

The Joint Effect of Earnings quality and Investor Protection on Foreign Direct Investment across the MENA Countries

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Abstract

This paper aims to explore the association of foreign direct investment (FDI) inflow into the Middle East and North Africa (MENA) countries with earnings quality and investor protection between 2001 and 2010. Considering the findings in other cross-country studies that earnings quality are of relatively higher in countries with strong investor protection. This study reinforces whether the relationship between earnings quality and investor protection matter for FDI inflow into the MENA region. The evidence shows that there is an important tie between firm-level governance (measured by the quality of reported earnings) and the strength of the country-level judicial efficiency (measured by investor protection) due to the complementary role as both facilitate FDI inflows. The findings of this paper have implications for policy makers and international investors.

Keywords: Foreign Direct Investment, Earnings quality, investor protection, MENA region

1. Introduction

This study examines whether the inflow of foreign direct investment (FDI) into the Middle East and North Africa region (MENA) is jointly affected by the investor protection regimes where a firm is located and the firm's earnings quality. At issue is there are differences in FDI due solely to systematic differences in earnings quality across MENA countries or if institutional quality measured by investor protection plays a role in mediating how investor protection regimes affect the inflow of FDI. While prior studies (e.g. Francis & Wang 2008; Lang et al. 2006; Leuz et al. 2003) document that earnings quality is higher in countries with strong investor protection regimes, so far there is no empirical evidence whether this relationship matter for FDI inflow into the MENA countries where earnings quality and investor protection regimes varies across these countries.

MENA countries, like most other emerging and developing countries perceive FDI as a key source of economic development. Accordingly, there are high competitions among MENA countries to attract more FDI. FDI has a number of advantages over portfolio investments comprising, less threatening to financial stability than portfolio investment since it is unlikely to leave host countries in an economic crisis (Jackson 2007; Lim 2001), in addition to non-financial benefits provided by multinational corporations (MNCs) into host countries such as physical capital, technology, new management techniques (Erdal & Tatoglu 2002). However, literature indicates that there are many factors influence foreign investors to engage in FDI in the MENA region. This paper focuses on two main factors, the quality of financial reporting and the institutional structure.

Prior evidence indicates that the quality of earnings is a function of many variables, including legislation, the rigor of accounting and auditing standards and the efficiency of securities regulators (Gordon & Gallery 2012). On the cross-sectional level, a link has made between differences in earnings quality and a range of determinants. Examples include: institutional factors (e.g. Lang et al. 2006; Leuz et al. 2003); ownership structure and type (e.g. Ding et al. 2007); culture dimensions (e.g. Cheng 2006; Valipour 2011) and IFRS adoption (Chen et al. 2010). Focusing explicitly on institutional factors, Leuz et al. (2003) find that earnings quality is lower in countries with strong investor protection regimes, large developed stock markets and dispersed ownership. The authors conclude that stronger shareholder protection limits an insider's ability to acquire private information, and hence lead to increase earnings quality. Lang et al. (2006) document that non-U.S. firms cross-listed on U.S. securities exchanges exhibit higher earnings quality than U.S. firms. This is particularly the case for firms from countries with weak investor protection.

Another stream of research has examined the relationship of foreign portfolio investments with financial reporting quality and corporate governance (e.g. Akisik 2008; Kobeissi 2005). It has been argued that the lack of credibility of financial reporting systems would adversely affect the ability of attracting FDI (Akisik 2008). This is due to greater sanctions imposed by regulatory agencies (Francis & Wang, 2008), which in turn attracting more FDI as a result of an increased level of confidence (Kaufmann et al. 2010). This confidence, in turn, is necessary for an efficient functioning of market economies since it leads to reduce the cost of capital (Cai 2011). Meanwhile, an effective corporate governance system would lead to protecting the rights of minority shareholders against the owners and managers of firms (Kobeissi 2005). Consequently, the extent of capital market development also proxies for broader institutional changes that make host countries more attractive environments for FDI inflows (Feinberg & Phillips 2004). Further, recent data available from the Economist Intelligence Unit (2011) provides some relevant factors about the business environment that may impact on FDI inflows and rankings countries in accordance to these factors, namely: political environment, macroeconomic environment, market opportunities, policy towards private enterprise and competition, policy towards foreign investment, foreign trade and exchange controls, taxes, financing, labour market, and infrastructure. Consistent

with these factors Rossi and Volpin (2003) found that countries with strong shareholder protection should facilitate the increase of FDI ratio.

The proposed paper focuses on the variation in earnings quality that exists among nations in the MENA region, and how it relates to investor protection regimes. Further, this paper investigates whether the differences in FDI are related to private benefits and investor protection. More precisely, this insight suggests that the role of earnings quality on FDI inflow to the MENA countries is mediated by the strength of investor protection to enforce higher earnings quality as investor protection regimes become stricter.

The data presented in this paper show that FDI inflows of firms with low rank score of unsigned accruals (high rank score of losses) are consistently higher relative to the FDI inflows of firms with high rank score of unsigned accruals (low rank score of losses) as country's investor protect regimes become stronger. Further analysis, using a multinomial logistic approach, where (FDD=2) is high foreign direct investment inflow, and (FDD=1) is low foreign direct investment inflow, finally (FDD=0) is the normal foreign direct investment and is used as a reference category. The evidence mainly supports that low foreign direct investment inflow (FDD=1) is associated with low earnings quality (R_AB_ACCR) and weak investor protection, but fails to show that high foreign direct investment inflow (FDD=2) is associated with high earnings quality and strong investor protection. Additional analyses are performed to examine whether the association suggested by the main results continue to be evident in the presence of other factors related to location advantages (oil) and the instability of economic and political events. Overall, consistent with expectations, results suggest that the impact of association between earnings quality and investor protection on FDI inflow becomes stronger in non-oil MENA countries during economic and political stability. Finally, the results of robustness checks suggest that the smaller countries do not derive the results, and the findings are robust with respect to heteroscedasticity, adding more country-level controls, and endogeneity concern.

This study contributes to the recent advances in the corporate governance and earnings quality literature on the role of legate (e.g. Akisik 2008; Klapper&Love 2004; Kobeissi 2005; Leuz et al. 2003). This paper extends this literature by presenting empirical evidence that the level of outside investor protection and earnings quality endogenously determine the inflow of FDI into the MENA countries. Further, it contributes to the limited body of literature on earnings quality and investor protection in the MENA region. In doing so, the study will respond to many researchers calls for more investigation of earnings quality and investor protection in MENA region (Al-Akra et al. 2009; Joshi&Bremser 2003). Meanwhile, the results from this study can be useful to inform both domestic and international investors about variations in earnings quality and investor protection regimes across countries in the region. Further, the findings of this study suggest that in addition to the long term goal of promoting reform at the country level, a parallel and short term goal of improving corporate governance at the firm level should also be encouraged. This, in turn, provides timely findings given the current reforms in progress by some of the MENA countries authorities; for example, Libya, Algeria, Tunisia, Morocco, Yemen and Syria, which are still struggling to develop their capital markets, corporate governance standards and accounting systems, whereas regulators in other MENA countries (e.g. Iraq, United Arab Emirates, Saudi Arabia, Qatar, and Bahrain) can be informed about whether their reforms, aimed at improving the investment environment have achieved their objectives. This study will be the first to provide empirical evidence to these regulators about differences of earnings quality and investor protection and governance factors associated with these differences. Since capital market development in MENA region is ongoing, and is likely to require further improvements.

The reminder of this paper is designed as follows. Investment environment in MENA region is further investigated in the next section. Earnings quality and investor protection variables are defined in sections 3 and 4. The data and models are presented in section 5. Primary results are reported in section 6, while additional analyses and robustness tests are reported in sections 7 and 8. In section 9, concluding remarks take place.

2. Background

In the mid-1990s, economic growth in the MENA region was heavily affected by the decline in oil prices (International Monetary Fund 2011). Further, the Asian crisis in 1997-1998 was partly attributed to speculative property investment in the MENA (Velayutham&Al-Hajj 2008). Countries in the region saw a need to expand capital infrastructure and to address uncertain revenues from fluctuating oil prices. As a result, attracting foreign direct investment (FDI) was seen as a means of achieving rapid and sustainable economic growth, thus reducing dependence on oil and facilitating growth of the non-oil sector (Iqbal 2001). The investment potential in this region is very strong as the region provides a number of unique advantages for foreign investment, including oil resources, a cheap labour market, and high market incentives for FDI (Mina 2007). The global FDI inflows to the MENA region climbed from US\$7.1 billion in 1997 to US\$59.9 billion in 2006 (Economist Intelligence Unit 2011).

However, many of these nations suffered from a lack of strong governance systems, and bodies such as the International Monetary Fund (IMF) and the World Bank urged governments in these countries to undertake

major reforms in economic development, corporate financial reporting, and governance (Velayutham&Al-Hajj 2008). Consequently, during the last decade these countries moved from central planned economies to free market economic structures. In doing so, they introduced many regulatory reforms including: establishing stock exchanges, issuing securities laws, enforcing company and investment laws, introducing privatization programs and, reforming accounting systems through adoption of international financial reporting standards (IFRS) (Abdullah 2008; Al-Akra et al. 2009; Dahawy&Conover 2007). These reforms were expected to lead to an improvement in the efficiency of capital markets by improving transparency, credibility and the flow of financial information to investors (Abdullah 2008; Velayutham&Al-Hajj 2008), thus improve the investor protection environment in order to attract higher levels of foreign capital at low cost.

The reforms across the MENA countries vary in relation to their impact on economic infrastructure, foreign investment schemes (Abdullah 2008), capital market and most importantly, the investor protection environment. For instance, the revised investment law in some countries such as Iraq, Kuwait, and United Arab Emirates (UAE) allows 100 percent foreign ownership, while it is lower in others such as Egypt and Jordan. Accounting reforms, including IFRS adoption also vary across countries in this region. For example, while Kuwait and Iraq require IFRS to be applied by both listed and non-listed companies in all sectors; the governments in UAE and Saudi Arabia only require IFRS to be used by listed companies in the financial sector; however other corporations can choose to use them in the preparation of financial reports. Further, in Egypt and Jordan national standards have been changed to reflect the implementation of IFRS. Details stipulated by company laws such as the percentage of state ownership, rules relating to company mergers and acquisitions and disclosure requirements also vary across countries in this region. For instance, in Jordan the mean proportion of corporate ownership by government is 58 percent whereas in Kuwait is 56 percent and only 50 percent in Egypt. However, in Oman it is lower than 24 percent (OECD 2005). Further, the capital market in most of these countries operates under the supervision of the government (e.g. Egypt, Saudi Arabia, and Oman); while in others it is under an independent authority (e.g. Iraq, Jordan). These factors are likely to impact on the quality of financial statements in general, and of earnings in particular, across countries, whereby managers in some countries may have more opportunities to manage their earnings than others. This setting provides the opportunity to assess FDI and investigate whether there are differences in FDI among these countries as a result of variation in the earnings quality and investor protection regimes.

3. Investor Protection Index

La Porta, Lopez-De-Silanes and Shleifer (2006) identify a general framework in which investor protection is assessed through a country's legal tradition, corporate law and securities law. They argue that a country's underlying legal tradition is the foundation that defines basic legal rights, including the protection of property rights, and is also the lens through which corporate law and securities law are developed. However, this study has been criticized as it focuses on general legal proxies (Preiato et al. 2012). In addition, it does not capture subsequent changes in the institutional framework of countries included, since it utilises an old data (Francis&Wang 2008). Given that, there are multiple dimensions to the concept of investor protection. This study utilises a multiple and a comprehensive investor protection measure. Investor protection measure incorporates five factors reflecting the strength and diversity of investor protection regimes across the MENA region: legal origin, the outside investor rights, disclosure requirements index, liability standard index and legal enforcement.

Following prior studies (e.g. La Porta et al. 1998; Leuz et al. 2003) the first investor protection is legal origin (LOR). Prior studies find that countries with legal systems based on common law have more developed financial markets than civil-law countries (Ball et al. 2000; La Porta et al. 1998; Mahoney 2001). Furthermore, Mahoney (2001) states that there is evidence that legal origin explains a portion of cross sectional variation in judicial power, security of property rights, and contract enforcement, in addition to the investor protection as suggested by La Porta *et al.* (1998). Within the MENA region, the legal system is rooted in various origins. First are those that followed the Western system such as Lebanon, Syria and Egypt. Second are those that have codified their laws but drew mostly from sharia such as Saudi Arabia, Oman and Yemen. Third are countries that went both ways such as Iraq, Jordan and Libya. LOR is coded one for countries in the MENA region with a common law legal tradition and are coded zero for countries with a civil-law legal tradition or Islamic law.

The next three variables of investor protection come from those mechanisms in corporate law that protect the right of outside (minority) investors (MR), transparency of related-party transactions named extent of disclosure index (DI), and liability for self-dealing named extent of director liability index (LI). Data measuring these variables are obtained from The World Bank (2011) where 183 economies are ranked based on these dimensions. These dimensions are awarded a score from 0 to 10, with higher values indicating greater disclosure, greater liability of directors and greater powers of shareholders to challenge the transaction. The scores from the three dimensions are then awarded one or zero depending upon whether they rank above or below the median rank.

The final investor protection variable is the legal enforcement. Prior literature argues that the level of enforcement mechanisms influences the incentives of preparers, accountants, auditors and managers. A high level of enforcement leads to a high level of earnings quality (Ball et al. 2003). Brown and Tarca (2005) note that enforcement level comprises three components: the internal monitoring mechanism (internal auditors and board directors), the independent auditor and enforcement of accounting standards. Hope (2003) and Daske, Hail, Leuz and Verdi (2008) pointed out that a high enforcement level would decrease investors' uncertainty due to its crucial impact on the quality of financial reporting infrastructure which, in turn, would decrease information asymmetry when firms decide to be more transparent. Ball *et al.* (2003) propose that high enforcement is an indicator of demand for high quality public financial reporting and disclosure. Consistent with prior research by Kabir and Laswad (2011), Hope (2003) and La Porta *et al.* (1998), rule of law (RL) is used as a proxy for enforcement level. RL is obtained from Kaufmann, Kraay and Mastruzzi (2010) and is defined as a measure of prosperity rights, court independence, enforceability of contracts, financial fraud, law enforcement, independence of judiciary. The score that is allocated by the World Bank ranges from -2.5 to 2.5. On this factor, countries is divided into those which are above and below the median point on the rule of law index. Overall, I refer to the legal origin, the outside investor rights, disclosure requirement index, liability standard index and legal enforcement as the strength of investor protection, then I aggregate these variables to form one index by combining them in their sum total to form the strength of investor protection index. Countries with a score above the median have a strong investor protection regime, while those equal or below the median have a weak investor protection regime.

4. Earnings quality measures

Schipper and Vincent (2003) stated that earnings quality can be used as an indicator of managerial performance. Chua and Taylor (2008) point out that earnings quality as a term incorporates a range of measurable attributes. Some of these reflect attributes of the accounting numbers themselves such as accrual quality and smoothness (Francis et al. 2004), or reflect the interaction between accounting information and capital markets, such as timely loss recognition (Barth et al. 2008). This paper focuses on two main measures of earnings quality that have been used intensively in the prior studies to capture various dimension along which insider can exercise their discretion to manage reported earnings, comprising accruals and timely loss recognition (e.g. Burgstahler et al. 2006; Francis&Wang 2008; Lang et al. 2006; Leuz et al. 2003; Shen&Chih 2005). Further, in order to mitigate potential measurement error, for each of the two earnings quality measures, countries are ranked such that a higher (lower) score suggests a lower (higher) level of earnings quality.

The first measure of earnings quality is the accruals using the performance-adjusted abnormal accruals modified by Kothari, Andrew and Wasley (2005). The following industry-specific (two-digit SIC code) performance-adjusted cross-sectional accrual model is employed to estimate normal accruals in each year from 2001 to 2010 to obtain the coefficient estimates $\beta_0^A, \beta_1^A, \beta_2^A, \beta_3^A$ and β_4^A (normal accruals) as follows:

$$\frac{TA_{it}}{AT_{t-1}} = \beta_0 + \beta_1 \frac{1}{AT_{t-1}} + \beta_2 \frac{\Delta SALES_t}{AT_{t-1}} + \beta_3 \frac{PPE_t}{AT_{t-1}} + \beta_4 \frac{ROA_t}{AT_{t-1}} + \varepsilon_{ijt} \quad (1)$$

Where:

TA_{it} = Total accruals in year t which is equal to current net income minus current cash flows;

AT_{t-1} = Lagged total assets;

$\Delta SALES_t$ = Change in sales from time t-1 to time t;

PPE_t = Gross property, plant and equipment at time t;

ROA_t = the ratio of net income to total assets at time t;

ε_{ijt} = the error term;

Equation (2) is a re-arrangement of equation (1) where the industry-specific coefficients estimates $\beta_0^A, \beta_1^A, \beta_2^A, \beta_3^A$ and β_4^A are applied to the right-hand side variables in equation (2) in each year and each SIC Code to determine ε_{it} (residuals) which represents abnormal accruals (earnings quality). The higher the residuals are, the lower the quality of earnings.

$$\varepsilon_{ijt} = \frac{TA_{it}}{AT_{t-1}} - (\beta_0^A + \beta_1^A \frac{1}{AT_{t-1}} + \beta_2^A \frac{\Delta SALES_t}{AT_{t-1}} + \beta_3^A \frac{PPE_t}{AT_{t-1}} + \beta_4^A \frac{ROA_t}{AT_{t-1}}) \quad (2)$$

Where:

β_0^A to β_4^A = estimated intercept and coefficients representing expected accruals for firm i,

Remaining variables are defined as in equation (1).

Given that the directions of residuals are not of interest in the tests and only the magnitude of residuals (absolute values) are used for interpretation purposes, the absolute value of residuals is used. It is calculated by multiplying negative residuals by (-1).

The second measure of earnings quality is the ratio of small profit to small losses. Managerial decisions to avoid large losses results from a desire to avoid being penalized and reputation effects (Schipper&Vincent 2003). Management is likely to

spread the effects of large losses over multiple periods instead of recognising their effects in the period as they occur. Therefore, large losses are likely to be relatively rare (Ball et al. 2000). Spreading losses over multiple periods would impact on reporting transparency, and result in data that is potentially less informative. Following Burgstahler and Dichev (1997), the ratio of “small profits” to “small losses” is computed, for each country, using before-tax earnings scaled by total assets. Small losses are defined to be in the range (-0.01, 0.00) and small profits are defined to be in the range [0.00, 0.01].

5. Data and Research Design

5.1. Data and Sample Selection

A panel data set of publicly listed firms from 16 economies across the MENA region is drawn from the OSIRIS database. These countries are: Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Oman, Palestinian Territory, Qatar, Saudi Arabia, Tunisia, and United Arab Emirates. The idea was to include all MENA countries (officially 21 countries). However, five countries are excluded. Data for three of these countries is not available (Djibouti, Libya, and Yemen); while all listed firms from the remaining two countries (Algeria with three firms and the Syrian Arab Republic with 15 firms) suffer from many missing data points required to calculate dependent and control variables for models. The sample period for the study is 2001 to 2010. Data relating to foreign direct investment (FDI) is initially collected at the country level and are retrieved from The World Bank indicators database. The final sample used to test whether foreign direct investment inflow differs among MENA countries as a function of the country’s investor protection environment and earnings quality at firm’s level, plus a set of controls for other factors that may affect foreign direct investment comprises 2,640 firm-year observations for the accruals analysis and 5,959 firm-year observations for the loss avoidances analysis, see Table 1 for variables definitions.

[Insert Table 1 About Here]

5.2. Descriptive statistics

Table 2, panel A reports the summary statistic for the dependent variable (lnFDI). The mean of lnFDI is 0.748 and varies from country average -1.654 in Qatar to 2.103 in Lebanon. The std. is 0.653 which is significantly lower than the std. reported in other studies (e.g. Akisik 2008), reflecting low level of FDI inflow to MENA countries compare to European and Latin American countries. In panel B, Table 1, the strength of investor protection (IP) varies across MENA countries over the sample period 2001 to 2010. Israel, Kuwait, and Malta seem to have the highest level of IP, whereas Iran, Iraq and Jordan have the lowest level of IP in the region during the sample period. Two main earnings quality measures are used: unsigned accruals as a measure of the level of earnings management and timely loss recognition. Summary statistics for unsigned accruals and losses are given in panel C of Table 2. From 2001 to 2010, the country-average R_AB_ACCR is 1.522 with the highest average accruals of 2.333 in Bahrain (indicate low earnings quality) and the lowest average accruals of 1.333 in Malta (indicate high earnings quality). In contrast, the country-average R_LOSS is 1.506 with the highest average losses of 1.769 in Jordan (indicate high earnings quality) and the lowest average losses of 1.08 in Bahrain (indicate low earnings quality). The summary statistics for the control variables, incorporating firm specific characteristics, are presented in panel D of Table 2.

[Insert Table 2 About Here]

5.3. Two-Sample Comparisons

Table 3 reports results of a two-sample t-test used to compare means for lnFDI variable across high and low both investor protect (IP) and earnings quality (measured by R_AB_ACCR and R_LOSS). Panel A, Table 3, shows that firms performing in countries with strong IP (IP=1) have a mean lnFDI of 1.037, while their counterpart firms performing in countries with weak IP (IP=0) have a mean lnFDI of 0.665. The two samples t-test indicates that the differences between the means is significant at $p < .0001$, consistent with the expectation, suggesting that firms performing in countries with strong IP attracting significantly larger level of FDI than firms performing in countries with weak IP.

Panels B and C, Table 3, report results of a two-sample t-test used to compare mean for lnFDI variable across firms with high and low earnings quality measured by unsigned accruals (R_AB_ACCR) and timely loss recognition (R_LOSS), respectively. Note that lower rank score of absolute value of abnormal accruals represent higher earnings quality, while higher rank score of loss represent higher earnings quality. As such, consistent with the expectation, the results suggest that firms with higher level of earnings quality (measured by loss) attract more FDI than their counterpart firms with low level of earnings quality, at $p < .0001$. However, when it comes to accruals measure the results are insignificant ($p=0.2800$).

[Insert Table 3 About Here]

5.4. Correlation Analysis

Table 4 presents spearman correlations matrix among dependent and independent variables. FDI variable is positively and highly correlated with IP and R_LOSS, implying that an increase in the rank score of the timely losses and the strength of IP would attract more FDI inflow. In contrast, there is a negative but insignificant correlation between FDI and R_AB_ACCR. Further, a strong negative correlation exists between FDI and lnSIZE, lnMB, LEV and ROA, suggesting that small firms with low market to book value, debts and performance attract more FDI inflows into the MENA countries.

[Insert Table 4 About Here]

5.5. Models

This paper examines whether the FDI inflows differ across MENA countries as a function of the country's investor protection environment and the firm's earnings quality, plus a set of controls with year-specific dummy variables and industry dummies based on two-digit SIC codes to provide additional controls for other factors that may affect firm-level FDI inflow, using Ordinary least square (OLS) regression analysis. Prior studies advocate that there is a link between investor protection and the quality of reported earnings (Leuz et al. 2003). This study reinforces whether this link is matter for FDI inflows into the MENA countries. The expectation is that FDI inflow will be larger in firms with high earnings quality as investor protection regimes become stricter. That is, the interaction term of earnings quality and investor protection is the primary coefficient of interest that measures the incremental effect of earnings quality on FDI inflow of firms with high earnings quality relative to FDI inflow of firms with low earnings quality, for a given investor protection regimes. If the coefficient of the interaction term is positive (negative) and significant, there is evidence that firms with high earnings quality attract more FDI inflow than firms with low earnings quality as investor protection regimes become stricter. The FDI measure is regressed on the interaction term of earnings quality and investor protection, plus a set of controls for other factors that may affect firm-level FDI inflow as follows:

$$\ln FDI = \beta_0 + \beta_1 IP_{it} + \beta_2 R_AB_ACCR_{it} + \beta_3 IP * R_AB_ACCR_{it} + \beta_4 \ln SIZE_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \varepsilon_{it} \quad (\text{Model 1})$$

$$\ln FDI = \beta_0 + \beta_1 IP_{it} + \beta_2 R_LOSS_{it} + \beta_3 IP * R_LOSS_{it} + \beta_4 \ln SIZE_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \varepsilon_{it} \quad (\text{Model 2})$$

Variables are defined in Table 1.

6. Empirical Results

6.1. Main results

Model (1) of Table 5 shows that the coefficient estimates on the interaction term (IP*R_AB_ACCR) is positive and significant at p=0.082, suggesting that FDI inflows of firms with low rank score of unsigned accruals are consistently higher relative to the FDI inflows of firms with high rank score of unsigned accruals as country's investor protect regimes become stronger. The coefficient on IP is positive and significant at p<.0001, indicating that FDI inflows into the MENA countries with strong investor protect regimes is higher than in countries with weak investor protect regimes when accruals are extremely high. Moreover, the coefficient on R_AB_ACCR is negative and significant at p<.0001, suggesting that the impact of earnings quality (measured by accruals) on FDI inflows is still profound even when IP is weak (IP=0).

Model (2) of Table 5 determines whether FDI inflows differ across MENA countries as a function of the likelihood of reporting a loss and whether there is a mediating investor protection effect. The expectation is that loss recognition is more likely to occur in countries with strong investor protection regimes. The results show that the coefficient estimates on the interaction term (IP*R_LOSS) is negative and significant at p<.0001. This indicates that firms with high rank score of losses are more likely to attract FDI inflow than firms with low rank score of losses as country's investor protect regimes become stronger. The coefficient on IP is continued to be positive and significant at p<.0001, suggesting that firms performing in countries with strong investor protect regimes is more likely to attract higher level of FDI inflow than firms performing in countries with weak investor protect regimes when the score rank of losses is low. The R_LOSS variable is positive and significant at p<.0001, indicating that firms with high rank score of losses (indicate high earnings quality) are more likely to attract FDI inflow than firms with low rank score of losses (indicate low earnings quality) when IP is effectively zero (IP=0). The Pseudo R² of models (1) and (2) accounts for 18.68% and 11.54 %, respectively.

In sum, the evidence in Table 5 indicates that FDI inflows are higher as firm's earnings quality and the country's IP regimes become better. These results suggest an important tie between firm-level governance (measured by the quality of reported earnings) and the strength of the country-level judicial efficiency (measured by investor protection) due to the complementary role as both facilitate FDI inflows. Further, these results support the arguments in Klapper and Love (2004) that firms are unable to completely replicate a good legal environment on their own, but must depend on a supporting efficient judicial system. These findings have implications for policy makers suggesting that in addition to the long term goal of promoting reform at the country level, a parallel and short term goal of improving corporate governance at the firm level should also be encouraged.

[Insert Table 5 About Here]

6.2. Multinomial Logistic Regression

A multinomial logistic regression framework is employed to test whether the likelihood of high foreign direct investment inflow (FDD=2) is associated with high earnings quality and strong investor protection, and low foreign direct investment inflow (FDD=1) is associated with low earnings quality and weak investor protection. In this framework, the normal foreign direct investment (FDD=0) is used as a reference category. The results reported in Table 6, panel A, show that the coefficient estimates on the test variable for (FDD=2) is positive but insignificant, suggesting that there is no evidence that high foreign direct investment inflow (FDD=2) is associated with high earnings quality (R_AB_ACCR) and strong investor protection. However, when it comes to (FDD=1), the results show positive and significant relationship at p=0.054 (Wald Chi-Square = 3.694). This indicates that there is an evidence that low foreign direct investment inflow (FDD=1) is associated with high

rank score of accruals (R_AB_ACCR) and weak investor protection. Panel B of Table 6 shows similar results to those reported in panel A of Table 6 except the coefficient estimates on the test variable for ($FDD=1$) is negative but more significant at $p < .0001$ (Wald Chi-Square = 54.662), indicating that there is an evidence that low foreign direct investment inflow ($FDD=1$) is associated with low rank score of loss (R_LOSS) and weak investor protection. The adjusted R^2 of those two models has increased significantly to 59.45% and 46.77%, respectively.

[Insert Table 6 About Here]

7. Additional Analysis

7.1. Location Advantages – Oil factor

Oil resources constitute a major MENA region location advantages. Prior studies advocate an association between oil and FDI inflow to the MENA region (e.g. Kobeissi 2005; Mina 2007; Sadi&Bolbol 2001). Accordingly this section examines whether the impact of earnings quality and investor protection on FDI inflow will continue to be evident in the presence of oil factor. Two approaches are adopted. The first approach accounts for the oil extraction aspect of oil processing and defines oil in term of oil production (OR). OR is a dummy variable, takes a value of 1 if the sample country is an oil producing country, and value of zero for other sample countries. The second approach accounts for the oil price (OP) influence and defines oil in term of the end-year world price of crude oil.

[Insert Table 7 About Here]

Columns 1 and 3, Table 7, report the results of testing the impact of the association between earnings quality and investor protection on FDI inflows in oil countries versus non-oil countries. The coefficients on the three-way interaction term ($IP * R_AB_ACCR * OR$) and ($IP * R_LOSS * OR$) are negative and significant at $p < .0001$, suggesting that the impact of low rank score of accruals (high rank score of loss) and strong investor protection regime on FDI inflow is even better in non-oil countries. The coefficients on oil variable (OR) are negative and significant at $p < .0001$, indicating that FDI inflow in non-oil countries is higher than in oil countries. Further, these results are consistent with the univariate analysis where a non-oil countries such as Lebanon, Malta, and Jordan ranks as the highest level of FDI inflows as a share of GDP during the sample period 2001-2010.

Columns 2 and 4, Table 7, report the results of testing the impact of the association between earnings quality and investor protection on FDI inflows considering the influence of oil price. The coefficients on the three-way interaction term ($IP * R_AB_ACCR * OP$) and ($IP * R_LOSS * OP$) are positive and significant at $p = 0.072$ and $p = 0.021$, respectively. These results indicate that the impact of low rank score of accruals (high rank score of loss) and strong investor protection regime on FDI inflow is better when there is an increase in the oil price. The coefficients on oil variable (OP) are negative and significant in column 4 of Table 7 at $p = 0.013$, whereas found to be insignificant in column 2. These results are consistent with the prior studies, indicating that oil price has a negative influence on FDI inflows (e.g. Kobeissi 2005; Mina 2007).

7.2. Economic and political shocks

Prior research shows that the Global Financial Crisis (GFC) had a negative impact on emerging stock markets in general (e.g. Bekaert 1993; Bekaert&Harvey 1997) and MENA markets in particular (Lagorde-Segot&Lucey 2006). Extant literature also argues that political unrest in the MENA region causes instability in the business environment. This is due to the shift in market expectations resulting from international and domestic investors' behaviour, as high risk leads to an observable structural break in the market linkages (Malik&Awadallah 2013). Political unrest can also reflect governance weakness and lead to significant reforms in the governance and transparency regime (Saidi&Ahmed 2012). During the sample period two main economic and political events occurred: the GFC in years 2008 and 2009, and Arab spring in years 2009 and 2010. Accordingly, two dummy variables are added to both models (1) and (2). First, GFC coded 1 in years 2008 and 2009, and 0 otherwise. Second, Arab spring (A_SPRING) coded 1 in years 2009 and 2010, and 0 otherwise.

[Insert Table 8 About Here]

Column 2 in Table 8 show that the coefficient on the $IP * R_LOSS * GFC$ is positive and significant at $p = 0.007$, implying that the impact of high rank score of losses and strong investor protection on FDI inflow is more profound during GFC years than non-GFC years. The coefficient on GFC in column 1 and 2 are insignificant.

Column 4 in Table 8 shows that the coefficient on the $IP * R_LOSS * A_SPRING$ is positive and significant at $p = 0.036$. This indicates that the impact of high rank score of losses and strong investor protection on FDI inflow is more profound during A_SPRING years than non- A_SPRING years. The negative and significant coefficient on A_SPRING in column 4, Table 8, suggests that MENA countries in non- A_SPRING years have better FDI inflow than in A_SPRING years. This is consistent with the extant literature which argues that Arab spring caused a slowdown in economic growth in most MENA countries (e.g. Bouyahiaoui&Hammache 2014).

8. Sensitivity Analysis

Deleting Smaller Countries

In order to assure that smaller countries do not derive the results. Both models (1) and (2) in Table 5 are re-estimated after deleting countries with fewer observations (having 100 or less firm-year observations). The results (untabulated) are nearly identical to the results reported in Table 5. For the model (1), the coefficient on the interaction variable is positive and significant at $p=0.038$. For the model (2), the coefficient on the interaction variable is negative and significant at $p<.0001$. In sum, the results in both models (1) and (2) are robust to excluding the smaller countries.

Country Fixed Effect

As discussed in section three, IP index variables are estimated on the country-level. Accordingly, every firm within a country takes on the same value. Further, country-level metrics are likely to have measurement error (Preiato et al. 2012). Thus, it is possible that country effects are observed due to reported observations within countries. Both models (1) and (2) in Table 5 are re-estimated after adding country dummy to control for country clustering effects. The untabulated results of the coefficients on the interaction term for both models show similar results to those reported in Table 5 in terms of the sign and statistical significance.

Adding More Control Variables

Prior studies argue that there are other factors on the country level that may determine the level of FDI inflows (Kobeissi 2005; Moosa&Cardak 2006). These factors are; annual GDP growth, inflation rate, market size and exchange rate. To address this issue, both models (1) and (2) in Table 5 are re-estimated after inclusion of the new control variables. The results (untabulated) show that, for the abnormal accruals analysis, the coefficient on the interaction term is positive but insignificant at $p=0.978$. However, for the loss avoidances analysis, the coefficient on the interaction term is negative and significant at $p=0.089$, suggesting that the impact of earnings quality (measured by timely loss recognition) and investor protection on FDI inflow are robust to adding more country-level control variables. With regard to the new control variables, only GDP and market size are found to be positive and significant at $p<.0001$, indicating that MENA countries with high infrastructure and large markets attract more FDI inflows.

Endogeneity Concern

An alternative explanation of the results demonstrating an association between FDI inflows and corporate governance both internal (measured by the quality of reported earnings) and external (measured by the investor protection index) is that FDI inflow would also lead to an improvement in the corporate governance system (Erdal&Tatoglu 2002; Lim 2001). To address this potential endogeneity concern both models (1) and (2) are re-performed using one-year lagged FDI as a dependent variable. Untabulated results, for the abnormal accruals analysis, show that the coefficient on the interaction term is found to be positive but insignificant at $p=0.324$. However, for the loss avoidances analysis, the coefficient on the interaction term is negative and significant at $p<.0001$, suggesting a robust results for using timely loss recognition as a measurement of earnings quality.

9. Conclusion

This paper examines whether FDI inflow into the MENA countries is jointly affected by the investor protection regimes where a firm is located and the firm's earnings quality. Considering the findings in other cross-country studies that earnings quality are of relatively higher in countries with strong investor protection. The evidence shows that FDI inflows of firms with low rank score of unsigned accruals (high rank score of losses) are consistently higher relative to the FDI inflows of firms with high rank score of unsigned accruals (low rank score of losses) as country's investor protect regimes become stronger. These results suggest that in addition to the long term goal of promoting reform at the country level, a parallel and short term goal of improving corporate governance at the firm level should also be encouraged. This is due to the fact that firms are unable to completely replicate a good legal environment on their own, but must depend on a supporting efficient judicial system (Klapper&Love 2004).

The evidence also shows that low foreign direct investment inflow ($FDD=1$) is associated with high score of accruals (low score of losses) and weak investor protection. Further, additional analyses suggest that the impact of the association between earnings quality and investor protection on FDI inflow becomes stronger in non-oil MENA countries and during economic and political unrest. Finally, the findings are robust with respect to, deleting smaller countries, heteroscedasticity, inclusion of more country-level controls, and endogeneity concern. The findings of this study have implications for policy makers, regulators, and international investors. Given the current reforms that in progress by some of the MENA countries authorities; for example, Libya, Algeria, Tunisia, Morocco, Yemen and Syria, which are still struggling to develop their capital markets, corporate governance standards and accounting systems. The evidence on the role of investor protection and the level of earnings quality encourage rule makers and regulators to strengthen and develop policies to establish legislations to improve the quality of reported earnings. Such actions have positive impact in attracting FDI especially in countries with weak legal/institutional environment. In addition, international investors need to adequately assess

differences of earnings quality, investor protection and governance factors across MENA countries in order to be able to make their investment decisions.

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Table 1 Variables Definition

Notation	Description of Variables	Measure
InFDI	Foreign direct investment inflow	Natural logarithm of FDI inflow (US\$ billion) normalized by nominal GDP to account for differences in size of economy across MENA countries
IP	Investor protection	A dummy variable equal to one if the score of the sum total for the legal origin (LORG), the outside investor rights (Sind), disclosure requirement index (Dis), liability standard index (Lib) and legal enforcement (RL) is above the median (indicate strong investor protection regime), and zero if equal or below the median (indicate weak investor protection regime).
R_AB_ACCR	Rank score of Absolute value of abnormal accruals	Performance-adjusted abnormal accruals following (Kothari et al., 2005) multiplying negative residuals by (-1), countries are ranked such as a higher score suggests a lower level of earnings quality.
R_LOSS	Rank score of small profits to small losses ratio	Losses ratio converted into a dummy variable equal one if the firm i reports negative income before extraordinary items in year t, 0 otherwise, then countries are ranked such as a higher score suggests a higher level of earnings quality.
InSIZE	Firm size	The natural log of total assets at the end of the year t
InMB	Market to book ratio	The natural log of the market value of equity divided by the book value of equity at the end of the year t
LEV	Leverage	The total debt divided by total assets at the end of year t
ROA	Return on assets ratio	Net income after preferred divided by average total assets of year t.
FDD=2	High foreign direct investment inflow	Comprising firm-year observations in quartile 3 and 4 of FDI
FDD=1	Low foreign direct investment inflow	Comprising firm-year observations in quartile 1 of FDI
FDD=0	Normal foreign direct investment inflow (reference category)	Comprising firm-year observations in quartile 2 of FDI
OP	Oil price	The end-year world price of crude oil
OR	Oil producing country	A dummy variable equal to one if the sample country is an oil producing country, and zero otherwise

Table 2 Summary Statistics

Panel A: Firm-level foreign direct investment inflow (lnFDI), 2001-2010					
	Mean		Median		Std.
All sample	0.748		0.947		0.653
Bahrain	1.067		1.064		0.156
Egypt	0.067		0.063		0.101
Iran	-0.076		-0.076		0.077
Iraq	0.447		0.454		0.060
Israel	1.142		1.142		0.031
Jordan	1.576		1.574		0.037
Kuwait	0.492		0.501		0.136
Lebanon	2.103		2.103		0.010
Malta	1.921		1.913		0.039
Morocco	1.073		1.086		0.164
Oman	0.294		0.294		0.132
Palestinian Territory	0.435		0.467		0.226
Qatar	-1.654		-1.761		0.572
Saudi Arabia	0.512		0.507		0.117
Tunisia	1.230		1.234		0.088
United Arab Emirates	1.230		1.234		0.088

Panel B: Firm-level investor protection, 2001-2010					
	Mean		Median		Std.
All sample	1.763		2.000		1.142
	LORG	SIND	DIS	LIB	TSUM
Bahrain	1	0	1	0	2
Egypt	0	1	1	0	2
Iran	0	0	0	0	0
Iraq	0	0	0	0	0
Israel	1	1	0	1	3
Jordan	0	0	0	0	0
Kuwait	1	1	0	1	3
Lebanon	0	1	1	0	2
Malta	1	1	0	1	3
Morocco	0	1	0	0	1
Oman	1	0	1	0	2
Palestinian Territory	0	1	0	0	1
Qatar	0	0	0	1	1
Saudi Arabia	0	0	1	1	2
Tunisia	0	1	0	1	2
United Arab Emirates	0	0	0	1	1

Table 2 (Continued)

	R_AB_ACCR				R_LOSS			
	N	Mean	Median	Std.	N	Mean	Median	Std.
All sample	2,640	1.522	2.000	1.110	5,959	1.506	1.000	0.869
Bahrain	15	2.333	2.000	0.724	74	1.080	1.000	0.397
Egypt	305	1.577	2.000	1.068	656	1.158	1.000	0.541
Iran	20	1.400	1.500	1.142	366	1.131	1.000	0.496
Iraq	14	1.357	1.000	1.393	47	1.723	1.000	0.971
Israel	1,035	1.489	1.000	1.107	1,888	1.723	1.000	0.961
Jordan	377	1.493	2.000	1.144	795	1.769	1.000	0.973
Kuwait	215	1.447	1.000	1.100	630	1.695	1.000	0.953
Lebanon	6	1.667	2.000	1.506	30	1.133	1.000	0.507
Malta	30	1.333	1.000	1.184	44	1.590	1.000	0.923
Morocco	30	1.667	1.500	0.922	208	1.154	1.000	0.534
Oman	133	1.504	1.000	1.105	282	1.347	1.000	0.759
Palestinian Territory	37	1.676	2.000	1.226	78	1.538	1.000	0.892
Qatar	37	1.621	2.000	1.114	101	1.178	1.000	0.572
Saudi Arabia	211	1.630	2.000	1.106	418	1.282	1.000	0.697
Tunisia	53	1.585	2.000	1.151	124	1.209	1.000	0.615
United Arab Emirates	122	1.549	2.000	1.099	211	1.199	1.000	0.600

Panel D: Control Variables

	Mean	Median	Std.
lnSIZE	11.365	11.320	1.864
lnMB	0.366	0.385	0.778
LEV	0.577	0.509	0.450
ROA	3.109	3.975	13.495

Variables are defined in Table 1

Table 3
Two Sample T-test

Panel A: Comparison of FDI at firm-level in countries with low IP (IP=0) versus countries with high IP (IP=1)

	IP=1	IP=0	Differences P-value
Mean lnFDI	1.037	0.665	<.0001

Panel B: Comparison of FDI at firm-level in countries with low R_AB_ACCR (indicate high earnings quality) versus countries with high R_AB_ACCR (indicate low earnings quality)

	high earnings quality	low earnings quality	Differences P-value
Mean lnFDI	0.806	0.854	0.2800

Panel C: Comparison of FDI at firm-level in countries with high R_LOSS (indicate high earnings quality) versus countries with low R_LOSS (indicate low earnings quality)

	high earnings quality	low earnings quality	Differences P-value
Mean lnFDI	0.973	0.702	<.0001

Table 4
Spearman correlations matrix 2001-2010

Variables	lnFDI	IP	R_AB_ACCR	R_LOSS	lnSIZE	lnMB	LEV	ROA
lnFDI	1.000							
IP	0.262 (<.0001)	1.000						
R_AB_ACCR	-0.014 (0.205)	-0.088 (<.0001)	1.000					
R_LOSS	0.103 (<.0001)	0.141 (<.0001)	-0.129 (<.0001)	1.000				
lnSIZE	-0.028 (0.001)	0.078 (<.0001)	-0.044 (<.0001)	-0.197 (<.0001)	1.000			
lnMB	-0.069 (<.0001)	-0.104 (<.0001)	0.039 (0.007)	-0.092 (<.0001)	-0.0452 (<.0001)	1.000		
LEV	-0.026 (0.004)	-0.076 (<.0001)	0.003 (0.808)	0.115 (<.0001)	-0.596 (<.0001)	0.134 (<.0001)	1.000	
ROA	-0.184 (<.0001)	-0.184 (<.0001)	0.164 (<.0001)	-0.488 (<.0001)	0.075 (<.0001)	0.135 (<.0001)	-0.086 (<.0001)	1.000

Variables are defined in Table 1

Table 5
Regression analysis of FDI (dependent variable is lnFDI)

Independent variables	Model (1)	Model (2)
Intercept	1.3568 (<.0001)	0.9988 (<.0001)
IP	0.3521 (<.0001)	0.4228 (<.0001)
R_AB_ACCR	-0.0232 (0.0440)	
R_LOSS		0.0453 (<.0001)
IP*R_AB_ACCR	0.0296 (0.0822)	
IP* R_LOSS		-0.0769 (<.0001)
ln SIZE	-0.0461 (<.0001)	-0.0321 (<.0001)
ln MB	-0.0485 (0.0002)	-0.0443 (<.0001)
LEV	-0.1090 (<.0001)	-0.0228 (0.0204)
ROA	-0.0051 (<.0001)	-0.0059 (<.0001)
Year fixed effect	Yes	Yes
Industry fixed effect	Yes	Yes
Pseudo-R ²	18.68	11.54
N	2,640	5,959
F-value	14.49	24.64

Variables are defined in Table 1

Table 6
The Multinomial Logistic Regression

Dependent variable is High foreign direct investment FDD=2 and Low foreign direct investment FDD=1, using Normal foreign direct investment FDD=0 as a Reference Category

Panel A: Model (1)

Variables	FDD=2			FDD=1		
	Estimate	Wald Chi-Square	P-value	Estimate	Wald Chi-Square	P-value
Intercept	8.710	27.580	<.0001	13.975	62.407	<.0001
IP	3.117	69.130	<.0001	4.461	111.190	<.0001
R_AB_ACCR	-0.351	5.727	0.0167	-0.436	7.892	0.0050
IP*R_AB_ACCR	0.193	1.247	0.2642	0.383	3.694	0.0546
Control	yes			yes		
Year fixed effect	yes			yes		
Industry fixed effect	yes			yes		
Pseudo-R ²	59.45					
N	2,640					
Likelihood ratio	2383.1083***					
Wald	1133.4789***					

Panel B: Model (2)

Variables	FDD=2			FDD=1		
	Estimate	Wald Chi-Square	P-value	Estimate	Wald Chi-Square	P-value
Intercept	4.107	26.693	<.0001	7.130	66.010	<.0001
IP	1.482	49.078	<.0001	0.513	49.430	0.0351
R_LOSS	0.225	3.009	0.0828	0.572	17.621	<.0001
IP* R_LOSS	-0.216	2.521	0.1123	-1.123	54.662	<.0001
Control	yes			yes		
Year fixed effect	yes			yes		
Industry fixed effect	yes			yes		
Pseudo-R ²	46.77					
N	5,959					
Likelihood ratio	3757.1677***					
Wald	2245.8941***					

Variables are defined in Table 1

*** denote significance at 1% level; p-value are two-tailed

Table 7
Additional Analysis (Location advantages - Oil factor)

Variables	Column (1)	Column (2)	Column (3)	Column (4)
Intercept	1.532 (<.0001)	2.001 (<.0001)	1.062 (<.0001)	3.834 (<.0001)
IP	0.254 (<.0001)	0.283 (<.0001)	0.571 (<.0001)	1.911 (<.0001)
R_AB_ACCR	-0.022 (0.096)	-0.025 (0.067)		
R_LOSS			0.134 (<.0001)	0.278 (<.0001)
IP*R_AB_ACCR	0.05206 (0.005)	-0.04807 (0.2515)		
IP* R_LOSS			-0.162 (<.0001)	-0.742 (<.0001)
IP*R_AB_ACCR*OR	-0.178 (<.0001)			
IP* R_LOSS*OR			-0.113 (<.0001)	
IP*R_AB_ACCR*OP		0.002 (0.072)		
IP* R_LOSS*OP				0.004 (0.021)
OR	-0.283 (<.0001)		-0.419 (<.0001)	
OP		-0.003 (0.277)		-0.017 (0.013)
Control	yes	yes	yes	yes
Year fixed effect	yes	yes	yes	yes
Industry fixed effect	yes	yes	yes	yes
Pseudo-R ²	27.01	18.92	30.32	18.32
N	2,640	2,640	5,959	5,959
F-value	17.27	11.44	44.20	23.65

Table 8
Additional Analysis (Economic and Political Shocks)

Variables	Column (1)	Column (2)	Column (3)	Column (4)
Intercept	1.745 (<.0001)	1.288 (<.0001)	1.785 (<.0001)	1.351 (<.0001)
IP	0.281 (<.0001)	0.635 (<.0001)	0.284 (<.0001)	0.632 (<.0001)
R_AB_ACCR	-0.013 (0.625)		-0.304 (0.050)	
R_LOSS		0.140 (<.0001)		0.134 (<.0001)
IP*R_AB_ACCR	0.299 (0.130)		0.162 (0.409)	
IP* R_LOSS		-0.221 (<.0001)		-0.223 (<.0001)
IP*R_AB_ACCR*GFC	0.905 (0.2911)			
IP* R_LOSS*GFC		0.294 (0.007)		
IP*R_AB_ACCR* A_SPRING			0.266 (0.433)	
IP* R_LOSS* A_SPRING				0.590 (0.036)
GFC	0.910 (0.170)	0.139 (0.634)		
A_SPRING			-0.205 (0.610)	-0.990 (0.001)
Control	yes	yes	yes	yes
Year fixed effect	yes	yes	yes	yes
Industry fixed effect	yes	yes	yes	yes
Pseudo-R ²	19.04	18.30	18.84	18.95
N	2,640	5,959	2,640	5,959
F-value	11.52	23.62	11.98	23.69