



## Determinants of Dividend Payout Ratios In Tunisia: Insights In Light of The Jasmine Revolution

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Dividend payout ratio, Tunisia, Jasmine revolution, Arab uprisings.

### **Jel Classification**

F49, F65, H54.

### **Abstract**

Despite the various studies covering outstanding issues on dividend payments and policies as well as their relevance to investors and price fluctuation within developed markets, similar studies are still scarce in the emerging markets. Moreover, very few studies only examined the influence of external factors on the dividend policy components. Thus, the current study aims at investigating the determinants of dividend payout among the Tunisian listed companies and particularly to inspect the influence of the Jasmine revolution on firms' dividend policies. In line with this objective, the study employs panel data models using pooled data from the companies listed on the Tunisian Stock Exchange from 2003 through 2012. This specific study period has been selected because it includes the Arab uprisings events which started in Tunisia at the end of 2010. The findings indicated that net cash flow and market to book value have significant influence on the dividend payout, while the Jasmine revolution had no significant impact on the dividend payout among the Tunisian listed companies. The study extends the literature on the dividend policy towards a new context which is that of Tunisia. Furthermore, the study also enriches the literature by considering an important political and social event, which is the Jasmine revolution. The latter had major political, social and economic repercussions, not only in the Arab region but also on the global scale. Hence, the study provides insights on the possible influence of similar events on the dividend policy and the other factors that may influence its dynamics. This would also assist policy makers, regulators, as well as investors in elaborating strategies and policies for an optimal use of the dividend policy tools.

## 1. Introduction

A considerable attention was and is paid to the dividend policy; numerous questions are surrounding the firm's dividend decision and a wide range of studies (e.g. Lintner, 1956; Gordon, 1959; Miller and Modigliani, 1961; Seneque, 1978; Mancinelli and Ozkan, 2006; Amidu and Abor, 2006; Al-Twajjry, 2007; Anil and Kapoor, 2008; Imran, 2011) focus on this issue without being able to resolve the famous 'dividend puzzle'.

Indeed, dividends are simply defined by Seneque (1978) as "the share of the profits of a company which are received by the shareholders". However, despite their simple definition, dividends are the focus of multiple debates and the difficulty to apprehend them is responsible of their mysterious and puzzling character. Black (1976) wrote that "the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just do not fit together". The "dividend puzzle" is the corollary of the two questions of Black (1976), namely, why firms pay dividends and why stockholders pay attention to dividends? Many potential explanations are advanced to shed light on this enigma which remains undecipherable and researchers add each time a new determinant of the dividend policy. According to Black (1976) the factors that influence the dividend payout decision include, taxes, transaction costs, capital structure and the demand of investors for dividends, etc. After the seminal work of Black, many variables have been added in order to explain the policy dividend such as agency costs (Rozeff, 1982; Easterbook, 1984), growth (Higgins, 1981).

By deciding to pay dividends to the shareholders, the firm adopts the objective of 'maximizing the welfare of its owners' (Portfield, 1965). Such a decision needs to be well studied since many aspects have to be taken into account such as the proportion of dividends and the medium of payment of dividends (in cash or via bonus shares). Hence, the firm's dividend decision cannot be taken in isolation and the corporate management should consider and diagnose thoroughly the whole set of variables that can affect the dividend policy. Knowing the importance of this decision, investors in developed countries have been actively involved in the decision process regarding the distribution of dividends (Glen *et al.*, 1995) and accordingly, researchers have also focused their studies particularly in these developed countries (Al-Twajjry, 2007).

Interest given to this issue has known a great rise after Fama and French (2001) and Denis & Osobov (2008) highlighted a huge decrease in the number of companies distributing dividends; researchers have started to focus on emerging markets to depict the main

factors that have impacts on dividend decision. However, at the time of writing this paper, no researcher has yet considered the Jasmine revolution as a potential determinant of the dividend decision in the Arab Uprising Countries. It is worthy to note that this work is pioneer in examining the characteristics of the listed Tunisian firms' dividend policy over the period spanning from 2003 through 2012.

The present study focuses on Tunisian listed firms in order to identify the main determinants of the dividend decision. Indeed, aside from being the first Arab Country to experience the "Arab Uprising", Tunisia is an interesting case of study due its norms and laws that differ from other developing countries by the absence of taxes on dividends. It is also known by its highly concentrated ownership structure (Ben Naceur *et al.*, 2006). Hence, this study is expected to bring significant contributions to the dividend policy theory, to the practitioners as well as to the regulators and policy makers and to clarify the behaviour of firms during a revolution towards shareholders. It is noteworthy that during such events, a general crisis of confidence tends to dominate the financial markets. Accordingly, the concerned companies tend to launch initiatives to increase the investors' confidence. One of these tools is the dividend payout announcements. Hence, it is expected that the Jasmine revolution would have a positive effect on the dividend payout in Tunisia. The remainder of this study is organized as follows. Section 2 gives an idea about the literature surrounding the dividend policy. Section 3 describes the methodology and the data. Section 4 presents the results. Section 5 will conclude the study.

## **2. Literature Review**

Dividend policy is in the hard core of the corporate finance; it has captivated many researchers' interests and continues to be a hot topic. According to Brealey & Myers (2005), it is one of the top ten unresolved problems in finance. The dividend policies as well as the 'dividend puzzle' need more efforts and researches to be thoroughly understood (Allen & Michaely, 2003).

Studies focused on developed countries particularly in USA and Europe (Al-Twaijry, 2007) were considered as prototypes for recent ones focused on emerging countries and are all seeking for the main factors impacting the dividend decision. Among the studies in developed countries, Lintner (1956), Baker *et al.* (1985), Pruitt & Gitman (1991), Benartzi *et al.* (1997) and Baker & Powell (2000) examined the impact of past dividends on future ones, Fama (1974) tried to depict the effect of investment decisions on dividend policy, Baker (1988), Redding (1997), Dickens *et al.* (2002) and Mancinelli & Ozkan (2006)

considered respectively industry classification, firm size and liquidity, capital adequacy and the ownership structure of companies as key determinants of the dividend policy. Baker *et al.* (2001) showed that past dividends, stability of earnings and current and expected earnings have a prominent influence on the dividend decision. Furthermore, many researchers like Pruitt & Gitman (1991), Rozeff (1982), Lloyd *et al.* (1985), Colins *et al.* (1996) and D'Souza (1999) have considered risk as a significant determinant of the dividend decision.

Mancinelli & Ozkan (2006) were interested in Italian firms and studied the relationship between the ownership structure of companies and dividend policy and found that the payout ratio is negatively associated with the voting rights of the largest shareholders. This point was earlier discussed by Gugler (2001) who asserted that the ownership and control structure of a firm have a strong impact on the dividend payout policy. In addition, Denis & Osobov (2008) showed that signalling, clientele and life-cycle theories provide explanations of the dividend policy in USA.

For emerging countries, Singhania (2005) focused on Indian companies and found that companies paying dividends dropped from 448 in 1992 to 376 in 2004. Amidu & Abor (2006) determined the factors affecting the dividend decision of listed companies in Ghana as profits, cash-flows, taxes, risk and growth.

Ben Naceur *et al.* (2006) showed that dividends are “more sensitive to current earnings than prior dividends”. According to the authors, the determinants of dividend policy are profits, growth, the liquidity of stock market and the firm's size. The ownership concentration and the financial leverage have no impact on dividend policy in Tunisia.

Al-Twaijry (2007) identified the variables that have an influence on the dividend policy of listed Malaysian companies: “current dividends are affected by their pasts and their future prospects”. Dividends depend also of net earnings.

Anil & Kapoor (2008) found that only liquidity and year to year variability in earnings are significant determinants of the dividend payment pattern in the Indian information technology sector. In a different context, Al-Malkawi (2008) documented negative relationships between dividend payments and investment and dividend payments and corporate leverage in Jordan.

Kouki & Guizani (2009) studied listed Tunisian companies from 1995 to 2001 and found a significant and positive effect of the free cash-flow and a negative and significant effect of firm size on the dividend policy.

Contrary to Al-Malkawi (2008), Kouki & Guizani (2009) established a positive correlation between investment opportunities and dividend payments. However, a negative correlation is found between dividends and leverage. They added that a positive and strong correlation exists between concentrated ownership and the dividend decision.

Ahmad & Javid (2009) found that for Pakistani listed non-financial firms, profitability, ownership concentration and market liquidity have a positive impact on dividend policy. But, slack, leverage, market capitalization and firms' size are negatively correlated to the dividend decision.

Imran (2011) investigated the factors responsible of the dividend decision in the Pakistan's engineering: the previous dividend per share, earnings per share, profitability, cash flow, sales growth, and size of the firm are the key determinants of the dividend policy in the engineering sector of Pakistan.

El-Sady *et al.* (2012) found that the most influencing factors of dividends policies of Kuwaiti listed firms are current and future earnings and liquidity. A more focus on firm life-cycle in explaining the dividend policy is provided in this study.

It is noteworthy that the above studies have used different techniques and covered different time spans for various countries. Though their findings are mostly inconsistent against each other, they serve as a strong basis for the current study. Thus, based on the above studies, the model is developed, as will be discussed in the next section.

### 3. Methodology

The data used in this study have been collected from Bloomberg data base and spans from 2003 through 2012. The data consist of companies' specific variables, namely, dividend payout, profitability, risk, net cash flows, growth, as well as market to book value. In addition, a dummy variable has been added to illustrate the existence of the Jasmine revolution. The latter is represented by (0) when there was no Jasmine revolution and (1) during the Jasmine revolution. Hence, the model can be written as follows:

$$Payout_{it} = \beta_0 + \beta_1 Profit_{it} + \beta_2 Risk_{it} + \beta_3 Cash_{it} + \beta_4 Growth_{it} + \beta_5 MTBV_{it} + \beta_6 D_{it} + \varepsilon_{it}$$

Based on the above model, the following hypotheses were established:

*H1*: Profitability has a positive influence on the dividend payout among the Tunisian listed companies.

*H2*: Risk has a negative influence on the dividend payout among the Tunisian listed companies.

*H3*: Net cash flows have a positive influence on the dividend payout among the Tunisian listed companies.

*H4*: Growth has a negative influence on the dividend payout among the Tunisian listed companies.

*H5*: Market to book value has a negative influence on the dividend payout among the Tunisian listed companies.

*H6*: Jasmine revolution has a negative influence on the dividend payout among the Tunisian listed companies.

In order to examine the influence of the above explanatory variables on the dividend payout for Tunisian listed companies, the study uses panel data analysis. For this matter, the analysis starts by estimating the pooled OLS model and subsequently uses the Breusch-Pagan Lagrangian Multiplier (LM) test to check the suitability of POLS for this model, otherwise, the model will be tested with random effects, and subsequently diagnosed using Hausman test for the correlated random effects, which will give hints on the suitability of either random or fixed effects for the above model.

## **4. Results**

### **4.1. Pooled OLS**

Having ensured that all the variables are stationary, the first step is to test the model using pooled OLS. Table 1 shows a summary of the pooled OLS results. As it can be noticed, two variables are found to be significantly influencing the dividend payout among the Tunisian listed companies, namely, risk and growth. These two variables explain about 15 per cent of the variation in the dividend payout. The other variables, including the occurrence of the Jasmine revolution were not significantly influencing the dividend payout.

Table 1: Pooled OLS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	53.94352	14.65469	3.680973	0.0004
PROF	98.03679	133.8632	0.732365	0.4656
RISK	-1.197316	0.436254	-2.744541	0.0072
CASH	1.467117	0.929388	1.578584	0.1176
MKTTOBK	-0.925548	1.984306	-0.466434	0.6419
GROWTH	-0.115267	0.034086	-3.381635	0.0010
UPRISING	11.64734	14.21898	0.819140	0.4146

After estimating the pooled OLS model, it is necessary to determine whether this is an appropriate estimate, or a further step towards random effects has to be undertaken. For this purpose, the Breusch-Pagan Lagrangian Multiplier (LM) test is conducted. The LM tests the null hypothesis that variance across units is equal to zero, in other words, there is no significant difference across units (Engle, 2007). The test is given by:

$$LM = \frac{NT}{2(T-1)} \left[ \frac{\sum_{i=1}^N (\sum_{t=1}^T \hat{\epsilon}_{it})^2}{\sum_{i=1}^N \sum_{t=1}^T \hat{\epsilon}_{it}^2} - 1 \right]^2$$

where  $N$  is the number of units and  $T$  is the time span. The epsilon term refers to the residuals produced by the pooled OLS estimation. The LM test follows the chi-square distribution with one degree of freedom (Hidayat and Abduh, 2012).

The calculated LM test indicates a value of 80.65 which is higher than the tabulated value of 3.84, corresponding to 1 degree of freedom and 10 per cent error margin. Hence, it is required to further analyse the data using the random effects.

#### 4.2. Random effect model

The random effect model assumes that the units' error terms are not correlated with the predictors (Menard, 2008). Table 2 shows a summary of the regression model taking into account the random effects. It can be noticed that the results are slightly different from those produced under the pooled OLS model. The results indicate that three variables significantly influence the dividend payout, namely, net cash flows, market to book value, as well as sales growth. These three variables explain around 12 per cent of the variation in the dependent variable. It is noteworthy also that even though the Jasmine revolution

is still not significant at 5 per cent, it becomes significant at 10 per cent under the random effect model. Meanwhile, the remaining variables are still non-significant.

Table 2: Random effects model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	47.70645	15.49112	3.079601	0.0027
PROF	158.6903	131.6553	1.205347	0.2309
RISK	-0.292092	0.338860	-0.861984	0.3907
CASH	2.259090	0.992082	2.277120	0.0249
MKTTOBK	-4.284493	2.000930	-2.141251	0.0347
GROWTH	-0.133365	0.042222	-3.158658	0.0021
UPRISING	17.78611	9.459635	1.880211	0.0630

In the final stage, it is necessary to assess the suitability of the random effect model vis-à-vis the fixed effects model. For this matter, the Hausman test for random effects will be used. The Hausman test is based on the null hypothesis that the preferred model is random effects versus the fixed effects model (Amini, Delgado, Henderson, and Parmeter, 2012). It specifically tests whether the unique errors  $u_i$  are correlated with the regressors, and the null hypothesis is that they are not (Gardiner, Luo and Roman, 2009).

Table 3: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.601212	6	0.0161

The Hausman test shows a Chi square value of 15.60 with a degree of freedom of 6. The corresponding probability is 0.0161 which is less than 0.05. Hence, it can be concluded that the model estimated with fixed effects will provide better outcome compared to the one with random effects. Thus, the model that will be considered is with fixed effects.

#### 4.3. Fixed effect model

In the fixed effect model, it is assumed that each unit has its own characteristics that are different from the other units (Gyimah and Oscar, 2011). Therefore, the error terms and constants for every unit should not be correlated with the remaining units (Plumper and Troeger, 2004). Furthermore, the fixed effects model assumes that some individual characteristics may bias the influence of the predicting factors, which has to be controlled (Clarke, Crawford, Steele, and Vignoles, 2010). Hence, the model removes the possible



effect of these characteristics to identify the pure effect of the predictors.

Having ensured that the panel regression model with fixed effects is the appropriate model for this study, Table 4 shows the model summary. The results indicate that two variables significantly influence the dividend payout, namely, cash flows and market to book value. These two variables explain about 74 per cent of the variation in the dependent variable. It is worth noting at this level, that the Jasmine revolution is only significant at 10 per cent.

Table 4: Fixed effects model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	76.38607	42.46202	1.798927	0.0761
PROF	137.6286	158.8348	0.866489	0.3890
RISK	-0.026850	0.357744	-0.075054	0.9404
CASH	2.987776	1.308077	2.284098	0.0252
MKTTOBK	-7.014891	2.483418	-2.824691	0.0061
GROWTH	-0.360021	0.215325	-1.671991	0.0987
UPRISING	18.59878	9.654570	1.926422	0.0578

From the results in Table 4, it can be concluded that out of the above six hypotheses, only two were supported, namely H3 and H5, stating that net cash flows and market to book value have respectively a positive and negative influence on the dividend payout among the Tunisian listed companies. The remaining hypotheses, namely H1, H2, H4 and H6 were all rejected. These findings are in line with those of Amidu and Abor (2006) with regards to net cash flow and market to book value outcomes. However, the findings also contradict those of Wan Tahir (2009) regarding the other factors. This could be due to the development stage of the Tunisian business environment and particularly the slight influence of the former political regime.

## 5. Discussions and Conclusions

The main objective of the study was to examine the factors determining the dividend payout dynamics among the Tunisian listed companies. Similarly, the study was also aimed at identifying the possible impact of the Jasmine revolution on the dividend payout in a country that was one of the earliest to be affected by the “Arab uprisings”. The findings showed that among the factors initially considered; only net cash flows and market to book value have a significant influence on the dividend payout among the Tunisian listed

companies. Meanwhile, the occurrence of the Jasmine revolution did not have any effect on the dividend payout.

These findings have significant implications for the literature, the policy makers and regulators as well as to the practitioners and investors. Specifically, the study extends the literature on the dividend policy towards a new context which is that of Tunisia. Furthermore, the study also enriches the literature by considering an important political and social event, not only in the region but also globally, since the Jasmine revolution has provoked similar movements in many other countries, including European countries such as Spain, France, Greece, etc. Hence, the study provides insights on the possible influence of similar events on the dividend policy and the other factors that may influence its dynamics. This would also assist policy makers, regulators, as well as investors in elaborating strategies and policies for an optimal use of the dividend policy tools.

Though the study has brought about some significant contributions, it still suffers from some limitations that need to be addressed in the future studies. Firstly and mainly the future studies could use a larger time span and probably more units compared to the current study, by including more companies. Secondly, the future studies could also focus on a set of similar countries, especially those that have faced the Arab uprisings such as Egypt, Libya, Bahrain, etc.

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