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Effects of External Factors on Organisational Cash Flow: Evidence From Ghana

Abel Obeng Amanfo Ofori

PHD Candidate, School of Accounting

Zhongnan University of Economics and Law, Wuhan, China

E-mail: juvobeng@yahoo.co.uk

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Abstract

Effective cash flow management is essential in achieving the goals of every organisation. Businesses will fail to survive without efficient cash flow management. Existing literature reveals that key performance indicators of every organisation is influenced by forces in its external environment. The main objective of this study was thus to examine the effect of external factors within an organisation's environment on the organisation's cash flow.

Random effect model was used to examine the relationship between key external factors organisational cash flow. The paper established that external factors had a significant impact on organisational cash flow. The paper further established that some external factors had some level of significant impact on cash flow. Taken as set, key external factors examined had little influence on variance in organisational cash flow position. Unemployment rate and Gross Domestic Product (GDP) growth rate were found not to have significant influence on organisational cash flow, while consumer price index was found to have a significant positive relationship with organisational cash flow.

The paper recommends professionals and scholars in corporate finance management to analyse the effect of external factors on organizational cash flow when developing cash flow strategies.

Keywords: Consumer price index, Cash flow strategies, Random effect model, Organisational cash flow

1. Introduction

Organisations operate in an external environment, which it relies on for resources used to

achieve their objectives. These resources include investments in the form of equity and debt, human capital and technology which are keys to the organisations' growth and financial performance. The external environment in which a firm operates constitutes restraints, challenges and opportunities that influence the firm's business activities. These factors influence the survival and growth of the organisation (Voiculet, Belu, Parpandel, and Rizea, 2010). It is impractical for an organisation to gain some level of control over external dynamics of the environment in which it operates. The external environment of an organisation comprises exogenous factors to the organisation which may have influence or potential influence on the performance of the organisation (Njoroge, Ongeti, Kinuu, & Kasomi, 2016). The cash flow situation of an organisation is critical to its survival and its successes. Cash flow has been described as the lifeblood of every business (Yamoah, G, 2016). Cash is required to provide the inputs required for the continuous existence and growth of every organisation. The supply of cash is however affected by political, economic, sociocultural, legal and technological factors.

Studies conducted on organisational performance have attributed the cause of poor performance of organisations to cash flow and liquidity problems (Mwamburi, 2017). Many prior studies on the impact of external forces on organisations have focused on the effect on organisational performance in general, with little focus on cash flow. The impact of external factors on the cash flow of organisations has not attracted much attention. Studies on cash flow have focused mainly on the effect of internal factors. It has however been established in existing literature that the influence of the external environment on an organisation is inevitable. Thus for organisations to have effective control over its cash flow, it is requisite that the organisation understands how its cash flow position is impacted by these external factors (Njoroge, Ongeti, Kinuu, and Kasomi, 2016). To maintain control over an organisation's cash flow, the organisation must be fully conscious of the external forces that operate in its environment and how these forces influence its cash flow activities. The aim of this study is to assess the effect of external factors on organisational cash flow.

The study emphasized the need to analyse the relationship between external variables and the cash flow positions of organisations. The study also examined the strength of the influence of these factors and presented a method for predicting the impact of these variables on the cash flow of organisations. The findings of the will be useful to business executives in formulating cash flow policies. The findings also present information for further research in the subject area.

2. Theory and Hypothesis

The constructs of the open systems theory is employed in this study to examine the interaction of organisations and their external environment, and the impact thereof on organisational cash flow. The theory of open systems posits that the environment of an organisation has an impact on it. The organisation operates in an environment that has political, economic and social impact on it. The organisation also derives from its environment resources for survival and growth. The open systems theory was established after the Second World War in response to prior theories of organisations including the

human relations perspective and the administrative theories of Elton Mayo and Henri Fayol respectively, which regarded organisations as self- sufficient entities. The theory asserts that every organisation is an open system that responds to its environment. A firm's internal structures are used to convert inputs from its external environments into outputs which are used to serve its environment. The environment also produces restraints, conditions, challenges and opportunities that influence the organisations rate of success. The open systems theory is part of a broader theoretical framework known as the General Systems Theory (GST), which was established by Ludwig von Bertanlanffy in 1940. The theory focuses on how systems function. Traditional theories of organisation only focused on the internal features (closed systems), whereas GST threw light on both open systems and closed systems. While closed systems theory regard the external environment of an organisation as trivial, open systems consider the organisation's interface with external forces as critical for the its survival. Insufficient collaboration between the internal elements of an organisation and external forces in its environment inhibits the ability of the organisation to tap resources from environment for its growth.

The external environments of organisations are associated with high level of uncertainties (Njoroge, Ongeti, Kinuu, and Kasomi, 2016).

A study carried out by Shahid & Khan (2010) report that liquidity needs of firms are influenced differently by macroeconomic conditions.

CPI is considered as an important economic and social standard by National statistical departments around the world. A study by Patel & Villar (2016) on the measurement of inflation, asserted that consumer price index is a key measure of inflation. Findings from a study by Wang, Ji, Chen, & Song (2014) revealed that consistent rise in inflation has a significant effect on a firm's cash holding decisions.

The study explains that the cash holding of firms decrease with the rise in inflation, however, when inflation rises beyond a certain level, firms' increase their cash holdings to prevent bankruptcy.

Trency, Petria, and Corovei (2015) revealed in their study that unemployment is one of the factors that affect liquidity of firms. Unemployment rate measures the percentage of total labour force of a country not engaged in any economic activity. Soylu, Çakmak, & Okur (2018) assert that unemployment is one of the most important global economic variables as it is part of the focus of the economic and political policies of most governments.

Gross Domestic Product growth rate measures the rate at which an economy grows. Trency, Petria, and Corovei (2015) reported that liquidity of firms is affected by the factors including Gross Domestic Product. Their study concluded that of among the variables tested, GDP had the least impact on the liquidity of firms. Firms must be fully conscious of the external forces that clouds it in order to effectively manage the uncertainties inherent in its environment.

The objective of this study was to assess the effect of external factors on organisational cash flow using the hypotheses:

1. Ho: External factors have no influence on organizational cash flow

   H_1: External factors have an influence on organizational cash flow

2. Ho: Consumer Price Index has no influence on organizational cash flow

   H_1: Consumer Price Index has an influence on organizational cash flow

3. Ho: Unemployment rate has no influence on organizational cash flow

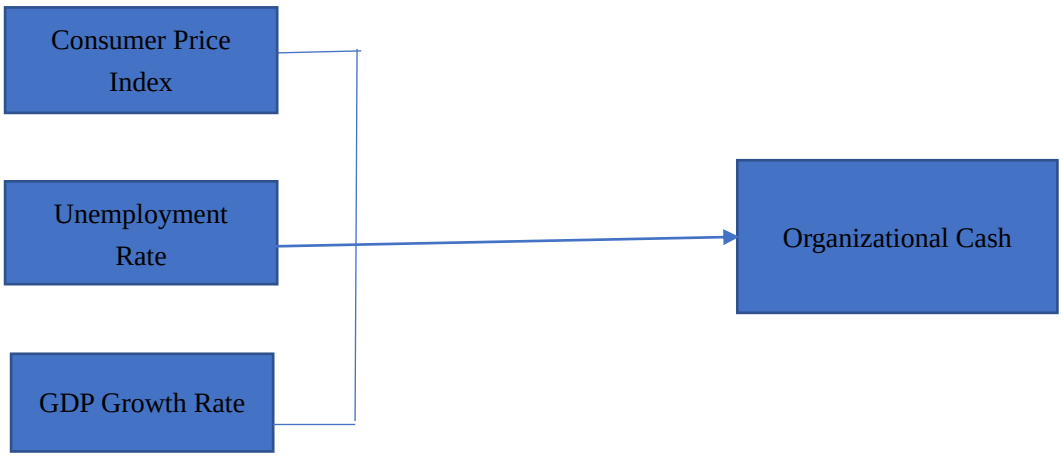
   H_1: Unemployment rate has an influence on organizational cash flow

4. Ho: GDP Growth rate has an influence on organizational cash flow

   H_1: GDP Growth rate has an influence on organizational cash flow

2.1 Conceptual Framework

This study suggests that the cash flow position of a firm is impacted by external factors. The independent variable for the study is organisational performance. The independent variables are the external factors. The study examines the independent variable in relation to unemployment, consumer price index and Gross Domestic Product growth rate in order explain the degree of impact of these variable on the cash flow of organisations in Ghana. A study carried out by Shahid & Khan (2010) report that liquidity needs of firms are influenced differently by macroeconomic conditions. The predicted relationships between the variables are illustrated on the diagram below.



2.2 Cash Flow

Cash flow has been recognized as a very critical element for the survival of a business (Donkor, 2011). Cash flow has been explained as the change in the amount of cash in a period of time. This is basically computed in accounting by finding the difference in the amount of cash at the beginning of the period and at the end of the period (Fernández, 2006).

Businesses will fail in any competitive environment without efficient cash flow management (Bushe, 2019). The profitability and cash flow of an organisation are closely linked. These indicators of organisational performance are of keen interest to stakeholders. A positive cash

flow position ensures an organisation's liquidity, resulting in its working capital for operating activities to yield more returns, some of which is ploughed back in to the business, for the organisation's growth.

Prior studies reveal that insufficient cash flow has been a major challenge for businesses especially in their growing stages, resulting in the shutdown of many small businesses (Mbonyane, 2006). Businesses may be able to survive in the short run with little cash flow by attaining credit facilities from its vendors. In the long term however, businesses will not survive without sufficient cash to meet it needs.

Cash flow management involves monitoring the flow of money in and out of an organisation (Belobo & Pelser, 2014). Sources of cash flow in an organisation have been grouped as cash flow from operating activities, cash flow from investing activities and cash flow from financing activities. Cash flow from operating activities comprise of cash flow resulting from the activities directly associated with generating net income. These activities include sale of goods and rendering of services. Cash flow from investing activities entail cash flow from the acquisition and disposal of non-current assets; while cash flow from financing activities include cash movements from non-current liabilities and owners' equity (Duhovnik, 2008).

Efficient cash flow management requires analysis of changes, potential risks to cash flow and cash flow opportunities in order to effectively meet present and future cash needs of the organisation. Efficient cash flow management aids businesses grow beyond survival and results in higher profitability by ensuring the availability of funds to defray the cost required to generate optimum revenue (Guda, 2013). Cash flow is an important determinant of the firm's stability, strength, and ability to yield future cash flows. Investors pay a keen attention to the cash flow statement of a business before committing to invest resources (Amuzu, 2010)

2.3 External Factors

A variety of forces influence a business's ability to meet its targets. These forces are key variables in determining the cash flow position of a business.The external include political, economic, sociocultural, legal, technological and ecological factors.

External economic factors that may have impact on the activities of a business include interest rates, inflation, employment factors and consumer behaviour. Canere (2018) asserts that the external factors that affect a business's financial performance are above the control of the managers of the firm. These factors are controlled by strong economic and political players. Canere (2018) emphasizes that it is expedient that business executives make cursory considerations of these external factors in their when developing business strategies. It is important to note that external factors vary with region. Businesses operate within political structures and institutions which provide a broader framework of direction and control. Businesses have little input in governments' fiscal policies, employment laws, foreign trade regulations, and the change in governments, yet these elements greatly affect factors such as the business's cost of production, labour relations and price policies (Mark & Nwaiwu, 2015). An example of a company whose cash flow position has been affected by political structures and institution is Honda, when the firm was slapped with a fine of 70 million US Dollars for

violations of safety laws (Ivory, 2915). US's "size- based" industrial policy, which offered incentives in the form of exemption small businesses from regulations which large corporations were subject to, awarding government contracts to small businesses, imposing less taxes resulted in favourable cashflow for small business to the detriment of large businesses (Flows, 2014). Telsa is another company whose cash flow position benefited from the US innovation policy. The policy involved government investment in to the auto industry to promote innovation (Shapira & Youtie, 2010). Telsa's cashflow from financing activity improved by a $465 million loan from the government in 2009. In addition, the government granted tax credit for cars purchased in the U. S, thus increasing sales, resulting in improvement in Telsa's cash flow from operating activities. Walmart, a prominent U.S retail firm suffered from negative cash flow from operating activities in Germany. Critics attributed this failure to lack of understanding of some cultural issues in Germany (Knorr & Arndt, 2003). Nokia suffered loss of cash flow from technological advancement, when the company lost significant market share to the android market (Lamberg, Lubinaitė, Ojala, & Tikkanen, 2019). Ecological factors that influence an organisation's cash flow position include activities to preserve natural environment and optimize the organisation's productivity. Ecological activities that typically impact an organisation's cash flow take the form of investment in supplying products and services that are eco- friendly, and engaging in corporate social responsibility (CSR) activities to protect the environment. Claessens (2015) expounds that ecological factors ought to be of key concern to organisations as these factors are associated with natural resources required as input for supply products.

Miles and Snow (2008) assert that organisations that align their business strategies to their external environment are likely to achieve more successes than those than do not adapt to their external environment.

3. Methodology and Data Analysis

Review of prior literature on this topic reveals how exogenous factors influence organizational cash flow. This study tests the relationship between economic variables and cash flow of 10 sampled firms listed on the Ghana Stock Exchange. Data of these selected firms over a fifteen-year period, from 2004 to 2018 is examined to determine their influence on the cash flow. Exogenous variables examined in this study include unemployment rate, consumer price index and GDP growth rate.

Table 1. Regression variables

Variable	Measurement
Unemployment Rate (UR)	The percentage of the total labour force of a country not engaged in any economic activity
Consumer Price Index (CPI)	The weighted average of prices of goods and services consumed

Gross Domestic Product growth rate (GDPGr)	The rate at which the economy grows
Cash flow (CF)	

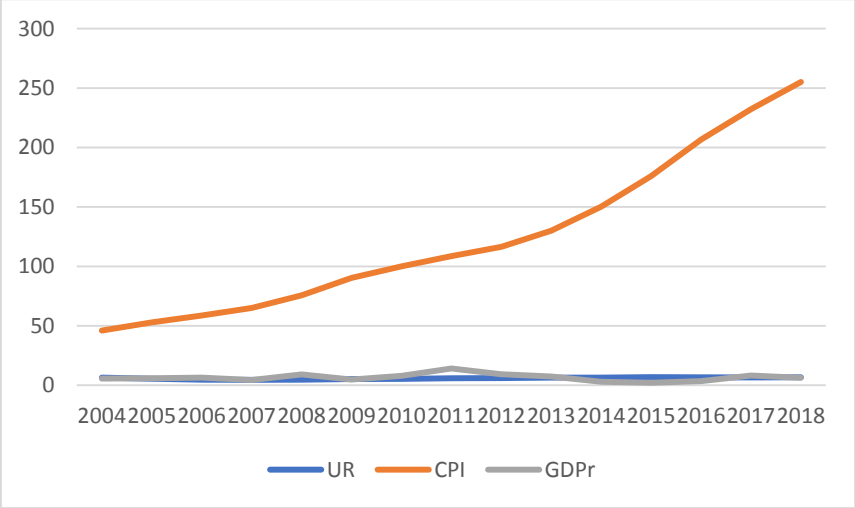


Figure 1. Trend of economic variables over time

Table 2. Descriptive statistics the sample observations

Variable	Mean	Std. Dev.	Min	Max	Observations
CF	156040.4	339421.6	-65563	2386507	N = 150
UR	5.874667	0.803172	4.57	6.81	N = 150
CPI	124.282	64.71281	45.98	255.1	N = 150
GDPr	6.514667	2.915501	2.18	14.05	N = 150

Note: Cash flow is measured in thousands of Ghana Cedis; N= Number of observations

3.1 Regression Model

We use a random regression model to examine the relationship between unemployment rate, consumer price index and Gross Domestic Product. A fixed effect regression model and a random effect regression model are formulated. The Hausman test is the existence of a correlation between the unique errors and the regressors in the model.

Under the Fixed Effect model, it is assumed that some heterogenous characteristics within the entities may impact the predictors or the outcome. The fixed effect model eliminates the effect of these time invariant characteristics so that the net effect of the independent variables

on the outcome can be examined.

It is also assumed under the fixed effect model that the time-invariant characteristics are unique to each entity, thus must not be correlated with other individual characteristics. If the error terms are correlated, then the fixed effect model is not appropriate. The results of the random effect model are then accepted in such a scenario. The Hausman test is used to test the existence of correlation between the error term and the variables. The fixed effect model is represented by the equation below:

$$Yt= \beta 1Xt+ \alpha+ ut$$

Where

αi (i=1....n) is the unknown intercept for each entity (nonentity-specific intercepts).

Yt is the dependent variable (DV) where t= time.

Xt represents one independent variable (IV),

$\beta 1$ is the coefficient for that IV,

ut is the error term

The random effects model assumes that the variance across the entities is random and not correlated with the predictor or independent variables in the model

The random effects model is represented by the equation:

$$Yt= \beta Xt+ \alpha+ ut+ \varepsilon t$$

Where

Yt is the dependent variable (DV) where t= time.

Xt represents one independent variable (IV),

$\beta 1$ is the coefficient for that IV,

Uit = Between entity error

εit = Within entity error

The Hausman test is used to test the correlation of the explanatory variables with the unobserved entity- specific effect. The Hausman test is conducted under the null hypothesis as below:

H0: The explanatory variables (Unemployment rate, Consumer Price Index and Gross Domestic Product Growth rate) are uncorrelated with the unobserved Company-specific effect (εit).

3.2 Regression Results

The results of the Hausman test statistic reject the null hypothesis that the individual-level effect (εit) is uncorrelated with the explanatory variables, thus the result of the test supports

the specification of a random-effects model. Because the fixed-effects estimator is rejected under the null hypothesis, we report the estimation results of the random-effects models in Table 3.

The value of R- squared derived from the random effects model is 0.098. This implies that 9.8 % of the variation in cashflow is explained by the predictor variables. From the regression results from the random effect model, unemployment rate and Gross Domestic Product are statistically insignificant and are not included in our model. Consumer Price Index has a high positive correlation with cash flow, and is statistically significant. This implies that the cashflow for an organisation increases as the consumer price index of the country increases. From our new model, an increase of 1 index point in CPI results in GHS 1,427,911 increase cash flow.

Table 3. Regression results

	CF	
	16309.73	
UR	(0.48)	P>|z| = 0.385
	1427.911	
CPI	(3.45)**	P>|z|= 0.001
	-5874.854	
GDPGr	(-0.91)	P>|z|= 0.362
	-78964.78	
Constant	(-0.41)	P>|z|= 0.684
R^2	0.0983	Prob > chi2 = 0.0000
Hausman test	chi2(3) = 0.00	Prob>chi2 = 1.0000

Cash flow is measured in thousands of Ghana Cedis.

4. Discussion and Implications

From the regression results from the random effect model, unemployment rate and Gross Domestic Product are statistically insignificant. This suggests that the impact of unemployment rate and Gross Domestic Product are not reflected in the cash flow position of organisations. This may result from the fact that the internal factors and management

strategies within organisations eliminates significant impact of these macroeconomic factors.

Consumer Price Index has a high positive correlation with cash flow and is statistically significant. This implies that the cashflow of an organisation increases as the consumer price index of the country increases. From our model, an increase of 1 index point in CPI results in GHS 1,427,911 increase in cash flow. Increase in the annual consumer price index implies that there has been a rise in the prices of goods and services over the year (Jacobs, Perera, and Williams, 2014). Increase in prices of goods and services imply increase in both input and output prices. While increase in input is likely to result in a fall in business cash flow, the rise in output prices are likely to cover the cost of inputs and may result in a net rise in the entity's cash flow. Pitkänen (2016) advises that it is vital that the impact of inflation on the cash flow of a company be thoroughly forecasted. Pitkänen (2016) proposes that forecasts of number of units of output to be produced, labour hours, machine hours, and quantity of materials to be used should be converted to cash flow by multiplying their volumes by the relevant prices in order to make the most efficient cash flow decisions.

5. Conclusion and Recommendations

The primary objective of this study was to examine the effect of external factors on organizational cash flow. The study established that some external factors had some level of significant impact on cash flow. Taken as set, key external factors examined had little influence (9.8%) on the variance in organisational cash flow position. Unemployment rate and GDP growth rate were found not to have significant influence on organisational cash flow, while consumer price index was found to have a significant positive relationship with organisational cash flow.

The findings of the study are consistent with the main postulation of the open system theory that an organization is impacted by the forces in its external environment. Business executives, professionals and scholars in corporate finance management must thus be conscious of the effect of external factors on organizational cash flow when developing cash flow strategies. The study tested the effect of key external variables on organisational cashflow, but does not explore the effect of other external variables on organisational cashflow. This study recommends that further studies on this subject adopt explorative research methods to uncover other external factors that have significant influence on organisational cashflow.

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