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THE EFFECT OF WORKING CAPITAL MANAGEMENT ON THE PERFORMANCE OF THE TEXTILE FIRMS: EVIDENCE FROM FRAGILE FIVE COUNTRIES (FFCs)*

Çalışma Sermayesi Yönetiminin Tekstil Firmalarının Performansına Etkisi: Kırılgan Beşli Ülkelerden Kanıtlar

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Abstract

Keywords: Working Capital Management, Profitability, Firm Performance, Fragile Five, Driscoll-Kraay, Textile.

JEL Kodları: G32, C33, M10.

An effective working capital can contribute to achieving the firm's financial profitability, increasing the value of companies, creating a short-term financing source, continuing their activities and increasing their sustainability. This study examines the effect of working capital management on firm performances (ROA and TOBIN's Q) of firms operating in the textile industry in 4 countries (Brazil, India, Indonesia and Turkey) called the Fragile Five countries between 2010 and 2020. In the estimation of the coefficients of the panel regression models determined in this study, the Driscoll-Kraay estimator, which is robust against the problems of unobserved heterogeneity, autocorrelation, varying variance and cross-section dependence, was used. In the general evaluation of the panel data analysis estimation results, it is seen that the effect of working capital management on financial performance differs significantly depending on the selected performance variable. All of these results show that successful and effective working capital management in the textile sector depends on taking into account the differences in economic conditions, differences in capital markets, financial market performance and daily working habits, and evaluating each component of working capital separately.

Anahtar Kelimeler: Çalışma Sermayesi Yönetimi, Karlılık, Firma performansı, Kırılgan Beşli, Driscoll-Kraay, Tekstil

JEL Codes: G32, C33, M10.

Öz

Etkin bir çalışma sermayesi; firmaların finansal karlılığa ulaşmalarını sağlamak, firmaların değerlerini artırmak, kısa dönem finansman kaynağı yaratmak, faaliyetlerini devam ettirmek ve sürdürülebilirliklerini artırmak bakımından katkı sağlayabilir. Bu çalışma, 2010-2020 yılları arasında Kırılgan Beşli ülke olarak adlandırılan 4 ülkedeki (Türkiye, Hindistan, Endonezya ve Brezilya) tekstil sektöründe faaliyet gösteren firmaların çalışma sermayesi yönetimlerinin firma performansları (ROA ve TOBIN's Q) üzerindeki etkisini incelemektedir. Bu çalışmada belirlenen panel regresyon modellerinin katsayılarının tahmininde, gözlemlenmemiş heterojenlik, otokorelasyon, değişen varyans ve yatay kesit bağımlılığı problemlerine karşı sağlam olan Driscoll-Kraay tahmincisi kullanılmıştır. Panel veri analizi tahmin sonuçlarının genel değerlendirmesinde, işletme sermayesi yönetiminin finansal performans üzerindeki etkisinin seçilen performans değişkenine bağlı olarak önemli ölçüde farklılaştığı görülmektedir. Bu sonuçların bütünü, tekstil sektöründe başarılı ve etkin işletme sermayesi yönetiminin ekonomik koşullardaki farklılıkları, sermaye piyasalarındaki farklılıkları, finansal piyasa performansını ve günlük çalışma alışkanlıklarını dikkate almasına ve işletme sermayesini oluşturan her bir unsurun ayrı ayrı değerlendirilmesine bağlı olduğunu göstermektedir.

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1. Introduction

Financial management decisions are; divided into short-term and long-term financing decisions. Short-term financial decisions are easier for managers than long-term financial decisions, but they are never less important (Brealey et al., 2019: 551). Corporate finance literature focuses on long-term financing decisions such as company valuation, dividend, capital structure, but since short-term assets and liabilities have a significant share in total assets, working capital management (WCM), which is the focus of short-term decisions, is also an indispensable part of financial management (Nazir and Afza, 2009).

Decisions regarding the WCM are about managing cash, stocks, receivables and debts and are one of the most important issues in finance, especially in today's world (Jose et al., 1996). Working capital (WC), in its most general sense, refers to the amount of capital a company attributes to its economic values in an accounting period with a maturity of one year or less. The absence or inadequacy of WC will prevent a company from operating at full capacity and producing consistently (Sariaslan and Erol, 2008: 360). Inadequate WC is often considered the main cause of firm failure (Rafuse, 1996). Due to deficiencies in production as a result of WC inadequacy, companies will not be able to meet customer demands and orders as they wish, and they will not be able to reach their targeted sales level (Sariaslan and Erol, 2008: 360). Failure to manage WC in a planned, efficient, correct and effective manner (Pass and Pike, 1984); It can cause companies to lose investment opportunities, fail to meet their short-term cash needs, decrease their profitability and even cause companies to go bankrupt (Samiloglu and Demirgunes, 2008; Brealey et al., 2019: 551).

Conversely, when managers manage their companies' WC efficiently, companies will be able to cover their short-term costs and liabilities, increase free cash flows in the treasury of the company, reduce risks and financing needs, and have the opportunity to maximize shareholder value (Pass and Pike, 1984; Aktas et al., 2015; Berk et al., 2016: 15).

The literature on the WC-profitability relationship has developed and continues to evolve, especially after Deloof's pioneering work and since the 2007 financial crisis, due to its importance to companies in these contexts. After the crisis, companies began to investigate the causes of the collapse of the financial system and to take measures for the financial system again. Firm managers have had to acknowledge the importance of effectively managing the firm's profitability, especially in the WC area, in order to prevent further losses and bankruptcies (Jakpar et al., 2017). As a result, since WCM affects both profitability and risk, and after the crises and epidemics, especially after the economic difficulties experienced during the COVID-19 process, the importance of WCM has increased even more. Many companies that cannot effectively manage their stocks, receivables or especially short-term debts have failed in this process.

Companies give priority to an effective WCM in order to achieve their objectives such as increasing market value, continuing its operations and generating financial profit. (Hingurala Arachchi et al., 2017). Managers need to devote a significant amount of time to WCM, which is one of the most important components of business finance, which has a large share and function in the success/failure of their companies (Chambers and Cifter, 2022). In fact, it can be said that the WCM's decisions regarding the management of the investments to be made by the companies focus on non-long-term financing, in other words, on short-term monetary resources and fields of activity (Banos-Caballero et al., 2010). The cash that the companies keep in their safes, the securities that can be converted into cash at any time, the trade receivables obtained as a result of

the sales and the current assets they hold are evaluated within this scope. It is aimed to keep the needs to a minimum and to maximize profit and profitability by managing and using these assets in the most appropriate way (Ganesan, 2007).

Textile, which has an important role in economic development in the world and is accepted as a locomotive sector with its contribution to exports, production and employment, is one of the oldest manufacturing industry branches (Hamid et al., 2014). WCM in providing short-term financing resources to textile companies, like all companies, has important effects on success and profitability for textile companies as in the other sectors. (Akguc, 2013: 204). This situation has also been observed in many studies in the literature. (Khan et al., 2011; Tufail and Khan, 2013; Akbar, 2014; Sheikh et al., 2016) and it was also demonstrated in the analysis performed in this study. For this reason, it is one of the issues that should be emphasized as much as it is financially important. In this context, financial managers of textile companies should aim to focus on the management of each component of WC items that concern financial management, keep the WC at optimal levels and make the right investments in order to continue their activities with sustainable profitability and efficiency (Akbar et al., 2020).

Effective policies are needed for WCM as textile companies can increase their profitability with efficient management and lowest cost financing (Asad, 2012). As a result of effective WC management in the textile sector, companies with short cash conversion cycle (CCC) will prevent their external financing calls, borrow less, thus provide interest cost advantage and thus increase the profitability of textile companies (Tahir and Anuar, 2016).

The importance of using CCC, which is used as a WCM criterion in the study, is first expressed in Gitman's research (Gitman, 1974). A substantial body of the literature has used CCC as one of several measures of WCM efficacy. This is because CCC is a powerful measure of financial performance for assessing how well a firm is managing WC. It indicates how quickly a firm can convert its initial capital investment into cash. CCC was introduced by Richards and Laughlin (1980), who suggested it as a dynamic indicator in liquidity analysis, and was later used in many studies as a benchmark for WCM in terms of its impact on firm profitability and performance (Shin and Soenen, 1998; Hutchison et al., 2007; Lind et al., 2012; Yazdanfar and Ohman, 2014) and it has been extended to the study of its impact on firms' profitability (Shin and Soenen, 1998; Deloof, 2003; Iftikhar, 2013; Yazdanfar and Ohman, 2014).

WC is an important indicator for all companies regardless of their size, showing their financial position and corporate liquidity (Entrepreneur, 2013). However, WC in particular is more important in developing countries than in developed countries. Effective management of WC is essential for companies operating in developing economies due to their limited use of funds, difficult access to capital through external financing due to inactive capital markets, difficulties in finding long-term funds and exposure to high interest rates. Because WC, which is the source of internal financing, is the primary source for them. (Allen et al., 2012; Zariyawati et al., 2016).

"Brazil, Indonesia, Turkey, South Africa and India", which are called the "Fragile Five" and are also among the developing countries, are in the top ten of the world lists. In this direction, the aim of this study is to empirically examine the effect of WC variables on financial performance with a sample consisting of companies operating in the textile sector of the "Fragile Five" countries in the period of 2010-2020. South African textile companies, one of the Fragile Five countries, could not be included in the sample due to lack of data.

This study contributes to the past literature on WCM in four ways: First, this study is the first to examine textile firms' WCM in FFCs using panel data regression analysis. Secondly, this study adds to the available knowledge about the relationship between WC and financial performance by using the most up-to-date data of textile companies operating in FFCs. Third, the results of this study provide guidance to managers operating in the textile industry to develop meaningful strategies to effectively manage WC and improve financial performance. Finally, panel data methodology based on the Driscoll-Kraay standard error estimator was used to deal with variance, autocorrelation, cross-section dependence, and unobservable heterogeneity.

2. Literature Review

Many applied studies in literature show that effective management of WC is associated with higher firm performance and firm value. Therefore, WC decisions that focus on short-term financing and investment decisions can provide companies with a competitive advantage, increase profitability and performance, and contribute significantly to the development of the real sector and financial markets. As a result, efficient WCM is of great importance not only for corporate governance but also for all stakeholders.

When the former studies focusing on the association between WC variables and financial performance are examined, it has been observed that various variables are employed to measure WC elements. For example, researchers such as Deloof (2003), Lazaridis and Tryfonidis (2006), García-Teruel and Martínez-Solano (2007), Mathuva (2010), Sharma and Kumar (2011), and Abuzayed (2012) have employed the accounts receviables period (ARP), the inventory holding period (IHP), the accounts payable period (APP), and CCC variables to represent WC in their studies. However, researchers such as Mun and Jang (2015), Saglam and Karaca (2015), Boțoc and Anton (2017), Anton and Afloarei Nucu (2020), Osama and Al-Gazzar (2021), Chambers and Cifter (2022), and Jaworski and Czerwonka (2022) have utilized the WC ratio in their studies to measure WC.

The literature offers five groups of conflicting results concerning the influence of WC variables on financial performance: (i) WC variables have a negative influence on financial performance, (ii) WC variables have a positive impact on financial performance, (iii) there exist blended results between WC components and financial performance measures, (iv) WC variables has a neutral influence on financial performance, and (v) there exists a non-linear association between WC variables and financial performance.

The first group of studies suggesting a negative relationship between WC variables and financial performance are Yucel and Kurt (2002), Nobanee et al. (2011), Ebben and Johnson (2011), Ogundipe et al. (2012), Enqvist et al. (2014), Yazdanfar and Ohman (2014), Sensini (2020), Lin and Wang (2021), and Jaworski and Czerwonka (2022). These studies reported that the effect of CCC on financial performance variables is negative. Also, Deloof (2003), García-Teruel and Martínez-Solano (2007), Mansoori and Muhammad (2012), Aygun (2012), Ukaegbu (2014), Pais and Gama, (2015), Hussain et al. (2021), Gołaś (2020), on the other hand, reported that there is a negative correlation between the CCC and the elements that make up the CCC and performance indicators.

The studies in the second group, which argue that WC variables have a positive effect on financial performance, are as follows; Alvarez et al. (2021) have provided empirical evidence that

there is a positive relationship between financial performance as measured by ROA and ROE and all WC components for Argentine manufacturing firms. Also, Saglam and Karaca (2015) have reported that financial performance indicators for Turkish textile companies are positively affected by the WC ratio. Similarly, Amponsah-Kwatiah and Asiamah (2020) have revealed that WC components have positive effects on both ROA and ROE.

Lazaridis and Tryfonidis (2006), Mathuva (2010), Sharma and Kumar (2011), Abuzayed (2012), Napompech (2012), Vahid et al. (2012), Ademola (2014), Samiloglu and Akgun (2016), Keskin and Gokalp (2016), Kayani et al. (2019), Braimah et al. (2021), and Durdu and Aydin (2021) are among the third group of studies suggesting blended results between WC components and financial performance measures.

The studies conducted by Atmaca (2016) and Ahmed et al. (2017) can be given as an example of the fourth group of studies that determined that there is no linkage between WC variables and financial performance.

As the last group works, the findings regarding the existence of a nonlinear relationship between WC variables and financial performance have been reported in empirical studies conducted by Afrifa et al. (2014), Mun and Jang (2015), Boțoc and Anton (2017), Singhania and Mehta (2017), Anton and Afloarei Nucu (2020), Prempeh and Peprah-Amankona (2020), Ahangar (2021), Akbar et al. (2021), Chambers and Cifter (2022), and Ersoy et al. (2022) Jaworski and Czerwonka (2022).

3. Methodology

3.1. Dataset and Descriptive Statistics

This study aims to analyze the influence of WC elements on textile firms' financial performance in fragile five countries. However, South African companies are not included in the sample due to lack of data. In this context, of the textile companies that made up our sample, 12 operate in Brazil, 11 in Indonesia, 17 in Turkey, and the remaining 145 in India. Financial data of textile firms over the period of 2010–2020 are obtained from Thomson Reuters Eikon database. Econometric analyses were performed using the Stata 17 software. Our sample is a balanced panel dataset. All firm-level variables are winsorized at 1% and 99% levels to minimize the influence of possible spurious outliers. The variables employed in this study and their influence on financial performance are shown in Table 1.

Table 1. Definitions of Variables

Variable	Measure	Notation	Expected Sign
Dependent variables			
Return on Assets	Net profit/total assets	ROA	
Tobin's Q	(The market value of equity + short- and long-term liabilities)/total assets.	TQ	
Independent variables			
Accounts receivable period	[Average receivables * 365/sales]	ARP	+/-
Inventory holding period	[Average inventories * 365/cost of goods sold]	IHP	+/-
Accounts payable period	[Average payables * 365/cost of goods sold]	APP	+/-
Cash conversion cycle	[ARP + IHP-APP]	CCC	+/-
Control variables			
Current ratio	Total current assets/total current liabilities	CR	+
Leverage	The ratio of total debt to total assets.	LEV	-
Firm size	Natural logarithm of total assets	SIZ	+/-
Growth	(Current year sales/ previous year sales) – 1	GRO	+/-

Descriptive statistics values calculated for all variables used in the analysis are shown in Table 2. According to the summary statistics calculated for all textile companies regarding these variables, the average value of the ROA variable is approximately 2.2%. The average value of Tobin's Q is about 1.19. When the summary statistics presented in Table 2 are analyzed in terms of WC variables, the ARP variable has an average value of about 54. This means that textile firms give their customers about 54 days to pay their dues. In other words, firms tend to collect their receivables on sales after an average of 54 days. With regard to IHP variable, it is found that mean value of IHP is close to 126 days. This means that textile firms wait about 126 days to convert their inventories into sales. The APP variable has an average value of about 60. This statistic demonstrates that textile firms tend to pay their debts within 60 days. Finally, the average CCC is approximately 118 days.

Table 2. Descriptive Statistics for Full Sample

Variable	Mean	SD	Median	Min	Max	N
ROA	0.022	0.060	0.0235	-0.122	0.133	2035
TQ	1.191	0.685	0.940	0.031	3.226	2035
ARP	53.898	37.669	46.024	1.583	139.671	2035
IHP	125.753	71.776	112.04	28.070	302.681	2035
APP	60.189	39.830	53.280	6.545	152.883	2035
CCC	117.874	78.270	108.328	-11.913	295.048	2035
CR	1.734	1.293	1.284	0.493	6.102	2035
LEV	0.609	0.222	0.628	0.192	1.067	2035
SIZ	18.158	1.318	18.058	15.884	20.741	2035
GRO	0.010	0.200	0.0246	-0.450	0.368	2035

Summary statistics obtained using sub-samples of textile companies operating in Brazil, Indonesia, Turkey and India are reported in Table 3. Columns 1, 4, 7, and 10 of Table 3 report the mean values of variables for firms in Brazil, Indonesia, Turkey, and India, respectively.

According to Table 3, the textile firms with the highest ROA with an average value of 0.025 are Indian companies. The positive average ROA value of textile companies in other countries indicates that companies operating in the textile industry are profitable companies. According to Table 3, the fact that the average Tobin's Q value of the textile companies operating in all 4

countries is above 1 indicates that these companies, on average, create value for their shareholders.

Among the textile firms operating in 4 countries, Indonesian textile firms expect their customers to pay their debts in approximately 43 days, while Brazilian textile firms provide their customers with an average of 96 days to pay their debts. This result demonstrates that the firms that make the fastest (slowest) collection on their sales are Indonesian (Brazilian) textile companies.

Regarding the IHP variable, compared to firms in other countries, Brazilian firms tend to convert their inventories into sales in a shorter time (an average of 112 days). With regard to the APP variable, compared to firms in other countries, Brazilian firms tend to convert their inventories into sales in a shorter time (an average of 112 days). Concerning the ARP variable, Turkish firms take longer time to pay back their debts when compared to firms in other countries. Interestingly, regarding the CCC variable, the study reveals that Brazilian firms take a longer time (an average of 150 days) to complete the conversion cycle as compared to firms in other countries.

Table 3. Descriptive Statistics for Sub-Samples (Brazil, Indonesia, Turkey, and India)

	Brazil			Indonesia			Turkey			India		
	Mean	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**	**Mean**	**SD**	**N**
ROA	0.008	0.086	132	0.009	0.064	121	0.019	0.067	187	0.025	0.056	1595
TQ	1.402	0.782	132	1.263	0.727	121	1.256	0.651	187	1.161	0.674	1595
ARP	95.760	23.403	132	43.118	21.458	121	64.582	35.977	187	49.998	37.381	1595
IHP	111.656	44.474	132	120.490	80.114	121	117.239	71.760	187	128.317	72.757	1595
APP	54.442	42.815	132	53.038	35.205	121	76.672	38.187	187	59.274	39.635	1595
CCC	149.802	77.984	132	109.806	79.654	121	105.903	74.756	187	117.248	77.981	1595
CR	2.062	1.733	132	1.635	1.251	121	1.588	1.239	187	1.732	1.256	1595
LEV	0.614	0.307	132	0.611	0.278	121	0.539	0.212	187	0.617	0.208	1595
SIZ	19.556	0.955	132	18.795	0.946	121	18.565	1.237	187	17.946	1.281	1595
GRO	-0.045	0.228	132	-0.001	0.184	121	-0.023	0.214	187	0.019	0.196	1595

3.2. Econometric Model

Following Deloof (2003), Zariyawati et al. (2009), Banos-Caballero et al. (2007), Sharma and Kumar (2011), and Singhania and Mehta (2017), the two-way fixed effects equations are estimated to investigate the association between WCM and financial performance.

$$(FP)_{it} = \alpha_0 + \gamma(ARP)_{it} + \sum_{j=1}^{4}(FLCV)_{it}\,\beta_j + \sum_{t=1}^{11-1}\lambda_t(Year)_t + \varepsilon_{it} \quad \text{(Model 1)}$$

$$FP)_{it} = \alpha_0 + \gamma(IHP)_{it} + \sum_{j=1}^{4}(FLCV)_{it}\,\beta_j + \sum_{t=1}^{11-1}\lambda_t(Year)_t + \varepsilon_{it} \quad \text{(Model 2)}$$

$$(FP)_{it} = \alpha_0 + \gamma(APP)_{it} + \sum_{j=1}^{4}(FLCV)_{it}\,\beta_j + \sum_{t=1}^{11-1}\lambda_t(Year)_t + \varepsilon_{it} \quad \text{(Model 3)}$$

$$(FP)_{it} = \alpha_0 + \gamma(CCC)_{it} + \sum_{j=1}^{4}(FLCV)_{it}\,\beta_j + \sum_{t=1}^{11-1}\lambda_t(Year)_t + \varepsilon_{it} \qquad \text{(Model 4)}$$

In these models, subscripts i and t represent individual firm and year, respectively. α_0 is the intercept. FP_{it} is the dependent variable, and it is measured by accounting-based financial performance (ROA) and market-based financial performance (Tobin's Q). ARP_{it}, IHP_{it}, APP_{it}, and CCC_{it} are the independent variables and they represent WC variables such as ARP, IHP, APP, and CCC. The term β is the vector of coefficients to be estimated. In the above equations, $FLCV_{it}$ is a vector of independent variables consisting of the variables such as current ratio, growth, firm size, and leverage. The coefficients α_0, γ, β_j, and λ_t are the parameters to be estimated. $\varepsilon_{it} = \omega_i + u_{it}$, where ω_i demonstrates time-invariant firm-level fixed effects and u_{it} denotes the random error terms.

3.3. Method

The econometric analysis consists of the following steps: Firstly, Spearman correlation analysis is carried out to determine whether there is a multicollinearity problem between the independent variables and control dependent. Secondly, as it is known, there are three traditional estimators used to estimate coefficients in panel data regression analysis in the literature. These are the Pooled OLS (POLS), random effects (REs), and fixed effects (FEs) estimators, respectively. The POLS is ignored in this study. Because it is based on the assumption that there is no correlation between independent variables and firm-specific fixed effects. Also, the POLS estimation assumes no unit and time effects, which is not a realistic assumption. As a result, the Hausman test is employed to choose between the remaining two estimators (i.e, REs and FEs). The Hausman test is based on the null hypothesis that the REs model is more appropriate than the FEs model (Baum, 2006).

Third, after it was decided that the FEs (REs) estimator was the most appropriate estimator for the estimation of the coefficients in the financial performance model, diagnostic tests were conducted to investigate the existence of serial correlation, varying variance and cross-section dependence in error terms in the panel data model. For diagnostic tests, Wooldridge test (Drukker, 2003) for serial correlation, Modified Wald test (Levene) (Baum, 2001) for varying variance and Pesaran CD test (De Hoyos and Sarafidis, 2006) were used for cross-section dependence, respectively. The Wooldridge test is based on the null hypothesis that there is no serial correlation in the data. While the modified Wald (Levene) test is based on the null hypothesis that there is no heteroscedasticity, the Pesaran CD test is also based on the null hypothesis that there is no cross-sectional dependence.

Finally, if serial correlation, varying variance, and cross-section dependence are detected in the panel data, the Driscoll and Kraay (1998) estimator, which uses regressions of FEs or REs, was used to obtain robust test statistics (Hoechle, 2007).

3.4. Investigation of Multi-Collinearity Problem

The correlations between the independent and control variables were estimated in the analysis, and the estimated coefficients of the correlation coefficients between the independent

and control variables used in the regression models for the full sample are shown in Table 4. A negative and significant correlation (-0.628) was found between the CR and LEV variables. On the other hand, CCC shows a significant positive correlation with IHP (0.719). More importantly, the predicted high correlation coefficient between CCC and IHP indicates that including the two variables in the same regression model will result in multicollinearity. As a result, the fact that other estimated correlation coefficients are lower than 0.80 reveals that multicollinearity is not a significant problem in terms of other variables (Kennedy, 2003; Gujarati, 2004).

Estimated correlation coefficients analysis was performed for the sub-samples of Brazil, Indonesia, Turkey and India, and all these results show that the WC components should be modeled separately.

Table 4. Spearman Correlation Between Independent and Control Variables for Full Sample

	ARP	IHP	APP	CCC	CR	LEV	SIZ	GRO
ARP	1.000							
IHP	0.041*	1.000						
APP	0.190***	0.239***	1.000					
CCC	0.373***	0.719***	-0.195***	1.000				
CR	0.123***	0.115***	-0.179***	0.271***	1.000			
LEV	-0.078***	-0.024	0.181***	-0.152***	-0.628***	1.000		
SIZ	-0.008	0.101***	-0.023	0.103***	-0.067***	0.048**	1.000	
GRO	-0.117***	-0.045	-0.073***	-0.056**	0.139***	0.036	0.061**	1.000

Note: ***, ** and * indicate the level of significance at 1%, 5%, and 10%.

4. Estimation Results of Panel Data Models

In this part of the study, firstly, the estimation results obtained from the models in which ROA, an accounting-based performance measure, is the dependent variable, are summarized. Then, the findings obtained from the models in which Tobin's Q, which is a market-based performance measure, is employed as the dependent variable, are given.

4.1. Estimation Results of ROA Models

Table 5 reports the values of the estimated coefficients of the regression models shown in Equations (Model1) -(Model4). The model goodness of fit (R^2) demonstrates that about 18% of the variation in ROA of textile companies is explained by the independent and control variables used in the regression models. Moreover, according to the results of the F statistic, which tests whether the models are significant or not, it has been decided that all models are significant.

As can be seen at the bottom of Table 5, Hausman statistics for all models are highly significant. Therefore, a fixed effects estimator is used to estimate the effect of WC variables on ROA for the full example in the analysis. Before reporting the analysis results, three important assumptions concerning the error process, i.e. heteroscedasticity, serial correlation, and cross-sectional dependence are tested under a fixed effect specification, respectively, employing the Modified Wald test, Wooldridge test, and Pesaran CD test. The results reported at the bottom of Table 5 demonstrate the presence of heteroscedasticity, serial correlation, and cross-sectional dependence. Because the statistics that test these assumptions are highly significant. Therefore,

all the models are estimated based on the Driscoll-Kraay standard errors estimator utilizing FEs regression to overcome these issues.

Table 5. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for the Full Sample

Dependent Variable: ROA				
	(Model1)	**(Model 2)**	**(Model 3)**	**(Model 4)**
ARP	0.000*			
	(0.000)			
IHP		0.000		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				0.000
				(0.000)
CR	0.002	0.002	0.003	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
LEV	-0.119***	-0.119***	-0.121***	-0.119***
	(0.010)	(0.010)	(0.010)	(0.010)
SIZ	-0.012***	-0.012**	-0.012***	-0.012**
	(0.004)	(0.004)	(0.004)	(0.004)
GRO	0.057***	0.057***	0.057***	0.056***
	(0.011)	(0.012)	(0.011)	(0.012)
cons	0.296***	0.304***	0.295***	0.300***
	(0.071)	(0.081)	(0.072)	(0.077)
Hausman	66.70***	59.10***	66.43***	57.85***
Wooldridge	13.928***	15.041***	31809.32***	15.653***
Modified Wald	31197.17***	31138.63***	31809.32***	30953.82***
Pesaran's CD	17.502***	17.790***	18.414***	17.363***
Within R^2	0.178	0.177	0.178	0.177
F-statistic	597.60***	66.37***	61.86***	55.48***
Obs.	2035	2035	2035	2035
No of firms	185	185	185	185
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

After giving the estimation results for the firms in the full sample, the main sample was divided into sub-samples considering the four countries included in the study. Thus, the regression models given in Equations (1)-(4) are re-estimated for textile companies in different countries. Estimation results for Brazilian, Indonesian, Turkish and Indian firms are given in Table 8-11 in the appendix, respectively.

4.2. Estimation Results of Tobin's Q Models

In study, the estimation results obtained from the models in which Tobin's Q variable, which is a market-based financial performance measure, is the dependent variable, are presented in Table 6. As can be seen at the bottom of Table 6, the R^2 values of the regression models vary between approximately 17% and 18%. Furthermore, the significant F-values imply that all the independent and control variables included in the financial performance model are important for explaining the variations in textile firms' financial performance.

The highly significance of the statistics for the Hausman test reported in the bottom of Table 6 for the full sample reveals that the FEs estimator is the most appropriate estimator in the estimation of model parameters. In the study, three important assumptions regarding error processes are tested under the fixed effects model, following the determination of the most appropriate panel estimate. Results for the assumptions such as heteroscedasticity, serial correlation, and cross-sectional dependence are reported in Table 6. The highly significance of the test statistics for these assumptions reveal the presence of heteroscedasticity, serial correlation, and cross-sectional dependence in the FEs models' error terms. Thus, to deal with these problems, all the regression models for the full sample are estimated employing the Driscoll-Kraay standard errors estimator based on FEs regression.

Table 6. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for the Full Sample

Dependent Variable: TQ				
	(Model1)	**(Model2)**	**(Model3)**	**(Model4)**
ARP	-0.001			
	(0.001)			
IHP		-0.001***		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				-0.001**
				(0.000)
CR	0.024**	0.028**	0.024**	0.032***
	(0.009)	(0.009)	(0.009)	(0.008)
LEV	0.629***	0.654***	0.624***	0.618***
	(0.141)	(0.139)	(0.137)	(0.129)
SIZ	-0.258***	-0.234***	-0.261***	-0.231***
	(0.023)	(0.024)	(0.026)	(0.020)
GRO	0.180***	0.156***	0.188***	0.161***
	(0.043)	(0.037)	(0.049)	(0.037)
cons	5.565***	5.179***	5.565***	5.146***
	(0.438)	(0.443)	(0.454)	(0.384)
Hausman	66.12***	62.22***	74.35***	60.59***
Wooldridge	44.807***	45.088***	45.142***	44.324***
Modified Wald	2.0e+05***	2.0e+05***	2.1e+05***	1.9e+05***
Pesaran's CD	53.889***	57.744***	49.692***	56.201***
Within R^2	0.176	0.182	0.173	0.188
F-statistic	56.77***	142.46***	1201.65***	161.83***
Obs.	2035	2035	2035	2035
No of firms	185	185	185	185
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

After giving the estimation results for the firms in the full sample, the main sample was divided into sub-samples considering the four countries included in the study. Thus, the regression models given in Equations (1)-(4) are re-estimated for textile companies in different countries. Estimation results for Brazilian, Indonesian, Turkish and Indian firms are given in Table 12-15. in the appendix, respectively.

4.3. Summary of Findings from Regression Models

The findings from the regression models are summarized in Table 7. The findings obtained from the ROA model covering all textile companies can be summarized as follows; There exists a positive and statistically significant connection between ARP and ROA. This result shows that the longer the ARP, the higher the profitability of the firm. This finding supports the finding of Amponsah-Kwatiah and Asiamah (2020). No significant relation is found between other variables (IHP, APP and CCC) representing WC strategies and ROA. As for firm-level control variables, it is concluded that the variables like firm size, financial leverage and sales growth except for liquidity variable are significant determinants of ROA.

Table 7. The Summary of The Results from The Regression Model

	Full Sample		**Brazil**		**Indonesia**		**Turkey**		**India**	
	ROA	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**	**ROA**	**TQ**
ARP	(+)*		(-)**			(-)**	(+)**			(-)*
ICP		(-)***				(-)**		(-)*		(-)***
APP						(+)*		(+)***		
CCC		(-)**	(-)*			(-)***		(-)**		(-)**

Notes: * p < 0.10, ** p < 0.05, *** p < 0.01 (-) : Negative relationship (+): Positive relationship.

The findings of the estimated ROA model using Brazilian textile companies can be summarized as follows; It has found a negative association between ARP and ROA. This conclusion is supported by many studies (e.g., Deloof, 2003; García-Teruel and Martínez-Solano, 2007; Mansoori and Muhammad, 2012; Pais and Gama, 2015; Samiloglu and Akgun, 2016; Keskin and Gokalp, 2016; Kayani et al., 2019; Gołaś, 2020; Singh, 2021) in the previous literature. The findings indicate that an increase in CCC leads to a decrease in ROA. This finding is consistent with the results of the studies carried out by Yucel and Kurt (2002), Deloof (2003), García-Teruel and Martínez-Solano (2007), Mansoori and Muhammad (2012), Ogundipe et al. (2012), Aygun (2012), Enqvist et al. (2014), Yazdanfar and Ohman (2014), Pais and Gama, (2015), Dalci et al. (2019), Kayani et al. (2019), NGuyen et al. (2020), Gołaś (2020), Braimah et al. (2021), and Singh (2021). This result shows that the managers of companies operating in the textile sector in Brazil manage their WC more efficiently. The findings also demonstrate that the estimated coefficients of IHP and APP are not significant. Regarding firm-level control variables, it is concluded that financial leverage and sales growth are significant variables in ROA models.

The findings of the estimated ROA model using Indonesian textile companies can be summarized as follows; Neither CCC nor the variables constituting CCC are found to be statistically significant in explaining the change in the ROA models. While the effect of financial leverage and sales growth is significant, the influence of liquidity and firm size are not significant.

The results of the estimated ROA model for companies operating in the Turkish textile sector are as follows; Among the WC variables, the only variable that is statistically significant is ARP. The effect of this variable is positive. This finding shows that companies with high trade receivables tend to generate more revenue by offering longer payment opportunities to their customers. The estimated positive coefficient of the ARP variable is also consistent with those of the study conducted by Sharma and Kumar (2011), Amponsah-Kwatiah and Asiamah (2020) and Alvarez et al. (2021). Other WC variables are not significant determinants of ROA. These results, found for Turkish companies, are similar to those of the study conducted by Atmaca (2016). Firm

size, financial leverage and growth in sales are found to be significant in explaining the change in ROA.

The findings of the ROA model employing Indian textile companies can be summarized as follows; Estimation results for Indian textile companies show that the coefficients of variables representing WC indicators are not found statistically significant at any significance level Sharma and Kumar (2011) reported that the estimated coefficients of all WC variables are insignificant except for the ARP variable for 263 non-financial Indian firms. Similar findings were also reported by Vahid et al. (2012) for 50 Iranian pharmaceutical and cement companies. As for the control variables, firm size, financial leverage and sales growth have a significant impact on ROA. However, it has not been determined that liquidity level has a significant effect on ROA.

The results obtained from the Tobin's Q model for all textile companies can be summarized as follows; It is observed that the coefficients of the IHP and CCC variables are negative and significant. Results from IHP and CCC variables are similar to the those of Ogundipe et al. (2012) and NGuyen et al. (2020) but different from the results reported by Abuzayed (2012). In addition, ARP and APP variables are not statistically significant determinants of Tobin's Q of textile firms. All firm-level variables included in Tobin's Q model are significant.

The findings of the Tobin's Q model using Brazilian textile companies can be summarized as follows; The estimation results imply that there exists no significant link between WC components and market performance measured by Tobin's Q. Similarly, Abuzayed (2012) reported similar findings for a sample including Jordanian firms, except for the APP variable. Regarding the control variables, it observes that liquidity ratio, firm size and leverage have a negative and statistically significant effect on market performance of the firms.

The findings of the estimated Tobin's Q model employing textile companies in Indonesia can be summarized as follows; All variables employed to measure WC policies are found to be significant in the Tobin's Q model. More specifically, the predicted coefficients of the ARP, IHP, and CCC variables are negative while the predicted coefficients of the APP variable are positive The negative and significant coefficients of the ARP, IHP, and CCC variables are consistent with those of Hingurala et al. (2017). Moreover, Perera and Priyashantha (2018) found in their study that the coefficient of APP was positive. Among the firm level control variables, financial leverage and firm's size are the significant variables in the Tobin's Q model.

The results of Tobin's Q model for the Turkish textile companies are as follows; There is a significant correlation between APP, IHP, and CCC variables and Tobin's Q. The influence of IHP and CCC is negative. It shows that a reduction in the IHP and CCC period can help improve firm value. Whereas, the effect of the APP variable is positive. It shows that the increase in debt payment periods of Turkish textile companies contributes to the market value. These results are in line with the results of the study conducted by Aygun (2012), except for the APP variable. Tobin's Q is significantly correlated with financial leverage and firm size.

The findings of Tobin's Q model for Indian textile companies can be summarized as follows; It is observed that the coefficients of all variables, except APP, are negative and statistically significant. These results imply that lower ARP, IHP, and CCC enhance market based financial performance of Indian textile companies. Tobin's Q is significantly correlated with liquidity level, financial leverage, firm size, and sales growth. More specifically, variables like

liquidity level, financial leverage, and sales growth enhance firms' market performance. However, firm size leads to a decrease in the market performance of firms.

According to the results of the study; in the ROA model, the ARP variable is negative for Brazilian textile firms and positive and statistically significant for Turkish textile firms. In the Tobin's Q model, the ARP variable is found to be negative and statistically significant for Indonesian and Indian firms. There may be a number of reasons for the effect of receivable collection periods on the performance of firms. Accounts receivable can be considered as trade credit given by the firms to customers. In connection with the cost and benefit of accounts receivable, firms may offer shorter or longer trade credits to their current or potential customers. First, offering customers a longer credit period can help increase the firm's profitability performance by attracting new customers who normally can't afford to buy and have financial problems. However, as the trade credit extension decisions taken by the companies will cause the opportunity costs to increase, the increased costs may also harm the companies' profitability (Braimah et al., 2021; Rey-Ares et al., 2021).

Because inventories are an important cost element, especially for manufacturing companies, inventory management policies are one of the critical success factors that directly impact company profitability and performance. On the other hand, however, holding a high level of inventory can increase various costs (security costs, heating, theft, rent, obsolesce, etc.) associated with inventories, which can harm firm profitability and value (Afrifa et al., 2014). In this context, according to the TQ performance criterion in this study, the fact that textile firms in Indonesia, Turkey and India have less inventory may be the reason for their improved performance.

According to the TQ model, the APP variable was found to be positive and statistically significant only for textile firms in Indonesia and Turkey. A delay in payments to suppliers of the firm not only enables companies to evaluate the quality of purchased products and services, but also provides companies with a cheap source of financing. Therefore, this can lead to an increase in the profitability of the company. (Alvarez et al., 2021; Othuon et al., 2021).

Among the textile firms in the study, Brazilian firms were found negative and statistically significant according to ROA model, while Indonesia, Turkey and India were found negative and statistically significant according to TQ model. The firm's more efficient management of WC may be associated with a shorter CCC. Because firms with a shorter CCC have more cash flow and a more aggressive WC policy, which indicates that they will seek less external financing and be more profitable. Thus, a short CCC may be beneficial for firm financial performance (Banos-Caballero et al., 2013; Hussain et al., 2021).

5. Conclusion

In this study, it is aimed to empirically investigate whether there is an association between WC variables and financial performance measures. Firms operating in the textile sector of the FFCs (i.e., Brazil, South Africa, Indonesia, Turkey and India) in the period covering the years 2010-2020 constitute the sample of study. South African companies, however, are not included in the sample due to lack of data. Finally, of the textile firms that made up sample, 12 operate in Brazil, 11 in Indonesia, 17 in Turkey, and the remaining 145 in India. In line with the previous literature, ROA and Tobin's Q are employed as financial performance indicators of textile firms,

respectively. The variables that are frequently used in the WC indicator such as ARP, IHP, APP, and CCC are included in the regression models as independent variables. In addition, firm-level control variables such as firm size, financial leverage, sales growth and liquidity level are also included in the regression models.

Before estimating the coefficients in the regression models determined in the study, the correlation coefficients between the variables were calculated by using the Spearman test to investigate the multi-collinearity. Then, summary statistics on the financial variables used in the study are given. The Hausman test was used to determine the most suitable estimator within the framework of static panel data analysis.

Following deciding that the FEs (REs) estimator is the most appropriate estimator for the estimation of the coefficients in the financial performance models, it carried out diagnostic tests to investigate the presence of serial correlation, heteroscedasticity, and cross-sectional dependence in the error terms in the panel data. Robust estimators are used to make parameter estimations as a result of the diagnostic tests performed.

The results obtained from this study have important implications for all stakeholders in the textile industry. When the panel data analysis estimation results are evaluated in general, it can be stated that the influence of WCM on financial performance differs significantly according to the selected performance variable. In addition, when the main sample is divided into sub-samples, the linkage between WC variables and financial performance variables tends to change. When all these findings are assessed together, it can be concluded that successful WCM in the textile sector depends on both taking into account the differences between countries (in terms of economic conditions, development of capital and financial markets, daily work habits, WC policies followed, etc.) and evaluating each element that forms the WC individually. The results of this study will guide managers working in the textile industry to develop the right strategies to effectively manage WC and improve financial performance. As a result of these suggestions, firms can contribute to both themselves and the national economies by taking WCM into consideration.

Regarding the research topic, the influence of WC components can be investigated in depth by using different performance measures in future studies. In addition, future studies can benefit from dynamic panel methodology. Moreover, the research subject can be deepened through samples consisting of different country groups. Finally, non-linear relationships can be tested in the relationship between WCM and financial performance.

Declaration of Research and Publication Ethics
This study which does not require ethics committee approval and/or legal/specific permission complies with the research and publication ethics.

Researcher's Contribution Rate Statement
The authors declare that analysis part was carried out by first author, the other parts were made all authors equally.

Declaration of Researcher's Conflict of Interest
There is no potential conflicts of interest in this study.

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Appendix

Table 8. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for Brazil

Dependent Variable: ROA				
	(1)	(2)	(3)	(4)
ARP	-0.000**			
	(0.000)			
IHP		-0.000		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				-0.000*
				(0.000)
CR	0.013	0.009	0.010	0.012
	(0.011)	(0.010)	(0.010)	(0.010)
LEV	-0.145**	-0.154**	-0.172***	-0.164**
	(0.056)	(0.051)	(0.054)	(0.053)
SIZ	0.006	0.001	0.001	0.006
	(0.014)	(0.017)	(0.017)	(0.015)
GRO	0.075***	0.076***	0.076***	0.076***
	(0.013)	(0.016)	(0.013)	(0.015)
cons	0.037	0.126	0.059	0.025
	(0.286)	(0.313)	(0.331)	(0.273)
Hausman	1.33	1.25	3.20	2.32
Wooldridge	0.211	0.256	0.171	0.158
Levene_Wo	1.685*	1.587	1.435	1.586
Pesaran's CD	3.196***	2.663***	2.356**	3.634***
Overall R^2	0.380	0.603	0.595	0.615
Wald-statistic	57.94***	2580.11***	217.25***	242.63***
Obs.	132	132	132	132
No of firms	12	12	12	12
Estimator	DK-RE	DK-RE	DK-RE	DK-RE

Notes: Robust standard errors are reported in parentheses. DK-RE is the Driscoll-Kraay standard errors estimator using REs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9. Estimation Results of the Fixed Effects Estimator for Indonesia

Dependent Variable: ROA				
	(1)	(2)	(3)	(4)
ARP	0.000			
	(0.000)			
IHP		0.000		
		(0.000)		
APP			-0.000	
			(0.000)	
CCC				0.000
				(0.000)
CR	-0.002	-0.001	-0.002	-0.002
	(0.003)	(0.003)	(0.004)	(0.004)
LEV	-0.145***	-0.136***	-0.142***	-0.140***
	(0.024)	(0.029)	(0.025)	(0.026)
SIZ	-0.007	-0.006	-0.007	-0.005
	(0.009)	(0.016)	(0.010)	(0.015)
GRO	0.106***	0.098***	0.099***	0.102***
	(0.027)	(0.023)	(0.030)	(0.023)
cons	0.223	0.192	0.228	0.171
	(0.178)	(0.317)	(0.181)	(0.304)
Hausman	20.29***	17.94***	18.60***	23.04***
Wooldridge	7.381**	10.148***	10.138***	14.803***
Modified Wald	1940.61***	1329.53***	2379.58***	882.74***
Pesaran's CD	-0.989	-0.466	-1.289	-0.697
Within R^2	0.224	0.249	0.248	0.281
F-statistic	539.71***	43.98***	38.19***	161.72***
Obs.	121	121	121	121
No of firms	11	11	11	11
Estimator	FE	FE	FE	FE

Notes: Robust standard errors are reported in parentheses. FE is the Fixed Effects estimator. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for Turkey

Dependent Variable: ROA				
	(1)	(2)	(3)	(4)
ARP	0.000**			
	(0.000)			
IHP		0.000		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				0.000
				(0.000)
CR	-0.002	-0.001	-0.001	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)
LEV	-0.201***	-0.204***	-0.202***	-0.199***
	(0.015)	(0.017)	(0.021)	(0.017)
SIZ	0.012	0.015	0.014	0.014*
	(0.007)	(0.008)	(0.008)	(0.007)
GRO	0.036***	0.040***	0.039***	0.043***
	(0.007)	(0.009)	(0.009)	(0.009)
cons	0.346**	0.421**	0.403**	0.390**
	(0.141)	(0.162)	(0.153)	(0.139)
Hausman	20.29***	17.94***	18.60***	23.04***
Wooldridge	0.533	1.401	0.847	1.894
Modified Wald	389.81***	430.99***	415.66***	316.66***
Pesaran's CD	-2.150**	5.902***	5.489***	5.936***
Within R^2	0.409	0.400	0.399	0.405
F-statistic	91.04***	243.55***	241.57***	63.33***
Obs.	187	187	187	187
No of firms	17	17	17	17
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for India

Dependent Variable: ROA				
	(1)	(2)	(3)	(4)
ARP	0.000			
	(0.000)			
IHP		0.000		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				-0.000
				(0.000)
CR	0.002	0.002	0.003	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
LEV	-0.114***	-0.113***	-0.115***	-0.113***
	(0.012)	(0.011)	(0.011)	(0.011)
SIZ	-0.011*	-0.011*	-0.010*	-0.010*
	(0.005)	(0.005)	(0.005)	(0.005)
GRO	0.053***	0.053***	0.054***	0.053***
	(0.013)	(0.014)	(0.013)	(0.014)
cons	0.265**	0.263**	0.255**	0.255**
	(0.091)	(0.097)	(0.091)	(0.096)
Hausman	49.73***	44.63***	53.13***	42.72***
Wooldridge	18.275***	19.238***	19.982***	18.386***
Modified Wald	22789.76***	22213.00***	32944.60***	22119.22***
Pesaran's CD	20.370***	20.431***	21.110***	20.229***
Within R^2	0.178	0.177	0.180	0.177
F-statistic	219.35***	1150.58***	49.97***	867.52***
Obs.	1595	1595	1595	1595
No of firms	145	145	145	145
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for Brazil

Dependent Variable: TQ				
	(1)	(2)	(3)	(4)
ARP	0.001			
	(0.002)			
IHP		0.001		
		(0.002)		
APP			0.004	
			(0.003)	
CCC				-0.001
				(0.001)
CR	-0.068**	-0.071**	-0.059	-0.060**
	(0.023)	(0.027)	(0.050)	(0.023)
LEV	-0.613***	-0.628***	-0.671**	-0.624***
	(0.179)	(0.152)	(0.288)	(0.143)
SIZ	-0.667***	-0.671***	-0.568*	-0.635***
	(0.163)	(0.179)	(0.294)	(0.188)
GRO	0.007	0.013	-0.007	0.000
	(0.073)	(0.071)	(0.170)	(0.071)
cons	14.95***	15.03***	12.86**	14.58***
	(3.169)	(3.590)	(5.750)	(3.672)
Hausman	12.09**	55.00***	36.18***	16.79***
Wooldridge	20.327***	23.408***	18.661***	21.579***
Modified Wald	1248.76***	1626.72***	1115.09***	1806.70***
Pesaran's CD	2.664***	3.501***	0.842	3.833***
Within R^2	0.398	0.401	0.427	0.407
F-statistic	119.04***	169.53***	53.45***	115.80***
Obs.	132	132	132	132
No of firms	12	12	12	12
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13. Estimation Results of the Random Effects Estimator for Indonesia

Dependent Variable: TQ				
	(1)	(2)	(3)	(4)
ARP	-0.001**			
	(0.001)			
IHP		-0.002**		
		(0.000)		
APP			0.004*	
			(0.002)	
CCC				0.002***
				(0.000)
CR	-0.024	-0.022	-0.013	-0.021
	(0.036)	(0.040)	(0.040)	(0.040)
LEV	1.315***	1.411***	1.211***	1.321***
	(0.439)	(0.426)	(0.378)	(0.388)
SIZ	-0.359**	-0.419***	-0.347***	-0.377***
	(0.148)	(0.160)	(0.111)	(0.145)
GRO	-0.107	-0.149	-0.147	-0.171
	(0.135)	(0.137)	(0.150)	(0.143)
cons	7.227***	8.555***	6.765***	7.741***
	-1.248	-1.246	(0.890)	-1.293
Hausman	6.02	2.02	3.41	1.89
Wooldridge	39.105***	34.488***	42.628***	32.891***
Levene_Wo	4.083***	4.165***	3.142***	3.444***
Pesaran's CD	-1.826*	-1.697*	-0.666	-1.383
Overall R^2	0.160	0.190	0.109	0.186
Wald-statistic	22607.18***	904.07***	8394.09***	4825.81***
Obs.	121	121	121	121
No of firms	11	11	11	11
Estimator	RE	RE	RE	RE

Notes: Robust standard errors are reported in parentheses. RE is the Random Effects estimator. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for Turkey

Dependent Variable: TQ				
	(1)	**(2)**	**(3)**	**(4)**
ARP	-0.001			
	(0.001)			
IHP		-0.001*		
		(0.001)		
APP			0.004***	
			(0.001)	
CCC				-0.001**
				(0.000)
CR	-0.012	-0.003	-0.004	-0.012
	(0.025)	(0.060)	(0.060)	(0.060)
LEV	1.211***	0.287	0.348	0.343
	(0.345)	(0.226)	(0.235)	(0.224)
SIZ	-0.347***	-0.405***	-0.350***	-0.377***
	(0.046)	(0.047)	(0.047)	(0.044)
GRO	-0.147	0.242	0.191	0.243
	(0.132)	(0.305)	(0.298)	(0.311)
cons	6.765***	9.196***	8.260***	8.676***
	(0.890)	(0.908)	(0.891)	(0.819)
Hausman	22.26***	19.97***	17.80***	19.55
Wooldridge	7.459**	9.298***	8.082**	7.711**
Modified Wald	1443.65***	2746.71***	1659.29***	2142.65***
Pesaran's CD	13.713***	13.594***	14.075***	12.819***
Within R^2	0.500	0.508	0.499	0.506
F-statistic	1658.25***	566.16***	159.10***	68.67***
Obs.	187	187	187	187
No of firms	17	17	17	17
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 15. Estimation Results of the Driscoll-Kraay Standard Errors Estimator for India

Dependent Variable: TQ				
	(1)	**(2)**	**(3)**	**(4)**
ARP	0.001*			
	(0.000)			
IHP		0.001***		
		(0.000)		
APP			0.000	
			(0.000)	
CCC				0.001**
				(0.000)
CR	0.038***	0.040***	0.035***	0.046***
	(0.008)	(0.008)	(0.008)	(0.008)
LEV	0.789***	0.776***	0.755***	0.767***
	(0.139)	(0.137)	(0.140)	(0.130)
SIZ	-0.138***	-0.124**	-0.151***	-0.107**
	(0.042)	(0.044)	(0.046)	(0.034)
GRO	0.230***	0.212***	0.242***	0.224***
	(0.056)	(0.054)	(0.060)	(0.054)
cons	3.185***	2.978***	3.367***	2.699***
	(0.764)	(0.781)	(0.783)	(0.635)
Hausman	37.27***	41.39***	44.68***	37.17***
Wooldridge	36.896***	36.845***	36.973***	36.758***
Modified Wald	86816.28***	1.0e+05***	1.1e+06***	1.1e+05***
Pesaran's CD	88.852***	90.291***	86.976***	89.106***
Within R^2	0.216	0.218	0.210	0.226
F-statistic	138.20***	136.52***	388.31***	1521.97***
Obs.	1595	1595	1595	1595
No of firms	145	145	145	145
Estimator	DK-FE	DK-FE	DK-FE	DK-FE

Notes: Robust standard errors are reported in parentheses. DK-FE is the Driscoll-Kraay standard errors estimator using FEs regression. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.