employer plans that are treated as a defined contribution plan, disclose: (a) the fact that the plan is a defined benefit plan;
(b) The reason why sufficient information is not available to enable the entity to account for the plan as a defined benefit plan;
(c) To the extent that a surplus or deficit in the plan may affect the amount of future contributions, disclose in addition: (i) any available information about that surplus or deficit; (ii) the basis used to determine that surplus or deficit; and (iii) the implications, if any, for the entity.
On first time adoption of IAS 19an entity should determine its transitional liability in accordance with IAS 19 para 154, the entity should disclose at each balance sheet date:(a) The amount of the difference that remains unrecognized; and (b) The amount recognized in the current period.

Lease liabilities

(a) Lessees – finance leases

(a) A reconciliation between the total minimum lease payments at the balance sheet date, and their present value;
(b) The total of minimum lease payments at the balance sheet date,
and their present value, for each of the following periods:(i) no later than one year; (ii) later than one year but no later than five years; and(iii) later than five years;
(c) The amount of contingent rents recognized in the income statement for the period;
(d) The total of future minimum sublease payments expected to be received under non-cancellable subleases at the balance sheet date; and

(e) A general description of the lessee's significant leasing arrangements. This would include, but is not limited to:(i) the basis on which contingent rent payments are determined; (ii) the existence and terms of renewal or purchase options and escalation clauses; and (iii) restrictions imposed by lease arrangements, such as those concerning dividends, additional debt and further leasing.

(b) Lessees – operating leases

1. Disclose: (a) The total of future minimum lease payments under non-cancellable operating leases for each of the following periods :(i) not later than one year; (ii) later than one year and not later than five years; and (iii) later than five years.
(b) The total of future minimum sublease payments to be received under non-cancellable subleases at the balance sheet date;
(c) Lease and sublease payments recognized in the income statement for the period, with separate amounts for minimum lease payments, contingent rents and sublease payments; and
(d) A general description of the lessee's significant leasing arrangements. This would include, but is not limited to:(i) the basis on which contingent rent payments are determined;(ii) the existence and terms of renewal or purchase options and escalation clauses; and (iii) restrictions imposed by lease arrangements, such as those concerning dividends, additional debt and further leasing.
2. The disclosure requirements about leases set out also apply to sale and leaseback transactions. Any unique or unusual provisions in the agreements or terms of the sale and leaseback transactions should be separately disclosed.

(c) Arrangements that do not involve a lease in substance

For arrangements that do not involve a lease in substance, disclose the following, individually for each arrangement or in aggregate for each class of arrangement, in each period in which an arrangement exists:(a) a description of the arrangement including:(i) the underlying asset and restrictions on its use;(ii) the life and other significant terms of the arrangement;(iii) the transactions that are linked together, including any options; and
(b) The accounting treatment applied to any fee received, the amount recognized in income in the period, and the line item of the income statement in which it is included.

Borrowings and other liabilities

1. Disclose the borrowings classified between current and non-current portions
2. In respect of loans classified as current liabilities, if the following events occur between the balance sheet date and the date the financial statements are authorized for issue, those events qualify for disclosure as non-adjusting events in accordance with IAS 10: (a) refinancing on a long-term basis; (b) rectification of a breach of a long-term loan agreement; and(c) the receipt from the lender of a period of grace to rectify a breach of a long-term loan agreement ending at least twelve months after the balance sheet date.
3. The issuer of a non-derivative financial instrument should evaluate the terms of the financial instrument to determine whether it contains both a liability and an equity component. Such components should be classified separately as financial liabilities, financial assets or equity instruments

Government grants

(a) the nature and extent of government grants recognized;
(b) an indication of other forms of government assistance from which the entity has directly benefited; and
(c) Unfulfilled conditions and other contingencies related to government assistance that has been recognized.

Related-party transactions

1. Relationships between parents and subsidiaries should be disclosed irrespective of whether there have been transactions between those related parties.
2. Key management personnel compensation should be disclosed in total and for each of the following categories: (a) short term employee benefits; (b) post employment benefits; (c) other long term benefits; (d) termination benefits; and (e) share based payments.
3. Where there have been transactions between related parties, disclose:(a) the nature of related-party relationships;
(b) types of transactions;
(c) the amount of transactions;
(d) the amount of outstanding balances;
(e) provisions for doubtful debts related to the amount of outstanding balances; and

(f) The expense recognized during the period in respect of bad or doubtful debts due from related parties.
4. The disclosures required by paragraph 3 above should be made separately for each of the following categories: (a) the parent; (b) entities with joint control or significant influence over the entity; (c) subsidiaries; (d) associates; (e) joint ventures in which the entity is a venturer; (f) entity's or parent key management personnel; and (g) other related parties.
5. Where necessary for an understanding of the effects of related-party transactions on the financial statements, disclose items of similar nature separately, rather than in aggregate.
6. Separately provide disclosures where the entity re-acquires its own equity instruments from related parties.

Commitments

1. The amount of contractual commitments for the acquisition of: (a) property, plant and equipment; and
(b) Intangible assets.
2. Contractual obligations:(a) to purchase, construct or develop investment property; and
(b) For repairs, maintenance or enhancements of investment property.

Contingencies

1. Disclose for each class of contingent liability, unless the possibility of any outflow in settlement is remote: (a) A brief description of the nature of the contingent liability;
(b) Where practicable, disclose also:(i) an estimate of its financial effect;
(ii) An indication of the uncertainties about the amount or timing of any outflow; and
(iii) The possibility of any reimbursement; and
(c) Where any of this information is not disclosed because it is not practicable to do so, disclose that fact.
2. Where a provision and a contingent liability arise from the same set of circumstances, the link between the provision and the contingent liability should be shown.
3. Disclose for contingent assets, where an inflow of economic benefits is probable: (a) A brief description of the nature of the contingent asset;
(b) Where practicable, an estimate of their financial effect; and
(c) Where this information is not disclosed because it is not practicable to do so, disclose that fact.
4. In extremely rare cases, disclosure of some or all of the information required by IAS 37 paras 86-89 on contingencies (items 1 to 3 above) can be expected to seriously prejudice the position of the entity in a dispute with other parties on the subject matter of the contingent liability or contingent asset. In such cases, the information need not be disclosed but the following must be disclosed: (a) the general nature of the contingencies; (b) the fact that the required information has not been disclosed; and(c) the reason why the required information has not been disclosed.
5. Disclose contingent liabilities arising from:(a) post-employment benefit obligations; and
(b) Termination benefits.

Events after the balance sheet date

1. Disclose the amount of dividends proposed or declared before the financial statements were authorized for issue but not recognized as a distribution to equity holders during the period, and the related amount per share.
2. Where events occurring after the balance sheet date do not affect the condition of assets or liabilities at the balance sheet date (i.e., non-adjusting) but are of such importance that non-disclosure would affect the ability of the users of the financial statements to make proper evaluations and decisions, disclose: (a) the nature of the event; and (b) an estimate of the financial effect, or a statement that such an estimate cannot be made.
3. Business combinations – if a business combination takes effect after the balance sheet date and before the financial statements are issued, all relevant disclosures should be made. If it is impracticable to disclose any of this information, disclose this fact and an explanation of why this is the case.
4. If the number of ordinary or potential ordinary shares outstanding increases as a result of a capitalization, bonus issue or share split, or decreases as a result of a reverse share split, the calculation of basic and diluted earnings per share for all periods presented should be adjusted retrospectively.
The fact that per share calculations reflect such changes in the number of shares should be disclosed. In addition, basic and diluted earnings per share of all periods presented should be adjusted for: (a) the effects of errors and adjustments resulting from changes in accounting policies, accounted for retrospectively; and (b) the effects of a business combination that is a uniting of interests.

5. Provide a description of ordinary share transactions or potential ordinary share transactions – other than capitalization, bonus issues or share splits, for which the basic and diluted earnings per share are adjusted retrospectively – that occur after the balance sheet date and that would have changed significantly the number of ordinary shares or potential ordinary shares outstanding at the end of the period if those transactions had occurred before the end of the reporting period.
6. Disclose the amount of income tax consequences of dividends that were proposed or declared after the balance sheet date but before the financial statements were authorized for issue.
7. If income taxes are payable at a higher or lower rate if part or all of the net profit or retained earnings is paid out as a dividend to shareholders, disclose: (a) the nature of the potential income tax consequences that would result from the payment of dividends; and (b) the amounts of the potential income tax consequences practically determinable and whether there are any potential income tax consequences not practically determinable.
8. If an entity receives information after the balance sheet date about conditions that existed at the balance sheet date, update the disclosures that relate to those conditions in the light of the new information.
Cash flow statement
1. Classify cash flows into three activities: operating, investing and financing activities.
2. Disclose cash flows from operating activities using either:(a) the direct method, disclosing major classes of gross cash receipts or payments; or
(b) The indirect method, adjusting net profit and loss for the effects of:(i) any transactions of a non-cash nature;
(ii) Any deferrals or accruals of past or future operating cash receipts or payments; and
(iii) Items of income or expense associated with investing or financing cash flows.
3. For cash flows from investing and financing activities, disclose separately major classes of gross cash receipts and gross cash payments.
4. The following cash flows arising from the operating, investing or financing activities may be reported on a net basis :(a) cash receipts and payments on behalf of customers when the cash flows reflect the activities of the customer rather than those of the entity; and (b) cash receipts and payments for items in which the turnover is quick, the amounts are large and the maturities are short.
5. For non-cash transactions – exclude from the cash flow statement those investing and financing transactions that do not require the use of cash and cash equivalents. Disclose non-cash transactions separately in the note to the cash flow statement.
Individual items
For cash flows arising from taxes on income:(a) disclose taxes paid;
(b) classify taxes paid as cash flows from operating activities unless specifically identified with financing and investing activities; and
(c) Disclose the total amount of taxes paid when tax cash flows are allocated over more than one class of activity.
2. Disclose (a) Interest received;
(b) Interest paid;
(c) Dividends received; and
(d) Dividends paid.
Each of the above items should be classified in a consistent manner from period to period as either operating, investing or financing activities.
3. Aggregate cash flows arising from the following are presented separately and classified as investing activities: (a) acquisitions; and (b) disposals of subsidiaries or other business units.
4. For cash and cash equivalents, disclose: (a) the components; and
(b) Reconciliation of amounts in cash flow statement with cash and cash equivalents in the balance sheet.
5. Disclose the amount of significant cash and cash equivalent balances held by the entity that are not available for use by the group, and provide a commentary by management.
6. Discontinued operation – disclose the amounts of net cash flows from: (a) operating activities; (b)investing activities; and © financing activities
Business combinations and disposals
1. Business combinations

1. For each business combination that took effect during the reporting period, disclose: (a) The names and descriptions of the combining entities or businesses;
(b) The acquisition date;
(c) Details of any operations that the entity has decided to dispose of as a result of the combination;
(d) The percentage of voting equity instruments acquired;
(e) The cost of the combination and a description of the components of that cost. When equity instruments are issued or issuable as part of the cost, the following should also be disclosed: (i) The number of equity instruments issued or issuable; and (ii) The fair value of those instruments and the basis for determining that fair value
If a published price does not exist for the instruments at the date of exchange, the significant assumptions used to determine fair value should be disclosed.
If a published price exists at the date of exchange but has not been used as the basis for determining the cost of the combination, that fact should be disclosed together with:– the reasons why the published price has not been used;– the method and significant assumptions used to attribute a value to the equity instruments; and– the aggregate amount of the difference between the value attributed to, and the published price of, the equity instruments;
(f) The amounts recognized at the acquisition date for each class of the acquirer's assets, liabilities and contingent liabilities, and the carrying amounts of each of those classes, determined in accordance with IFRS, immediately before the combination;
(g) The amount of any excess recognized in profit or loss in accordance with IFRS 3 para 56 and the line item in the income statement in which the excess is recognized;
(h) A description of the factors that contributed to a cost that results in the recognition of goodwill, including a description of each intangible asset that was not recognized separately from goodwill and an explanation of why the fair value of this asset could not be measured reliably, or a description of the nature of any excess recognized in profit or loss; and
(i) The amount of the acquirer's profit or loss since the acquisition date included in the acquirer's profit or loss for the period, unless impracticable. If such disclosure would be impracticable, that fact should be disclosed, together with an explanation of why this is the case.
2. Disclose the information required in aggregate for business combinations that took effect during the reporting period and that are individually immaterial.
3. In respect of acquisitions of subsidiaries or other business units, disclose in aggregate: (a) the total purchase consideration;
(b) The portion of the total purchase consideration discharged by means of cash and cash equivalents;
(c) The amount of cash and cash equivalents in the subsidiary or business unit acquired; and
(d) The amount of the assets and liabilities other than cash or cash equivalents in the subsidiary or business unit acquired, summarized by each major category.
4. If the initial accounting for a business combination that took effect during the reporting period has been determined only provisionally, that fact should be disclosed, together with an explanation of why this is the case.
5. The acquirer should also disclose:(a) the revenue of the combined entity for the period as if the acquisition date for all business combinations that took effect during the reporting period had been at the beginning of that period; and
(b) The profit or loss of the combined entity for the period as if the acquisition date for all business combinations that took effect during the reporting period had been at the beginning of that period. If disclosure of this information would be impracticable, disclose that fact, together with an explanation of why this is the case.
6. The acquirer should also disclose the following information relating to business combinations that took effect in the current or previous periods:(a) the amount and an explanation of any material gain or loss recognized in the current reporting period;
(b) The amounts and explanations of the adjustments to the provisional values recognized during the current reporting period; and
(c) The information about error corrections that the acquirer recognizes during the current reporting period, as required by IAS 8.

Disposals
1. In respect of disposals of subsidiaries or other business units, disclose in aggregate:(a) the total disposal consideration;
(b) The portion of the total disposal consideration discharged by means of cash and cash equivalents;
(c) The amount of cash and cash equivalents in the subsidiary or business unit disposed of; and
(d) The amount of the assets and liabilities other than cash or cash equivalents in the subsidiary or business unit disposed of, summarized by each major category.
A8 Financial instruments
1. For each class of financial asset, financial liability and equity instrument, disclose information about the extent and nature of the financial instruments, including significant terms and conditions that may affect the amount, timing and certainty of future cash flows.
2. When financial instruments held or issued by an entity, either individually or as a class, create a potentially significant exposure to the risks described in IAS 32 para 52 (market risk), terms and conditions that warrant disclosure include:(a) the principal, stated, face or other similar amount, which, for some derivative instruments such as interest rate swaps, might be the amount (referred to as the notional amount) on which future payments are based;
(b) The date of maturity, expiry or execution;
(c) Early settlement options held by either party to the instrument, including the period in which, or date at which, the options can be exercised and the exercise price or range of prices;
(d) Options held by either party to the instrument to convert the instrument into, or exchange it for, another financial instrument or some other asset or liability, including the period in which, or date at which, the options can be exercised and the conversion or exchange ratio(s);
(e) The amount and timing of scheduled future cash receipts or payments of the principal amount of the instrument, including installment repayments and any sinking fund or similar requirements;
(f) The stated rate or amount of interest, dividend or other periodic return on principal and the timing of payments;
(g) Collateral held, in the case of a financial asset, or pledged, in the case of a financial liability;
(h) In the case of an instrument for which cash flows are denominated in a currency other than the entity's functional currency, the currency in which receipts or payments are required;
(i) In the case of an instrument that provides for an exchange, information described in items (a)-(h) for the instrument to be acquired in the exchange; and
(j) Any condition of the instrument or an associated covenant that, if contravened, would significantly alter any of the other terms
Risk management policies and hedging activities
1. Describe financial risk management objectives and policies, including policy for hedging each main type of forecast transaction for which hedge accounting is used.
2. Disclose the following separately for designated fair value hedges, cash flow hedges and hedges of a net investment in a foreign operation (as defined in IAS 39): (a) a description of the hedge;
(b) A description of the financial instruments designated as hedging instruments and their fair values at the balance sheet date;
(c) The nature of the risks being hedged; and
(d) For cash flow hedges, the periods in which the cash flows are expected to occur, when they are expected to enter into the determination of profit or loss, and a description of any forecast transaction for which hedge accounting had previously been used but which is no longer expected to occur.
3. When a gain or loss on a hedging instrument in a cash flow hedge has been recognized directly in equity, through the statement of changes in equity, disclose: (a) the amount that was recognized in equity during the period;
(b) The amount that was removed from equity and included in profit or loss for the period; and
(c) The amount that was removed from equity during the period and included in the initial measurement of the acquisition cost or other carrying amount of a non-financial asset or non-financial liability in a hedged, highly probable forecast transaction.

Interest rate risk
1. For each class of financial assets and financial liabilities, disclose information about exposure to interest rate risk, including: (a) contractual reprising or maturity dates, whichever dates are earlier; and
(b) Effective interest rates, when applicable.
2. Provide information about exposure to the effects of future changes in the prevailing level of interest rates.
4. Indicate which of the financial assets and financial liabilities are: (a) exposed to fair value interest rate risk, such as financial assets and financial liabilities with a fixed interest rate;
(b) Exposed to cash flow interest rate risk, such as financial assets and financial liabilities with a floating interest rate that is reset as market rates change; and
(c) Not directly exposed to interest rate risk, such as some investments in equity instruments.

Credit risk
1. For each class of financial assets and other credit exposures, disclose information about exposure to credit risk, including: (a) the amount that best represents the maximum credit risk exposure at the balance sheet date, without taking into account the fair value of any collateral, in the event of other parties failing to perform their obligations under financial instruments; and
(b) Significant concentrations of credit risk.
2. A financial asset subject to a legally enforceable right of offset against a financial liability is not presented on the balance sheet net of the liability unless settlement is intended to take place on a net basis or simultaneously. Disclose the existence of the legal right of offset when providing information.
3. An entity may have entered into one or more master netting arrangements that serve to mitigate its exposure to credit loss but do not meet the criteria for offsetting. When a master netting arrangement significantly reduces the credit risk associated with financial assets that are not offset against financial liabilities with the same counterparty, provide additional information concerning the effect of the arrangement.

Fair value
1. For each class of financial asset and financial liability, except as set out in IAS 32 para 90, disclose the fair value of that class of assets and liabilities in a way that allows it to be compared with the corresponding carrying amount in the balance sheet.
No disclosure of fair value is required for financial instruments such as short-term trade receivables and payables when the carrying amount is a reasonable approximation of fair value.
In disclosing fair values, an entity groups financial assets and financial liabilities into classes and offsets them only to the extent that their related carrying amounts are offset in the balance sheet.
2. If investments in unquoted equity instruments or derivatives linked to such equity instruments are measured at cost under IAS 39 because their fair value cannot be measured reliably, that fact should be disclosed, together with a description of the financial instruments, their carrying amount, an explanation of why fair value cannot be measured reliably.
3. Disclose: (a) the methods and significant assumptions applied in determining fair values of financial assets and financial liabilities separately for significant classes of financial assets and financial liabilities;
(b) Whether fair values of financial assets and financial liabilities are determined directly, in full or in part, by reference to published price quotations in an active market or are estimated using a valuation technique;
(c) Whether financial statements include financial instruments measured at fair values that are determined in full or in part using a valuation technique based on assumptions that are not supported by observable market prices or rates; and
(d) The total amount of the change in fair value estimated using a valuation technique that was recognized in profit or loss during the period.

Collateral
1. Disclose the carrying amount of financial assets pledged as collateral for liabilities, the carrying amount of financial assets pledged as collateral for contingent liabilities, and any material terms and conditions relating to assets pledged as collateral.
2. When an entity has accepted collateral that it is permitted to sell or repledge in the absence of default by the owner of the collateral, it should disclose: (i) the fair value of the collateral accepted (financial and non-financial assets);
(ii) The fair value of any such collateral sold or repledged & whether the entity has an obligation to return it; and

(iii) Any material terms & conditions associated with the use of this collateral

Compound financial instruments with multiple embedded derivatives

1. If an entity has issued an instrument that contains both a liability and an equity component (see IAS 32 para 28) and the instrument has multiple embedded derivative features whose values are interdependent (such as a callable convertible debt instrument), disclose the existence of those features and the effective interest rate on the liability component, excluding any embedded derivatives that are accounted for separately.

Financial assets and financial liabilities at fair value through profit or loss

1. Disclose the carrying amounts of financial assets and financial liabilities that: (i) Are classified as held for trading; and
(ii) Were designated by the entity, upon initial recognition, as financial assets and financial liabilities at fair value through profit or loss.
2. If the entity has designated a financial liability as at fair value through profit or loss, it should disclose: (i) the amount of change in its fair value that is not attributable to changes in a benchmark interest rate (for example, LIBOR); and
(ii) The difference between its carrying amount and the amount the entity would be contractually required to pay to the holder of the obligation at maturity.

Defaults and breaches

1. With respect to any defaults of principal, interest, sinking fund or redemption provisions during the period on loans payable recognized as at the balance sheet date, and any other breaches during the period of loan agreements when those breaches permit the lender to demand repayment (except for breaches that are remedied, or in response to which the terms of the loan are renegotiated, on or before the balance sheet date), disclose: (i) Details of those breaches;
(ii) The amount recognized as at the balance sheet date in respect of the loans payable on which the breaches occurred; and
(iii) With respect to amounts disclosed under (ii), whether the default has been remedied or the terms of the loans payable renegotiated before the date on which the financial statements were authorized for issue.

Non-current assets held for sale and discontinued operations

1. Present separately from other assets in the balance sheet a non-current asset classified as held for sale and the assets of a disposal group classified as held for sale (within current assets).
2. Disclose separately the major classes of assets and liabilities classified as held for sale either on the face of the balance sheet or in the notes to the financial statements.
3. Amounts presented for non-current assets or for the assets and liabilities of disposal groups classified as held for sale in the balance sheets for prior periods should not be reclassified or re-presented to reflect the classification in the balance sheet for the latest period presented.
4. For a non-current asset (or disposal group) held for sale, disclose: (a) A description of the non-current asset (or disposal group);
(b) A description of the facts and circumstances leading to the expected disposal and the expected manner and timing of that disposal;
(c) The gain or loss recognized as result of remeasurement to fair value less costs to sell, and if not separately presented on the face of the income statement, the caption in the income statement that includes that gain or loss; and
(d) The segment in which the non-current asset (or disposal group) is presented under IAS 14, if applicable.
5. Disclose the information specified in paragraph 5 (a), (b) and (d) above in the notes if the criteria for classification of non-current assets (or disposal groups) as held for sale (see IFRS 5 paras 7 and8) are met after the balance sheet date but before the authorization of the financial statements for issue.
6. If a non-current asset (or disposal group) ceases to be held for sale, a description of the facts and circumstances leading to the decision to change the plan to sell the non-current asset (or disposal group) should be disclosed together with the effect of the decision on the results of operations for the period and any prior periods presented.
7. For discontinued operations, disclose the following for all periods presented:(a) a single amount on the face of the income statement comprising the total of: (i) the post-tax profit or loss of discontinued operations; and (ii) the post-tax gain or loss recognized on the remeasurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation; and

(b) An analysis of the single amount in (a) into: (i) the revenue, expenses and pre-tax profit or loss of discontinued operations; (ii) the related income tax expense as required by IAS 12 para 81(h);(iii) the gain or loss recognized on the remeasurement to fair value less costs to sell or on the disposal of the assets or disposal group(s) constituting the discontinued operation; and (iv) the related income tax expense.
8. Re-present the disclosures in paragraph 7 above and A6 (2) paragraph 6 for prior periods presented in the financial statements so that the disclosures relate to all operations that have been discontinued by the balance sheet date for the latest period presented.
9. Present separately in discontinued operations any adjustments in the current period to amounts previously presented in discontinued operations that are directly related to the disposal of a discontinued operation in a prior period. The nature and amount of such adjustments should be disclosed.
10. If a component of an entity ceases to be classified as held for sale, the results of operations of the component previously presented in discontinued operations should be reclassified and included in income from continuing operations for all periods presented. Disclose the amounts for prior periods as having been re-presented.

Uncertainties about going concern

1. Disclose material uncertainties relating to events or conditions that may cast significant doubt upon the entity's ability to continue as a going concern.
2. In the extremely rare situation where the going concern basis has not been used, disclose that fact together with the reasons and the basis actually used to prepare the financial statements.

Change of year-end

1. When an entity changes its year-end, and its financial statements are presented for a period longer or shorter than one year, disclose:(a) the reason for a period other than one year being used; and(b) the fact that comparative amounts for the income statement, changes in equity, cash flows and related notes are not comparable

Accounting by a lessor

1. Lessors – finance leases

1. Disclose:(a) A reconciliation between the total gross investment in the lease at the balance sheet date and the present value of minimum lease payments receivable at the balance sheet date;
(b) The total gross investment in the lease and the present value of minimum lease payments receivable at the balance sheet date, for each of the following three periods:(i) no later than one year; (ii) later than one year and no later than five years; and(iii) later than five years;
(c) Unearned finance income;
(d) The unguaranteed residual values accruing to the benefit of the lessor;
(e) The accumulated allowance for uncollectible minimum lease payments receivable;
(f) Contingent rents recognized in income; and
(g) A general description of the lessor's significant leasing arrangements
2. The disclosure requirements set out in paragraph 1 above also apply to sale and leaseback transactions. Any unique or unusual provisions of the agreements or terms of the sale and leaseback transactions should be separately disclosed.

2. Lessors - operating leases

1. Disclose (a) for each class of asset: (i) Gross carrying amount;
(ii) Accumulated depreciation;
(iii) Accumulated impairment loss;
(iv) Depreciation charge for the period;
(v) Impairment losses recognized for the period;
(vi) Impairment losses reversed for the period;
(b) The future minimum lease payments under non-cancellable operating leases;
(c) Total contingent rents included in income; and
(d) A general description of the lessor's significant leasing arrangements
3. The disclosure requirements set out in paragraph 1 above also apply to sale and leaseback transactions.

Segment reporting

1. Disclose the types of product and service included in each reported business segment.

2. Disclose the composition of each reported geographical segment.

2. **Primary segment format**

1. Disclose for each reportable segment in the entity's primary segment reporting format: (a) segment revenue analyzed as follows: (i) sales to external customers; and
(ii) Revenue from transactions with other segments.
(b) Segment result;
(c) Total segment assets;
(d) Segment liabilities;
(e) Capital expenditure on property, plant and equipment and on intangible assets
(f) Depreciation and amortization expense; and
(g) Total amount of significant non-cash expenses, other than depreciation & amortization.
2. Disclose the nature and amount of any items of segment revenue & expense relevant to explain the reportable segment.
3. Disclose the aggregate of the entity's share of the net profit or loss of associates, joint ventures accounted for under equity method for each reportable segment.
4. If the requirement in paragraph 3 above applies the aggregate investments in those should also be disclosed for each reportable segment.
5. For each reportable primary segment, disclose: (a)the amount of impairment losses both in the income statement and in equity;
(b) The amount of reversals of impairment losses recognized in income statement & equity.
6. (a) For an individual asset – the segment to which the asset belongs based on primary format; and
(b) For a cash-generating unit – description & impairment loss recognized or reversed.
7. A reconciliation between the information disclosed for reportable segments & aggregate information in the consolidated statements. The following apply as a minimum: (a) segment revenue reconciled to the entity's revenue from external customers;
(b) Segment result reconciled to a comparable measure of the entity's operating profit or loss;
(c) Segment assets reconciled to the entity's assets; and
(d) Segment liabilities reconciled to the entity's liabilities.
8. If geographical segments are primary segment format (either (a) or (b) should be applied
(a) if the primary segment format is geographical segments by location of assets, and the location of customers differs from the location of assets, disclose the revenue from sales to external customers for each customer-based geographical segment ('sales by destination') whose revenue from sales to external customers is 10% or more of total sales; and
(b) If the primary segment format is geographical segments by location of customers, and the assets are located in different geographical areas from the customers, disclose the following segment information for each asset-based geographical segment whose revenue from sales to external customers or segment assets are 10% or more of the group totals: (i) total of segment assets by geographical location of the assets; and
(ii) Capital expenditure on property, plant and equipment and on intangible assets by location of assets.

3. **Secondary segment format**

1. If the geographical segments are the secondary segment format, disclose for each geographical segment, item (a) Where the revenues are 10% or more of total consolidated sales, and items (b) and (c) where the assets are 10% or more of total assets:
(a) Segment revenue from external customers by geographical area based on geographical location of customers;
(b) Total of segment assets by geographical location of assets; and
(c) Capital expenditure on property, plant and equipment and on intangible assets by geographical location of assets.
2. If the business segments are the secondary segment format, disclose the following segment information for each business segment where the revenues are 10% or more of total consolidated sales, or where the assets are 10% or more of total assets:(a) segment revenue from external customers;
(b) Total of segment assets; and
(c) Capital expenditure on property, plant and equipment and on intangible assets.

3. Changes in accounting policies adopted for segment reporting that have a material effect on segment information – restate prior period segment information unless it is impracticable to do so, and:
(a) Describe the nature of the change;
(b) Describe the reason for the change;
(c) Describe the fact that comparative information has been restated or that it is impracticable to do so; and
(d) Describe the financial effect of the change, if it is reasonably determinable
4. Changes in identification of the segments – restate comparatives onto the new basis unless this is impracticable.
Earnings per share
1. Present on the face of the income statement basic and diluted earnings per share for profit or loss from continuing operations attributable to the ordinary equity holders of the parent entity, and for profit or loss attributable to the ordinary equity holders of the parent entity.
2. Earnings per share is presented for every period for which an income statement is presented.
3. An entity that reports a discontinuing operation should disclose the basic and diluted amounts per share for the discontinuing operation either on the face of the income statement or in the notes to the financial statements.
4. Disclose (a) The amounts used as the numerators in calculating basic and diluted earnings per share, and a reconciliation of those amounts to profit or loss attributable to the parent entity for the period.
(b) The weighted average number of ordinary shares used as the denominator in calculating basic and diluted earnings per share, and a reconciliation of these denominators to each other.
(c) Instruments (including contingently issuable shares) that could potentially dilute basic earnings per share in the future, but were not included in the calculation of diluted earnings per share because they are antidilutive for the period(s) presented.
5. Provide a description of ordinary share transactions.
6. If an entity discloses, amounts per share using a reported component of the income statement such amounts should be calculated using the weighted average number of ordinary shares determined in accordance with this standard.