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Firm Liquidity and Dividend Payments: A Panel Analysis of Financial and Real Sector Firms in Nigeria

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Abstract:
This study examined the relationship between firm liquidity and the dividend payments of listed companies in Nigeria on one hand, and made a comparative analysis of this relationship between the financial and real sector firms, on the other. The study employed panel least squares regression to analyze the data of 30 listed firms (15 each drawn from the financial and real sectors of the Nigerian economy). Specifically, the study examined the effect of five liquidity and funds flow variables: current ratio (CUR), profit after tax (PAT), earnings per share (EPS), sales/gross earnings (SAL) and debt-capital ratio (DCR) on the dividend payments (DPS) of the firms under study for the period 2008 – 2017. Findings from the study show that using the fixed effect model results for the financial sector firms, CUR and PAT have positive and statistically significant effects on DPS while the rest (EPS, SAL and DCR) have negative and statistically insignificant effects on DPS. However, using the random effect model results for the real sector, the CUR has a negative but statistically insignificant effect on the DPS while PAT and SAL have positive and statistically significant effects on DPS. EPS has a positive but statistically insignificant effect on DPS while DCR has a negative but statistically insignificant effect on the DPS. It is concluded that liquidity has significant effect on dividend payment of both the financial and real sector of the Nigerian economy. Furthermore, a comparative analysis of the effect of liquidity on dividend payment of financial and real sector firms shows that though liquidity affects the dividend policy of both the financial and real sector firms in Nigeria, the effects are not uniform in the two sectors. In the financial sector, liquidity ratio (CUR) has a positive and statistically significant effect on the dividend payments of financial sector firms, while in the real sector, it has a negative and statistically insignificant effect on it. Only the profit after tax has positive and statistically significant effect on dividend payments in both financial and real sector firms.
A comparative analysis between the financial and real sector firms show that liquidity in terms of current ratio and profit after tax have positive and significant effects on dividend payments among the financial sector firms while profit after tax and sales have positive and significant effects on real sector firms. The study recommends that in taking dividend decisions, financial firms need to manage their liquidity position well and ensure profitability while real sector firms should focus more on their sales and profit after tax.

Keywords: *Liquidity, Dividend payments, financial sector, Real sector, Panel Regression, Hausman test*

1. Introduction

Financial management is basically made up of three major decisions: investments (capital budgeting), finance (capital structure) and dividend (return on capital). Financial managers focus on these decisions areas in line with the overall objective of the firm: shareholders' wealth maximization. Although these decision areas are distinct, they are interrelated.

Financing and dividend decision have generated many controversies in the field of finance. Jabbouri (2016) states that due to its interconnection with some other management decisions, dividend policy has continued to attract the attention of researchers, management, shareholders and organizations stakeholders as well as government. As noted by Olang, Akenga and Mwangi (2015), dividend policy is an important management decision because it determines the portion of a firm's earnings that is to be distributed to shareholders and the portion to retain for re-investment purposes.
The controversy surrounding dividend decisions is our major concern in this research work. Dividend decision involves the determination of the portion of a company's earnings it should pay out as dividend and what portion it should retain within the firm. Cristea and Cristea (2017) state that dividend policy includes a set of guidelines used by a firm to dispose how much of its earnings it will pay out as dividends to its shareholders if such is not legally stated.

The prerequisite for any dividend decision is that it must be evaluated in the context of shareholders' wealth maximization. If investors are receiving less or more dividends than the previous year, they must know the effect(s) on their wealth and the future of the company. Potential investors too will like to know the dividend history of the company they want to invest in. A company may decide to retain all or part of the profits it makes in a given year or pay part or all of the profits to shareholders in the form of dividends. The decision to pay dividends involves:

- The percentage or fraction of profits to be paid out, on average, over time.
- The policy on trends of dividend payment, that is the decision to maintain a stable dividend policy, reduce the pay-out ratio or a policy increasing dividend growth rate over time.

Apart from above, company managers should make efforts to satisfy the various interests from the company's profits. Olang, Akenga and Mwangi (2015) state that though liquidity affects firms' dividend pay-outs, the extent of the effect remains an unsolved puzzle because empirical findings show conflicting conclusions and it is difficult to generalize the effect of liquidity on dividend pay-outs.

On the impact of liquidity on dividend payments, Pandey (2005) states that the fact that a firm has adequate earnings does not translate to cash dividend. According to the author, a firm may declare huge earnings without sufficient cash to pay shareholders as dividends. In essence, firms may have problem paying dividend even after declaring huge profit because most firms desire to re-invest earnings to take advantage of increased market, working capital or asset acquisition.

In Nigeria, to the best of this researcher's knowledge, there appears to be a dearth of literature that directly address the issue of the effect of firm-based liquidity on dividend payments. Empirical work have concentrated on examining the nature of dividend policy-firm value (stock price) relationship. Again, to the best of this researcher's knowledge, there exists no previous work that specifically examine whether the relationship between liquidity and dividend policy in the financial sector is significantly different from that of the real sector. These are the research gaps that this study intends to fill, thus, the research is set out to achieve three major objectives:

- to examine the relationship between dividend policy and liquidity position of financial sector (banking) firms in Nigeria;
- to examine the relationship between dividend policy and liquidity position of real sector firms in Nigeria; and
- to compare the effect of liquidity on dividend policy of financial sector with that of real sector firms in Nigeria.
- The three objectives will be addressed based on the following hypotheses:
- Ho: Liquidity has no significant effect on dividend payments of financial sector firms in Nigeria.
- Ho: Liquidity has no significant effect on dividend payments of real sector firms in Nigeria.
- Ho: There is no difference between the effect of liquidity on dividend payments of real and financial sector firms in Nigeria.

2. Literature Review

2.1. Dividend Policy Theories

There are various dividend theories that have emerged over the years. These theories centre on the relevance or otherwise of dividend policy to firms' value.

2.1.1.Catering Theory

The catering theory of dividend policy was proposed by Baker and Wurgler (2004). The theory is based on the limits of investors' rationality. The authors posit that managers will pay dividends when investors are ready to put higher prices on the stock of dividend-paying firms while they will not pay dividends when investors prefer the stock of non-paying firms. In Baker and Wurgler's view, investors demand for dividends is assumed to be observable through the difference in the firms that pay dividend paying and those that do not pay. When the difference is positive, it is an indication that stockholders demand for dividend and when the difference is negative, it is an indication that stockholders do not demand for dividends

2.1.2. The Residual Dividend Theory

The residual theory of dividend policy states that a firm will only pay dividend from residual earnings, that is dividends should be paid only if funds remain after the optimum level of investment in capital expenditures has been satisfied incurred i.e. all suitable investment opportunities have been financed. In a residual dividend policy, less attention is placed on dividend payments because the primary focus of the firm is on investments. The value of a firm is a direct function of its investment decisions thus making dividend policy irrelevant. (Olang, Akenga, & Mwangi, 2015).

2.1.3. The Tax Differential Theory

Graham and Dodd (1934) propose the tax differential theory. This theory simply states that since dividends are taxed at higher rates than capital gains, investors require higher rates of return as dividend yields increase. This theory implies that if a firm pays low dividend pay-outs, its value will likely be maximized. This school of thought is generally referred to as the rightists or the traditionalists. Others who later supported this school are Gordon (1959) and Britain (1964).

2.1.4. The Walter Model

Walter (1956) offered the first challenge to the dividend relevancy theory. In his presentation, called the Walter's Dividend Model, he argue that the decision to pay dividends depend on the profitability of investments available to a company. Dividend is no longer an action decision variable but a residual sum. He posit that only the relationship between the rate of return on investment and the cost of capital matters so that a firm's dividend payout depends on the cost of capital and not on the market price per share.

2.1.5. Modigliani and Miller Dividend Irrelevance Theory

Modigliani and Miller (1961), in what is popularly called the M-M Model, provide an articulate argument on the irrelevance of dividend decisions to the market price of shares. They argue that in the long-run equilibrium, the value of two otherwise identical firms would be the same, regardless of their dividend policies. According to them, *"Like many other propositions in economics, the irrelevance of dividend policy is 'obvious once you think of it'. It is after all, merely one more instance of the general principle that there are no 'financial illusions' in a rational and perfect market economic environment. Values that are determined solely by real considerations – in this case, the earning power of the firm's assets and its environment policy – and not by how the fruits of the earning power are packed for distribution".*

2.1.6. The Bird in the Hand Theory

Lintner (1962) and Gordon (1963) posit that shareholders are naturally risk averters who prefer current dividends due to their lower level of risk as compared to future dividends. According to the authors, dividend payments reduce investor uncertainty and thereby increase stock value. This theory is based on the logic that a bird in hand is better than a promise of it, that is: ' what is available at present is preferred to what may be available in the future'. Investors would prefer to have a sure dividend now rather than a promised dividend in the future (even if the promised dividend is more than the current). Hence dividend policy is relevant and does affect the share price of a firm.

2.1.7. Percent Pay-out Theory

Olang, Akenga and Mwangi (2015) records that the percent pay-out theory posits that shareholders prefer dividends so if directors and managers need additional finance they would have to convince them that new investments increase their wealth. However to increase their job security and status in the eyes of the shareholders companies can adopt 100 per cent pay-out. However this policy is not followed in practice.

2.1.8. Retention Theory

According to Albercht and Stice (2008) records that the retention theory posits that given taxation and transaction costs, dividend is a luxury that is not afforded by shareholders as well as by companies and hence a firm can follow a policy of 100 per cent retention. Firms can thus avail of new investment opportunities that would be beneficial to shareholders too. The authors posit that full retention of earnings or a zero dividend policy will shore up the value of the firm.

2.1.9. Agency Cost Theory

Jenson and Meckling (1976) as well as Jenson (1986) link agency costs with the other financial activities of a firm. They argue that firms pay dividends in order to reduce agency costs. That is, payment of dividend keeps firms in the capital market, whereas monitoring of managers is available at lower cost. Jensen (1986), in particular argues that if a firm has free fund, it is better off paying dividend to shareholders so as to counter of the possibility of the funds being wasted on investments that are unprofitable. This theory sees dividend policy as playing an important role in resolving agency problem, thereby positively influencing firms' value.

2.2. Firm Liquidity

Firm liquidity is its ability to meet its financial obligations as they fall due. Generally, liquidity is the characteristic of an asset to be turned to cash in order to meet maturing financial obligations. Ofoegbu, Duru and Onodugo (2016) state that liquidity refers to the ability of an organization to settle current financial needs without any form of disruption in its daily operations. Barad (2010) identifies two aspects of liquidity, namely: quantitative and qualitative liquidity. The author defines the quantitative dimension as the quantum, structure and utilization of liquid assets, and that qualitative liquidity refers to the ability of a firm to meet all present and potential cash needs and at the same time minimize cost and maximize firm's value.

Barad (2010) identifies some of these factors that determine a firm's liquidity as nature of business; **s**easonality of demand for output; production polices of the firm; operations size; its operating cycle; material costs; availability of credit; management decisions; price fluctuations; profitability among others.

Beaver (1966) states that the current ratio is one of the most common and perhaps the oldest measure of firm's liquidity. The author identifies some other measures of liquidity as quick ratio (acid test); cash ratio; cash and coverage ratio. Kim, Mauer and Sherman (1998) defines a firm's debt-capital ratio as a measure of its ability repay its loans plus interest as fall due, hence it is a measure of liquidity. Other measures of liquidity are profit after tax and turnover (total sales).

2.3. Empirical Literature

There is dearth of literature on the effect of firms' level liquidity on the dividend policy of firms in Nigeria. Cristea and Cristea (2017) examine the determinants of corporate dividend policy among the listed companies in Romania. The authors analyze a panel data of non-financial firms companies listed on the Bucharest Stock Exchange for the period 2007 to 2017 and find that dividend policy and corporate profitability and liquidity are positively related. Olang, Akenga and Mwangi (2015) study the effect of liquidity on the dividend pay-out by firms listed on the Nairobi (Kenya) Stock Exchange). The authors use inferential and descriptive statistics to analyze the data of 30 selected firms that have consistently paid dividends from 2008 to 2012. They find that profitability exerts more impact on dividend payment than liquidity or working capital. Ahmed (2014) investigates the impact of liquidity on the dividend policy of 24 banks in the United Arab Emirates (UAE) using Spearman's correlation and other descriptive statistics. The author finds that while the profit after tax affects dividend policy positively and significantly, the liquidity ratio has no significant effect on dividend policy of UAE banks.

3. Research Method

3.1. Theoretical Framework

This study is based on the agency cost theory of dividend policy by Jensen (1986) in which he posits that if a firm has free fund (that is, it is liquid), it is better off paying dividend to shareholders so as to counter of the possibility of the funds being wasted on investments that are unprofitable.

3.2. Model Specification

This study employed pooled regression analysis to analyze the panel data of 30 firms divided into 15 banks and 15 real firms listed on the Nigerian Stock Exchange (NSE). The study adopted the model used by Olang, Akenga and Mwangi (2015) in their study of the effect of liquidity on the dividend pay-out by firms listed on the Nairobi Securities Exchange with modifications. The model is split into two to examine the effects of firm liquidity on dividend pay-out of financial and real sector firms in Nigeria. Dividend payout is the dependent variable while liquidity ratio, profit after tax, earnings per share, turnover (sales), and debt to capital ratio. The general model is stated as follows:

DPS = f(CUR, PAT, EPS, SAL, DCR) …………………...(3.1)

When specified in econometric form, equation (3.1) becomes:

$$DPS_{it} = a + \Omega_1 CURit + \Omega_2 PAT_{it} + \Omega_3 EPS_{it} + \Omega_4 SAL_{it} + \Omega_5 DCR_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (3.2)$$

Splitting equation 3.2 into the two sectors in our analysis, we have equations (3.3) and (3.4) for monetary and real sectors respectively. That is,

$$DPS_{itM} = a + \Omega_1 CURit + \Omega_2 PAT_{it} + \Omega_3 EPS_{it} + \Omega_4 SAL_{it} + \Omega_5 DCR_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (3.3)$$

$$DPS_{itR} = a + \Omega_1 CURit + \Omega_2 PAT_{it} + \Omega_3 EPS_{it} + \Omega_4 SAL_{it} + \Omega_5 DCR_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (3.4)$$

where:

DPS_{itM} = Dividend payment of selected firms in the monetary sector in period *t*

DPS_{itR} = Dividend payment of selected firms *t* in the real sector in period *t*

CUR_{it} = Current ratio of selected firms *i* in period *t*.

PAT_{it} = Profit after tax of selected firms *I* in period *t*

EPS_{it} = Earnings per share of selected firms *i* in period *t*.

SAL_{it} = Sales/Gross earnings/Turnover of selected firms *i* in period *t*

$DCR_{i,t}$ = Debt to capital ratios of selected firms *i* in period *t*.

ε_{it}= stochastic error term.

a = intercept

$\Omega_1 \ldots\ldots\ldots \Omega_5$ = regression parameters

i = individual firms

t = time

In order to address the problem of heteroskedacity that may arise as a result of the different units in measurement, all the variables are expressed in logarithm as:

$$lnDPS_{it} = a + \Omega_1 lnCURit + \Omega_2 lnPAT_{it} \quad \Omega_3 lnEPSit + \Omega_4 lnSAL_{it} + \Omega_5 lnDCR_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (3.5)$$

for proper analysis.

3.3. Definition of Variables

Tables 3.1 and 3.2 contain the definition of the dependent and independent variables used in the models stated in equation (3.2).

S/N	Variable	Code	Definition
1	Dividend Payment	DPS	Dividend per share: A measure of dividend policy

Table 1: Definition of Dependent Variable
Source: Author's compilation (2019)

S/N	Variable	Code	Definition/Formula
1	Liquidity	CUR	Current Ratio: A measure of liquidity
2	Profit after tax	PAT	Annual profit after interest and taxes: A measure of liquidity
3	Earnings Per Share	EPS	Profit after tax Number of ordinary shares A control variable
4	Sales	SAL	Total assets or gross earnings: A measure of liquidity
5	Debt Ratio	DCR	Long term debt Total capital A measure of additional funds available (liquidity).

Table 2: Definition of Independent Variables
Source: Author's compilation (2019)

3.4. Sources of Data

The data for this study are sourced from secondary sources comprising of the annual financial reports of the 30 selected firms and the Nigerian Stock Exchange Annual Factbook. Fifteen firms were selected from each of monetary and real sectors of the Nigerian economy. The choice of 15 banks was based on the number of banks quoted on the Nigerian Stock Exchange while the choice of 15 real sector firms is premised on the need for balanced representation in the sample size and availability of data. Finally, the number of years (2008-2017) is also due to availability of data.

3.5. Estimation Techniques

3.5.1. Panel Data Analysis

Pooled regression is used in this study to analyze the panel data obtained from the annual reports of the selected firms. A panel data is a combination of Time series and cross-sectional data. A panel data is in the form of *n* subjects, each with *t* observations taken as *n* is 1..... *t* period in such a way that the observations included in the panel become *nt*. In this study, the panel data consist of dividend per share, liquidity ratio, earnings per share, sales and debt/capital ratio of the selected firms from 2008 to 2017. Dividend per share is the dependent variable while the others are the independent variables.

3.5.2. Fixed and Random Effects tests

The pooled or panel least square (PLS) regression assumes that the regression coefficients and constant estimates are homogeneous for all cross sectional observations. However, we know that it is possible that the firms under study can have heterogeneous characteristics or elements of individuality in their coefficients and constant estimates. A fixed effect model recognizes individuality in the firms selected for study implying that each of them has its own intercept. This means that though the intercept differs among the firms, it is time-invariant, that is, fixed over time.

A random effect model recognizes the firms under study as having a common mean value for their intercept. The heterogeneity in the intercept is random, not fixed and it is included in the error term

The fixed effects model is denoted as

$$y_{it}, = \alpha + \beta' X_{it} + \mu_{it}, \quad (3.6)$$

$$\mu_{it} = \mu_i + v_{it}. \quad (3.7)$$

μ_i are individual-specific, time-invariant effects because they are taken as fixed over time

The random effects model stated as:

$$\mu_i \approx i.i.d.N(0, \sigma_\mu^2) \quad (3.8)$$

and,

$$v_{it} \approx i.i.d.N(0, \sigma_v^2) \quad (3.9)$$

that is, the two error elements are independent of each other.

3.5.3. Hausman Test

The study used the Hausman (1978) test to select the most appropriate model for our analysis. This test is particularly suitable to ascertain whether any substantial difference exists between the estimates of the fixed and the random effects regressions. The Hausman test follows the asymptotic Chi-square distribution in which the null hypothesis states that the random effect is most appropriate.

4. Analysis of Data And Findings

4.1. Objective 1: Effect of Liquidity on Dividend Payment of Financial Sector Firms

Table 3 is the summary of pooled regression results of model 3.3 that show the relationship between liquidity and dividend payments of financial sector under study.

Dependent Variable = DPS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	0.448217	0.130344	3.438711	0.0008
PAT	1.04E-05	1.07E-06	9.719081	0.0000
EPS	-0.001822	0.014658	-0.124281	0.9013
SAL	6.42E-07	2.49E-07	2.582176	0.0109
DCR	-0.002616	0.001301	-2.010511	0.0465
C	-0.301615	0.142834	-2.111643	0.0367
R-Squared			0.715610	
Adjusted R-Squared			0.704501	
F- Statistic			64.41736	
Prob (F-Statistic)			0.000000	

Table 3: Abridged Pooled OLS Regression Result
Source: Authors' Compilation (2019)

The first objective of this study is to find out the relationship between liquidity and dividend payments of financial sector firms quoted on the Nigerian Stock Exchange. From Table 3, it is shown that while CUR, PAT and SAL have positive and statistically significant effects on dividend payments of financial institutions, EPS and DCR have negative and statistically insignificant effects on dividend payments. The coefficients of CUR, PAT, SAL are 0.448217, 0.00001.04, 0.0000006.42; and probabilities of 0.0008, 0.0000, and 0.0109 respectively.

The coefficient of determination (R^2) for the model is 0.715610 or approximately 72% implying that about 72% of the variations in DPS is explained by the explanatory variables while the remaining 28% is explained by factors not captured by the model of the study.

The F-Statistic (64.41736) and the probability of F-Statistic (0.0000) show that the model used in the research is reliable in its overall assessment.

However, the least square regression model used in this study does not take cognizance of the possibility that regression coefficients and constants can be heterogeneous and not always homogeneous for all cross-sectional data. But we know that all cross-sectional observations may not have homogeneous coefficients and constants. This will have influence on the conclusion on the effect of liquidity on dividend payments. To address this problem, the fixed and random effect test and the Hausman test are carried out in order to ascertain the most appropriate model used in the study. Table 4 shows the results of the fixed and random effect tests for financial sector firms' model.

Fixed Effects Model					**Random Effects Model**				
Dependent Variable = DPS					**Dependent Variable = DPS**				
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	0.327095	0.151406	2.160381	0.0328	CUR	0.434792	0.121434	3.580474	0.0005
PAT	7.32E-06	1.13E-06	6.500206	0.0000	PAT	9.45E-06	9.63E-07	9.819172	0.0000
EPS	-0.004633	0.014184	-0.32664	0.7445	EPS	-0.005709	0.012770	-0.44710	0.6556
SAL	-1.99E-07	3.57E-07	-0.55910	0.5772	SAL	5.16E-07	2.45E-07	2.101375	0.0376
DCR	-0.002158	0.001431	-1.50791	0.1343	DCR	-0.003256	0.001187	-2.74394	0.0069
C	-0.005367	0.159623	-0.03363	0.9732	C	-0.224812	0.132911	-1.69144	0.0932
R-Squared			0.830374		*R-Squared*			0.604971	
Adjusted R-Squared			0.802103		*Adjusted R-Squared*			0.589540	
F-Statistic			29.37197		*F-Statistic*			39.20532	
Prob(F-statistic)			0.000000		*Prob(F-statistic)*			0.000000	

Table 4: Fixed and Random Effects Models Regression Results for financial sector firm
Source: Author's computation (2019)

Table 4 shows that in the fixed effect model, CUR and PAT have positive and statistically significant effect on DPS while the negative effects of the other variables (EPS, SAL and DCR) are not statistically significant. However, in the random effect model, CUR, PAT, SAL and have positive and statistically significant effect on DPS; DCR has negative and statistically significant effect on DPS while EPS has negative but statistically insignificant effect on DPS. These results are conflicting, hence the need to subject the models to HausmanTest.

4.1.1. Hausman Test

The Hausman test is used to determine the better model between the fixed and the random effect models. The Hausman test is expressed in the asymptotic chi-square distribution that follows the hypothesis that:

- H_0: Random effect model is better
- H_1: Fixed effect model is better

The decision rule is to compare the probability of Chi-Statistic calculated with the 5% level of significance. If the former is greater, the null hypothesis cannot be rejected and if it is lower, the null hypothesis cannot be accepted. Table 6 contains the extract from the result of Hausman test for model 3.3

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	36.074199	5	0.0000

Table 5: Extracts from Hausman Test Cross-section Random Effects Test
Source: Author's Computation with E-Views 8 (2019)

From Table 5, the value of Chi-Statistic is 36.074199 and its probability is 0.0000, which is less than the 5% significance level. This implies that the null hypothesis cannot be accepted and the alternative hypothesis cannot be rejected, hence, the fixed effect model is more appropriate for the purpose of analyzing the first objective of this study.
From Table 4, the fixed effect model estimates show that out of the five explanatory variables in model 3.3, only two (CUR and PAT) have positive and statistically significant effects on DPS while the rest (EPS, SAL and DCR) have negative and statistically insignificant effects on DPS. The coefficients of CUR and PAT and their probabilities in parenthesis are 0.327095 (0.00328) and 0.00000732 (0.0000) respectively. A unit increase in CUR will cause an increase of about 0.327095 increase in DPS while a unit increase in PAT will cause an increase of 0.00000732 increase in DPS. These increases are statistically significant and in agreement with the *a-priori* expectation on the relationship between DPS and CUR and PAT.

On the other hand, the coefficients of EPS, SAL and DCR and their probabilities (in parenthesis) are -0.004633 (0.7445), -0.0000001.99 (0.5772) and -0.002158 (0.1343) respectively. These results imply that a unit increase in EPS, SAL and DCR will cause a statistically insignificant decrease reduction of 0.0004633, 0.000000192 and 0.002158 in DPS respectively. These results run contrary to the *a-priori* expectation on the relationship between DPS and EPS, SAL and DCR. The $R,^2$ which measures the percentage of the variations in dependent variable that is explained by the independent variables is 0.830374 signifying that about 83% of the variations in DPS is explained by CUR, PAT, EPS, SAL and DCR. The remaining 17% is explained by other variables not captured by the model. The *F*-Statistics of 29.37197 has a probability of 0.00000 implying that model 3.3 is a statistically reliable measure of the effect of liquidity on dividend policy of financial sector firms in Nigeria.

These results have sufficiently achieved the first objective of the study which is to examine the relationship between dividend policy and liquidity position of financial sector (banking) firms in Nigeria. There exists a positive and significant relationship between CUR (liquidity) and dividend payments. This is also true of the relationship between PAT (profit after tax, a measure of liquidity) and dividend payments of financial sector firms in Nigeria.

4.2. Objective 2: Effect of liquidity on dividend payment of real sector firms

The second objective of this study is to examine the effect of liquidity on dividend payments of real sector firms in Nigeria.
Table 6 contains the abridged results of pooled regression for the real sector model.

Dependent Variable = DPS				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	-1.469932	0.701037	-2.096797	0.0380
PAT	0.000144	3.98E-05	3.617852	0.0004
EPS	0.147944	0.027152	5.448656	0.0000
SAL	1.46E-05	4.28E-06	3.408113	0.0009
DCR	0.004056	0.010238	0.396184	0.6926
C	2.168889	1.239911	1.749230	0.0826
R-Squared			0.435832	
Adjusted R-Squared			0.413965	
F- Statistic			19.93106	
Prob (F-Statistic)			0.000000	

Table 6: Abridged Pooled Regression Result for model 3.4
Source: Authors' Compilation (2019)

The second objective of this study is to find out the relationship between liquidity and dividend payments of real sector firms quoted on the Nigerian Stock Exchange. From Table 6, it is shown that while CUR has a negative and statistically significant effect on DPS with a coefficient of -1.469932 and probability of 0.0380, PAT, EPS and SAL have positive and statistically significant effects on dividend payments of real firms. The coefficients of PAT, EPS and SAL are 0.000144, 0.147944, 0.00001.46 and probabilities of 0.00380, 0.0004 and 0.0000 respectively. DCR has a positive but statistically insignificant effect on DPS

The coefficient of determination (*R^2*) for the model is 0.435832 or approximately 44% implying that about 44% of the variations in DPS is explained by the explanatory variables while the remaining 56% is explained by factors not captured by the model of the study.

The F-Statistic (19.93106) and the probability of F-Statistic (0.0000) show that the model used in the research is reliable in its overall assessment. The results of the fixed and random effects tests are shown in Table 7

Fixed Effects Model					**Random Effects Model**				
Dependent Variable = DPS					**Dependent Variable = DPS**				
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	-0.049829	0.584394	-0.08527	0.9322	CUR	-0.261924	0.564347	-0.464119	0.6433
PAT	5.58E-05	3.01E-05	1.856487	0.0659	PAT	6.84E-05	2.93E-05	2.334035	0.0211
EPS	0.018608	0.019806	0.939536	0.3494	EPS	0.031223	0.019366	1.612287	0.1093
SAL	1.90E-05	5.98E-06	3.176964	0.0019	SAL	1.92E-05	5.29E-06	3.620346	0.0004
DCR	-0.003559	0.006543	-0.54399	0.5875	DCR	-0.002856	0.006493	-0.43984	0.6608
C	1.498892	0.983488	1.524057	0.1302	C	1.476868	1.288965	1.145778	0.2540
R-Squared			0.837992		*R-Squared*			0.178766	
Adjusted R-Squared			0.811225		*Adjusted R-Squared*			0.146935	
F-Statistic			31.30740		*F-Statistic*			5.616120	
Prob(F-statistic)			0.000000		*Prob(F-statistic)*			0.000102	

Table 7: Fixed and Random Effects Models Regression Results for Real Sector Firms
Source: Author's Computation (2019)

Table 7 reveals that in the fixed effect model, only SAL (coefficient 0.0000190; prob. 0.0019) has a statistically significant effect which is positive with DPS. CUR and DCR have negative but statistically insignificant with DPS while PAT and EPS have positive but statistically insignificant with DPS.

But in the random effect model, PAT and SAL have positive and statistically significant effect on DPS; CUR and DCR have negative and statistically insignificant effect on DPS while EPS has positive but statistically insignificant effect on DPS. Again, these results are conflicting, hence the need to subject the models to HausmanTest.
Table 8 contains the extract from the result of Hausman test for model 3.4

Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	10.371293	5	0.0654

Table 8: Extracts from Hausman Test Cross-section Random Effects Test
Source: Author's Computation with E-Views 8 (2019)

From Table 8, the value of Chi-Statistic is 10.37128 with probability 0.0654, which is greater than the 5% significance level. This implies that the null hypothesis cannot be rejected and the alternative hypothesis cannot be accepted, hence, the random effect model is more appropriate for the purpose of achieving the second objective of this study.

The random effect model estimates in Table 8 reveal that CUR, the major liquidity variable has a negative but statistically insignificant effect on the DPS while PAT and SAL have positive and statistically significant effects on DPS. EPS has a positive but statistically insignificant effect on DPS while DCR has a negative but statistically insignificant effect on the DPS. A unit increase in CUR will cause a statistically insignificant decrease of 0.261924 in DPS; a unit increase in PAT and SAL will cause a statistically significant increase of 0.0000684 and 0.0000192 in DPS respectively. A unit increase in EPS will cause a statistically insignificant increase of 0.031223 in DPS while a unit increase in DCR will cause a statistically insignificant decrease of 0.002856 in DPS. Only the results of PAT and SAL conform to the *a-priori* expectation on the relationship between DPS and Pat and SAL.

The *R,*^{2} which measures the percentage of the variations in dependent variable that is explained by the independent variables is 0.178766 signifying that as low as about 18% of the variations in DPS is explained by CUR, PAT, EPS, SAL and DCR in the real sector firms. The remaining 82% is due to other variables not outside model 3.4. The *F*-Statistics of 5.616120 has a probability of 0.000102 implying that model 3.3 is a statistically reliable measure of the effect of liquidity on dividend policy of real sector firms in Nigeria.

These results have sufficiently achieved the second objective of the study which is to examine the relationship between dividend policy and liquidity position of real sector firms in Nigeria. There exists a positive and significant relationship between PAT and SAL (fund availability) and dividend payments of real sector firms in Nigeria.

In all this study supports the agency cost theory of dividend policy by Jensen (1986) which states that if a firm has is liquid, it is better off paying dividend to shareholders rather than investing liquid assets on unprofitable ventures.

4.3. Objective 3: Comparative Analysis

The third objective of this study is to compare the effect of liquidity on dividend policy of financial sector with that of real sector firms in Nigeria. Table 9 contains the summary of results used in achieving objectives 1 and 2.

Dependent Variable: DPS Method: Panel Least Squares Date: Sample: 2008 2017 Period included: 10 Cross-sections included: 30 Total panel (unbalanced) observations: 269						
	Financial sector firms (Fixed Effect)			Real sector firms (Random Effect)		
Variable	Coefficient	Prob.	Remark	Coefficient	Prob.	Remarks
CUR	0.327095	0.0328	Significant (+ve)	-0.261924	0.6433	Not significant
PAT	7.32E-06	0.0000	Significant (+ve)	6.84E-05	0.0211	Significant (+ve)
EPS	-0.004633	0.7445	Not significant	0.031223	0.1093	Not significant
SAL	-1.99E-07	0.5772	Not significant	1.92E-05	0.0004	Significant (+ve)
DCR	-0.002158	0.1343	Not significant	-0.002856	0.6608	Not significant
C	-0.005367	0.9732	-	1.476868	0.2540	-
	R^2	0.830374	High	*R^2*	0.178766	Low
	Adjusted R^2	0.802103		*Adjusted R^2*	0.146935	
	F-Statistic	29.37197	High	*F-Statistic*	5.616120	Low
	Prob(F-stat)	0.000000	Model reliable	*Prob(F-stat)*	0.000102	Model reliable

Table 9: Comparative Results of Results for Financial and Real Sector Firms
Source: Author's Computation on E-Views 8 (2019)

From Table 9, it is evident that though liquidity affects the dividend policy of both the financial and real sector firms in Nigeria, the effects are not uniform in the two sectors. The liquidity ratio, CUR, (with coefficient of 0.327095 and prob. 0.0328 for financial sector) which is the primary metric for firm liquidity exerts statistically significant positive effect on the dividend payments of banks while it has negative but statistically insignificant effect on the dividend payments of real firms with coefficient of -0.261924 and prob. of 0.6433). Only the PAT (profit after tax) has statistically significant positive effects in both sectors with coefficients of 0.00000732 and 0.0000684 and probabilities of 0.0000 and 0.0211 for financial and real sector firms respectively. The EPS has statistical insignificant effects on dividend payments in both sectors (coefficients of -0.004633 (prob. 0.7445) and 0.00.031223 (prob. 0.1093)) for financial and real sector firms respectively. Furthermore, sales (SAL) has statistically insignificant negative effect on the dividend payment of the financial firms (-0.000000199 (prob. 0.5772)), but a statistically significant positive on it in the real sector firms (0.0000192 (prob. 0.0004)). Finally, the debt to capital ratio, with coefficients of -0.002158 (prob. 0.1343) and -0.002856 (prob. 0.6608) has no statistically significant effect on dividend payments in both sectors.

The positive and significant effect of liquidity ratio (CUR) on the dividend payments of financial sector firms is expected. Banks depend largely on cash and other liquid assets and lesser on fixed assets for their daily operations. Unlike real firms that require extensive fixed assets to produce, banks assets are fluid in nature. They are mainly cash, deposits and short-term financial instruments. In terms of liquidity (measured as current ratio), the effect of liquidity on dividend payments among financial sector firms is divergent from that of real firms. While liquidity positively and significantly affect liquidity payments in the financial sector firms, its effect on dividend payments is negative and statistically insignificant in the real sector firms.

However, and as expected, profit after tax (PAT) has positive and statistically significant effect on the dividend payments of both sectors. This is because, essentially, dividend is paid from earnings after interest and taxes. It is generally expected that, *ceteris paribus* the higher the profit after tax, the more firms will have to pay as dividend.

In addition, sales or gross earnings (SAL) negatively but statistically insignificant effect on dividend payments of the financial firms but positive and statistically significant effect on dividend payments of real firms. This implies that liquidity (PAT and CUR) rather than gross earnings exerts more impact on the dividend policy of financial firms while sales (PAT and SAL) rather than the liquidity ratio exerts greater impact on the dividend policy of real sector firms.

Finally, the effects of earnings per share and debt-to-capital ratio on the dividend payments of both sectors are not significant.

5. References

i. Ahmed, I. E. (2014). The impact of liquidity on dividend policy, *Proceedings of 26th International Business Research Conference,* 7 - 8 April, Imperial College, London, UK,

ii. Albercht, W. & Stice, J. (2008). *Financial Accounting,* Manson, OH: Thomson South-Western

iii. Baker, M. & Wurgler, J. (2004). A catering theory of dividends. *The Journal of Finance*, *59*(3), 1125-1165.
iv. Barad, M. M. (2010). A study on liquidity management of India steel industry Retrieved from: http://hdl.handle.net/10603/723/6/06_chapter1.pdf
v. Beaver, W. H. (1966). Financial ratios as predictors of failure. *Journal of Accounting Research. Supplement,4* (3). 71-111.
vi. Brittain, J. A. (1966). Corporate Dividend Policy. Brookings Institution, Washington, D.C.
vii. Cristea, C. & Cristea, M. (2017). Determinants of corporate dividend policy: Evidence from Romanianlisted companies, *MATEC Web of Conferences* ***126***, *Annual Session of Scientific Papers. Retrieved from:* DOI: 10.1051/matecconf/201712604009
viii. Gordon, M. J. (1963). *The investment, financing and valuation of corporation*, Irwin: McGraw Hill co
ix. Gordon, M., J. (1959). Dividends, earnings, and stock prices, *Review of Economics and Statistics,* 99-105.
x. Hausman, J. A. (1978). Specification tests in econometrics, *Econometrica,* 46, 1251-1271
xi. Jabbouri, I. (2016). Determinants of corporate dividend policy in emerging markets: Evidence from MENA stock markets, *RES INT BUS FINANC*, 37. 283–298.
xii. Jensen, M. (1986). Agency costs of free cash flow, corporate finance and takeovers, *American EconomicReview, 76*(2), 323-329
xiii. Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 10*(2), 305-360
xiv. Kim, C. S., Mauer, D. L., & Sherman, A. E., (1998). The determinants of corporate liquidity: Theory andevidence. *Journal Financial and Quantitative Analysis, 33*(3), 335 – 359
xv. Modigliani, F. & Miller, M. (1961), Dividend policy, growth, and the valuation of shares. *The Journal of Business, 34*(4), 411-433.
xvi. Lintner, J. (1964). Optimal dividends and corporate growth under uncertainty, *Quarterly Journal of Economics,* 49-95.
xvii. Ofoegbu, G. N., Duru, A. N. & Onodugo, V. (2016), Liquidity management and profit performance of pharmaceutical real firms listed in Nigeria Stock Exchange, *International Journal of Management Sciences and Business Research*, *5*(7), 1-14
xviii. Olang, M. A., Akenga, G. M & Mwangi, J. K. (2015). Effect of liquidity on the dividend pay-out by firms listed at the Nairobi Securities Exchange, Kenya. *Science Journal of Business and Management*. 3(5)196-208.
xix. Pandey, I. (2005). *Financial management,* New Delhi: Vikas Publishing House Walter, J. (1956). Dividend Policy: Its influence on the value of the enterprise. *Journal of Finance, 18* (2), 280- 291.

Appendix

Financial Sector Results

Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:18				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 134				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	0.448217	0.130344	3.438711	0.0008
PAT	1.04E-05	1.07E-06	9.719081	0.0000
EPS	-0.001822	0.014658	-0.124281	0.9013
SAL	6.42E-07	2.49E-07	2.582176	0.0109
DCR	-0.002616	0.001301	-2.010511	0.0465
C	-0.301615	0.142834	-2.111643	0.0367
R-squared	0.715610	Mean dependent var		0.409142
Adjusted R-squared	0.704501	S.D. dependent var		0.545843
S.E. of regression	0.296719	Akaike info criterion		0.451681
Sum squared resid	11.26940	Schwarz criterion		0.581435
Log likelihood	-24.26260	Hannan-Quinn criter.		0.504408
F-statistic	64.41736	Durbin-Watson stat		1.083746
Prob(F-statistic)	0.000000			

Table 10: Panel Least Squares Results
Source: Author's Computation with E-Views 8 (2019)
Fixed Effect Model

Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:20				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 134				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	0.327095	0.151406	2.160381	0.0328
PAT	7.32E-06	1.13E-06	6.500206	0.0000
EPS	-0.004633	0.014184	-0.326636	0.7445
SAL	-1.99E-07	3.57E-07	-0.559104	0.5772
DCR	-0.002158	0.001431	-1.507913	0.1343
C	-0.005367	0.159623	-0.033625	0.9732
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.830374	Mean dependent var		0.409142
Adjusted R-squared	0.802103	S.D. dependent var		0.545843
S.E. of regression	0.242822	Akaike info criterion		0.143886
Sum squared resid	6.721701	Schwarz criterion		0.576399
Log likelihood	10.35964	Hannan-Quinn criter.		0.319645
F-statistic	29.37197	Durbin-Watson stat		1.637669
Prob(F-statistic)	0.000000			

Table 11
Source: Author's Computation with E-Views 8 (2019)
Random Effect Model

Dependent Variable: DPS				
Method: Panel EGLS (Cross-section random effects)				
Date: 08/10/19 Time: 19:21				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 134				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	0.434792	0.121434	3.580474	0.0005
PAT	9.45E-06	9.63E-07	9.819172	0.0000
EPS	-0.005709	0.012770	-0.447099	0.6556
SAL	5.16E-07	2.45E-07	2.101375	0.0376
DCR	-0.003256	0.001187	-2.743944	0.0069
C	-0.224812	0.132911	-1.691439	0.0932
	Effects Specification			
			S.D.	Rho
Cross-section random			0.085702	0.1108
Idiosyncratic random			0.242822	0.8892
	Weighted Statistics			
R-squared	0.604971	Mean dependent var		0.277860
Adjusted R-squared	0.589540	S.D. dependent var		0.420805
S.E. of regression	0.270588	Sum squared resid		9.371921
F-statistic	39.20532	Durbin-Watson stat		1.245663
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.706633	Mean dependent var		0.409142
Sum squared resid	11.62516	Durbin-Watson stat		1.004223

Table 12
Source: Author's computation with E-Views 8 (2019)

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		36.074199	5	0.0000
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
CUR	0.327095	0.434792	0.008178	0.2337
PAT	0.000007	0.000009	0.000000	0.0003
EPS	-0.004633	-0.005709	0.000038	0.8615
SAL	-0.000000	0.000001	0.000000	0.0057
DCR	-0.002158	-0.003256	0.000001	0.1701
Cross-section random effects test equation:				
Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:22				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 134				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005367	0.159623	-0.033625	0.9732
CUR	0.327095	0.151406	2.160381	0.0328
PAT	7.32E-06	1.13E-06	6.500206	0.0000
EPS	-0.004633	0.014184	-0.326636	0.7445
SAL	-1.99E-07	3.57E-07	-0.559104	0.5772
DCR	-0.002158	0.001431	-1.507913	0.1343
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.830374	Mean dependent var		0.409142
Adjusted R-squared	0.802103	S.D. dependent var		0.545843
S.E. of regression	0.242822	Akaike info criterion		0.143886
Sum squared resid	6.721701	Schwarz criterion		0.576399
Log likelihood	10.35964	Hannan-Quinn criter.		0.319645
F-statistic	29.37197	Durbin-Watson stat		1.637669
Prob(F-statistic)	0.000000			

Table 13: Hausman Test
Source: Author's computation with E-Views 8 (2019)

Real Sector Results

Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:24				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 135				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	-1.469932	0.701037	-2.096797	0.0380
PAT	0.000144	3.98E-05	3.617852	0.0004
EPS	0.147944	0.027152	5.448656	0.0000
SAL	1.46E-05	4.28E-06	3.408113	0.0009
DCR	0.004056	0.010238	0.396184	0.6926
C	2.168889	1.239911	1.749230	0.0826
R-squared	0.435832	Mean dependent var		3.417111
Adjusted R-squared	0.413965	S.D. dependent var		5.619661

S.E. of regression	4.302014	Akaike info criterion		5.799470
Sum squared resid	2387.445	Schwarz criterion		5.928594
Log likelihood	-385.4642	Hannan-Quinn criter.		5.851942
F-statistic	19.93106	Durbin-Watson stat		0.466089
Prob(F-statistic)	0.000000			

Table 14: Panel Least Squares
Source: Author's computation with E-Views 8 (2019)

Fixed effect

Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:25				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 135				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	-0.049829	0.584394	-0.085265	0.9322
PAT	5.58E-05	3.01E-05	1.856487	0.0659
EPS	0.018608	0.019806	0.939536	0.3494
SAL	1.90E-05	5.98E-06	3.176964	0.0019
DCR	-0.003559	0.006543	-0.543992	0.5875
C	1.498892	0.983488	1.524057	0.1302
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.837992	Mean dependent var		3.417111
Adjusted R-squared	0.811225	S.D. dependent var		5.619661
S.E. of regression	2.441643	Akaike info criterion		4.759173
Sum squared resid	685.5861	Schwarz criterion		5.189584
Log likelihood	-301.2442	Hannan-Quinn criter.		4.934080
F-statistic	31.30740	Durbin-Watson stat		0.911823
Prob(F-statistic)	0.000000			

Table 15
Source: Author's computation with E-Views 8 (2019)

Dependent Variable: DPS				
Method: Panel EGLS (Cross-section random effects)				
Date: 08/10/19 Time: 19:26				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 135				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CUR	-0.261924	0.564347	-0.464119	0.6433
PAT	6.84E-05	2.93E-05	2.334035	0.0211
EPS	0.031223	0.019366	1.612287	0.1093
SAL	1.92E-05	5.29E-06	3.620346	0.0004
DCR	-0.002856	0.006493	-0.439839	0.6608
C	1.476868	1.288965	1.145778	0.2540
	Effects Specification			
			S.D.	Rho
Cross-section random			3.404490	0.6603
Idiosyncratic random			2.441643	0.3397
	Weighted Statistics			

R-squared	0.178766	Mean dependent var		0.767557
Adjusted R-squared	0.146935	S.D. dependent var		2.692769
S.E. of regression	2.493549	Sum squared resid		802.0942
F-statistic	5.616120	Durbin-Watson stat		0.796951
Prob(F-statistic)	0.000102			
	Unweighted Statistics			
R-squared	0.298489	Mean dependent var		3.417111
Sum squared resid	2968.652	Durbin-Watson stat		0.215327

Table 15: Random Effect
Source: Author's computation with E-Views 8 (2019)

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		10.371293	5	0.0654
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
CUR	-0.049829	-0.261924	0.023030	0.1622
PAT	0.000056	0.000068	0.000000	0.0630
EPS	0.018608	0.031223	0.000017	0.0024
SAL	0.000019	0.000019	0.000000	0.9567
DCR	-0.003559	-0.002856	0.000001	0.3809
Cross-section random effects test equation:				
Dependent Variable: DPS				
Method: Panel Least Squares				
Date: 08/10/19 Time: 19:26				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 15				
Total panel (unbalanced) observations: 135				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.498892	0.983488	1.524057	0.1302
CUR	-0.049829	0.584394	-0.085265	0.9322
PAT	5.58E-05	3.01E-05	1.856487	0.0659
EPS	0.018608	0.019806	0.939536	0.3494
SAL	1.90E-05	5.98E-06	3.176964	0.0019
DCR	-0.003559	0.006543	-0.543992	0.5875
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.837992	Mean dependent var		3.417111
Adjusted R-squared	0.811225	S.D. dependent var		5.619661
S.E. of regression	2.441643	Akaike info criterion		4.759173
Sum squared resid	685.5861	Schwarz criterion		5.189584
Log likelihood	-301.2442	Hannan-Quinn criter.		4.934080
F-statistic	31.30740	Durbin-Watson stat		0.911823
Prob(F-statistic)	0.000000			

Table 16: Hausman test
Source: Author's computation with E-Views 8 (2019)