

Value of Financial Flexibility and Firm's Financial Policies: Empirical Evidence from the Firms Listed in Tehran Stock Exchange

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Abstract

The main objective of this paper is to investigate the relationship between financial flexibility and financial policies of the firms listed on Tehran stock exchange. The population of this descriptive-correlational study is comprised of all firms listed on Tehran stock exchange during the years 2010 to 2014. From this population, a sample of 155 firms is created through systematic elimination. The research hypotheses are investigated via multivariate regression, integrated data model and estimated generalized least squares (EGLS) methods. This research uses panel data technique as its statistical method, and utilizes Eviews9 and Excel softwares for data analysis. Results of investigations show that value of financial flexibility has significant inverse relationship with firm's dividend payouts, its financial leverage, and the change in its cash balance. The results also suggest that firms putting more value to their financial flexibility have lower dividend payouts, prefer stock redemption to paying dividends, have lower leverage ratios, and tend to accumulate more cash.

Keywords: financial flexibility, statistical population, financial leverage, cash balance, dividend

1. Introduction

Economic measures and objectives help enterprises to implement their policies and move toward establishing a successful business. The real success of a policy depends on three basic factors: firm's consistency with its surrounding environment, the presence of realistic internal understanding about its major capabilities and competitive advantages, and careful implementation and close monitoring of its policies and procedures. Adopted financial policies must be robust and precise enough to give the firm an efficiency-based advantage over its competitors.

Financial flexibility reflects a firm's ability to cope and deal with future events and plays an important role in enabling managers to make future investments (Bouchani et al., 2015). It can be said that financial flexibility acts as a measure for a firm's ability to mobilize its financial resources in response to uncertain future contingencies (Byoun, 2012) or its ability to access its financial resources at the lowest cost to make a timely response to unexpected changes in cash flow or investment opportunities (Denis, 2012). Financial Accounting Standards Board (FASB) has also defined financial flexibility as the ability of an institution to take effective measures to change the trends of cash flow in response to unexpected needs and opportunities (Robert, 2015).

The main objective of this paper is to investigate the relationship between financial flexibility and financial policies of the firms listed on Tehran stock exchange. In this paper, the term "financial policy" refers to dividend policy, capital structure and level of cash holdings.

2. Problem Statement

The purpose of a financial statement is to provide categorized information about the financial situation, financial performance and financial flexibility of a business entity in order to assist a wide range of users in their economic decisions (Gamba, 2013); so understanding the financial challenges of business is an important aspect of economics and finance research (Gamba & Triantis, 2008). Financial flexibility is commonly defined as a company's ability to restructure and access financial resources with minimum costs. Flexibility is considered among a firm's most valuable features, since it reduces underinvestment due to lack of funding opportunities and even prevents the surge of financial crisis. In an efficient capital market, companies can always make their desired level of investment and do not have to pay a sizable price for adjusting their financial structure in the

event of unexpected growth or liquidity contingencies. An inefficient capital market however increases the cost of external financing and this is where the notion of financial flexibility demonstrates its significance (Ferrando et al., 2013). Weakness of capital market pushes companies to maintain their flexibility and thus their readiness to use profitable opportunities. Financially flexible companies maintain a reserve of untapped borrowing power, which enables them to make larger investments after the expiration of their conservative policies (Marchica & Mura, 2009). Thus, financial flexibility considerations hold a central position in companies' decisions regarding their financial policies, and most companies put great effort in maintaining their financial flexibility in order to adapt to the competitive environment of today's global markets (Jamshidinavid, 2015). In this context, this paper presents an empirical approach for estimating the value of financial flexibility from the perspective of shareholders, and then investigates its relationship with the company's financial policies. In the end, this paper determines that whether the value of financial flexibility has a significant impact on a firm's financial leverage, dividend payouts, and its level of cash holdings.

3. Significance and Necessity of Research

Today, financial flexibility has become one of the most important concepts in theorization and implementation of financial policies. Most of the current discussions about financial policies are somehow focused on flexibility models, since they are one of the most important aspects of financial resource management. To achieve sustainable economic development, countries need to mobilize their capital resources and allocate them to productive economic activities, and accomplishing this task requires proper development of the financial sector, especially the capital market, and above all the stock exchange. This development can be accomplished only by providing good infrastructure and encouraging investors to participate in these markets. Inadequate development of capital market has highlighted the companies' need to maintain their flexibility and thus their readiness to use profitable opportunities (Bouchani et al., 2015) and this paper studies the effect of financial flexibility on financial policies such as financial leverage, dividend payouts, and level of cash holdings, so it can provide a new perspective on issues related to investment and stock market, and also on discussions about investment returns. Furthermore, the market-based and forward looking attitude of the discussed measure distinguishes this paper from other similar studies, since this measure is not under the direct influence of past financial decisions.

4. Research Objectives

1. Assigning a value to financial flexibility
2. Determining the effect of value of financial flexibility on the dividend policy
3. Determining the effect of value of financial flexibility on the capital structure
4. Determining the effect of value of financial flexibility on the level of cash holdings

5. Research Hypotheses

H1: Value of financial flexibility has a direct significant impact on the dividend policy of stock exchange listed companies.

H2: Value of financial flexibility has a direct significant impact on the financial leverage of stock exchange listed companies.

H3: Value of financial flexibility has a direct significant impact on the (level of) cash holdings of stock exchange listed companies.

6. Financial Flexibility

Most business executives believe that financial flexibility plays a key role in their ability to make future investments (Bancel & Mitoo, 2004). According to Modigliani and Miller (1963) and Myers (1984), flaws of capital market have forced the companies to always strive for financial flexibility in order to maintain their readiness to use lucrative opportunities. Myers (1977) has showed that how the threats posed by firm's liabilities may deprive it from using profitable opportunities even when directors and shareholders are both interested in these opportunities. Financially flexible companies maintain a reserve of untapped borrowing power, which enables them to make larger investments after the expiration of their conservative policies.

Financial flexibility reflects a company's ability to cope and deal with future events.

Heath (1978) has defined the financial flexibility as "company's ability to take corrective measures toward eliminating an excess of required cash payments over expected cash receipts quickly and with minor adverse effect on its present and future earnings or on the market value of its stock". The American Institute of Certified Public Accountants (AICPA, 1993) has also used Heath's definition of financial flexibility, i.e. "the ability to

take action that will eliminate an excess of required and expected cash payments over expected resources” (Byoun, 2007).

6.1 Financial Flexibility and Financial Policies

Understanding corporate financing decisions is a key challenge in financial-economic studies. In recent decades, various approaches such as agency costs and market inefficiencies were used to analyze and optimize the corporate decisions. However, the evidence gathered by the decision-makers show that there is another important factor that has received limited attention in the literature, and this factor is the financial flexibility. According to Gamba and Triantis (2008), financial flexibility is a company’s ability to restructure and access financial resources with minimum costs. From this perspective, there are two channels through which financial flexibility will be valuable to companies: First, the financial flexibility can alleviate the underinvestment problems in the event of limited access to capital, and second, it can help to avoid the costs associated with financial distress. This paper provides a new approach for estimating a value for financial flexibility from the perspective of shareholders, and then investigates its relationship with three important financial policies (dividend policy, capital structure, and level of cash holdings).

7. Background

Results of a study by Bagherbeigi et al. (2012) have shown that the financial flexibility, size and profitability of companies have no significant relationship with their growth opportunities. That study has also reported that financial flexibility and profitability of a company have no significant relationship with its future value.

In a study by Rahmani et al. (2012), authors have reported that financial flexibility has had a negative impact on the level of investment, and an important significant positive impact on value creation; they have also stated that financially flexible companies has had a higher value from the market perspective.

In a study by Alinejadi (2013), author has reported that in all firms investigated in his work, financial flexibility has had a positive significant relationship with abnormal stock returns. This author has argued that companies with greater financial flexibility have a higher level of competitiveness, which is reflected in their abnormal returns; he has also stated that in the investigated companies, the abnormal returns (excess return as compared to normal market return) has increased by the increase of financial flexibility.

In a study by Darabi (2013), author has investigated the relationship between financial flexibility and capital structure decisions, and has reported that from the market perspective the final value of cash is negative, and there no significant relationship between financial flexibility and capital structure decisions. He has also reported that while making decisions regarding the increase or decrease of their debt, companies often ignore their own flexibility.

A study by Aslani and Zanjirdar (2014) has reported that there is a significant positive relationship between financial flexibility and investment opportunities, which means that financially flexible companies are more efficient in using investment opportunities, and thus have a higher profitability.

In an article by Gamba and Triantis (2005), authors have stated that financially flexible companies can better avoid financial distresses caused by negative shocks, and their low investment costs means that they can profit more from lucrative opportunities. In that article, they showed that the value of financial flexibility depends on the costs arising from external finance and personal tax rates (as the effective factors of cash holdings) and the return on investment.

Marchica and Mura (2007) have reported that there is a significant relationship between financial flexibility and investment; in other words, on the follow up of a low leverage policy, financially flexible companies are more capable of dealing with capital costs.

Arslan et al. (2010) have reported that those companies that were financially flexible throughout the course of their study were more capable of profiting from investment opportunities and were less dependent on the availability of their internal resources to fund investments. They have also reported that companies with higher financial flexibility have a better performance.

Another research by Arslan et al. (2013) has shown that during 1997-1998 and 2007-2008 East Asian financial crises, those companies that had a higher liquidity ratio were significantly more capable in maintaining their financial performance and dealing with higher capital expenditures.

Rajaei and Batuteh (2013) have reported that there is no significant relationship between ownership structure and financial flexibility.

In an article by Rapp et al. (2014), authors have studied the relationship between the value of flexibility and three

aspects of financial policies. Their results have shown that companies that put more value to their financial flexibility pay lesser amounts of dividends, prefer stock redemption to paying dividends, have lower leverage ratios, and tend to accumulate more cash.

8. Methodology

This study is an applied research in terms of its objectives, and a descriptive correlational research in terms of its approach. It uses regression and correlation techniques to evaluate the relationships between variables, so it is based on inductive reasoning. This study also falls into the category of proof theories. The population of this research is comprised of all firms listed on Tehran stock exchange during the years 2010 to 2014; from this population, 155 firms are selected to act as samples.

8.1 Research Models and Variables

The following model is used to test the first hypothesis:

$$DI_{i,t} = \beta_0 + \beta_1 VOFF_{i,t-1} + \beta_2 RE_{i,t} + \beta_3 TE_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SGR_{i,t} + \beta_6 logsize_{i,t} + \beta_7 cash_{i,t} + \beta_8 vol_{i,t} + \varepsilon_{i,t}$$

$DI_{i,t}$ - dividend policy of firm i in year t

$VOFF_{i,t-1}$ - value of financial flexibility for firm i in year t-1, which must be calculated via the following formula:

$$\begin{aligned} r_{i,t} - R_{i,t}^B = & \gamma_0 + \gamma_1 \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_2 SGR_{i,t} + \gamma_3 \frac{\Delta E_{i,t}}{M_{i,t-1}} + \gamma_4 Spread_{i,t} + \gamma_5 Tang_{i,t} + \gamma_6 SGR_{i,t} * \frac{\Delta C_{i,t}}{M_{i,t-1}} + \\ & \gamma_7 \frac{\Delta E_{i,t}}{M_{i,t-1}} * \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_8 spread_{i,t} * \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_9 Tang_{i,t} * \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_{10} \frac{C_{i,t-1}}{M_{i,t-1}} + \gamma_{11} \frac{\Delta NA_{i,t}}{M_{i,t-1}} + \gamma_{12} \frac{\Delta RD_{i,t}}{M_{i,t-1}} + \\ & \gamma_{13} \frac{\Delta I_{i,t}}{M_{i,t-1}} + \gamma_{14} \frac{\Delta D_{i,t}}{M_{i,t-1}} + \gamma_{15} L_{i,t} + \gamma_{16} \frac{NF_{i,t}}{M_{i,t-1}} + \varepsilon_{i,t} \end{aligned}$$

$r_{i,t} - R_{i,t}^B$ - Abnormal stock returns for firm i in year t.

$\Delta C_{i,t}$ - denotes unusual changes in cash balance.

$L_{i,t}$ – the ratio of liabilities to the sum of liabilities and market value of equity for firm i in year t.

$NF_{i,t}$ - The sum of difference between the book value of the i-th company's equity in year t and year t-1 and difference between its liabilities in the same years.

The second hypothesis is tested by the following models:

$$L_{i,t} = \beta_0 + \beta_1 VOFF_{i,t-1} + \beta_2 IndLev_{i,t-1} + \beta_3 TobQ_{i,t-1} + \beta_4 Tang_{i,t-1} + \beta_5 ROA_{i,t-1} + \beta_6 logsize_{i,t-1} + \varepsilon_{i,t}$$

$$LT_{i,t} = \beta_0 + \beta_1 VOFF_{i,t-1} + \beta_2 IndLev_{i,t-1} + \beta_3 TobQ_{i,t-1} + \beta_4 Tang_{i,t-1} + \beta_5 ROA_{i,t-1} + \beta_6 logsize_{i,t-1} + \varepsilon_{i,t}$$

$L_{i,t}$ – the ratio of liabilities to the market value of equity for firm i in year t.

$LT_{i,t}$ - the ratio of long-term debt to the market value of equity for firm i in year t.

$VOFF_{i,t-1}$ - value of financial flexibility for firm i in year t-1.

$IndLev_{i,t-1}$ - the average financial leverage (with respect to the dependent variable) of the industry for firm i in year t-1.

$TobQ_{i,t-1}$ - Tobin's Q index for firm i in year t-1.

$Tang_{i,t-1}$ – the sum of value of property, plant and equipment divided by total assets for firm i in year t-1.

$ROA_{i,t-1}$ - the ratio of net revenue to total value of assets for firm i in year t-1.

$logsize_{i,t-1}$ - Logarithm of the assets of firm i in year t-1.

The third hypothesis is tested by the following models:

$$\begin{aligned} \Delta Cash_{i,t} = & \beta_0 + \beta_1 VOFF_{i,t-1} + \beta_2 logsize_{i,t} + \beta_3 TobQ_{i,t} + \beta_4 ROA_{i,t} + \beta_5 WC_{i,t} + \beta_6 Capex_{i,t} + \beta_7 L_{i,t} + \beta_8 CFO_{i,t} \\ & + \beta_9 RDT_{i,t} + \varepsilon_{i,t} \end{aligned}$$

$\Delta Cash_{i,t}$ - The difference between cash balance of firm i in year t and year t-1 divided by its assets in year t.

$VOFF_{i,t-1}$ - value of financial flexibility for firm i in year t-1.

$logsize_{i,t}$ - Logarithm of the assets of firm i in year t.

$TobQ_{i,t}$ - Tobin's Q index for firm i in year t.

$ROA_{i,t}$ - the ratio of net revenue to total value of assets for firm i in year t.

$WC_{i,t}$ - The ratio of working capital to assets for firm i in year t.

$Capex_{i,t}$ - The ratio of capital expenditure to assets for firm i in year t.

$L_{i,t}$ - the ratio of liabilities to the market value of equity for firm i in year t.

$CFO_{i,t}$ - the ratio of operating cash flow to assets for firm i in year t.

$RDT_{i,t}$ - the ratio of selling, general and administrative expenses to assets for firm i in year t.

8.2 Descriptive Statistics

This type of statistics describes the features of samples, and its objective is to determine the parameters of population (Azar & Momeni, 2010).

Table 1. Descriptive indices of research variables

research variables	Mean	Median	Maximum	Minimum	Standard deviation
Dividend policy	0.476	0.509	1.399	0.000	0.389
Flexibility value	-0.716	-0.748	2.045	-2.76	0.882
Residual income	0.015	0.017	0.619	-0.493	0.101
Equity	0.348	0.356	0.903	-0.879	0.253
Net profit	0.092	0.082	0.631	-0.493	0.15
Growth in sales	0.19	0.162	1.46	-0.679	0.331
Firm size	5.877	5.821	8.172	4.356	0.622
Cash balance	0.04	0.026	0.46	0.0006	0.047
Fluctuations in stock returns	0.612	0.39	5.91	0.008	0.712
Stock returns	0.526	0.2	6.899	-0.695	1.01
Liabilities	1.754	1.057	9.794	0.028	1.957
Long-term debt	0.292	0.093	4.389	$1/82 \times 10^{-5}$	0.581
Tobin's Q index	1.451	1.279	3.869	0.489	0/597
Property, plant and equipment	0.238	0.195	0.87	0.002	0.172
Change in cash balance	0.007	0.002	0.197	-0.186	0.037
Working Capital	0.105	0.124	0.676	-0.689	0.229
Capital expenditures	0.048	0.029	0.371	$4/24 \times 10^{-5}$	0.057
Operating cash flow	0.112	0.097	0.579	-0.18	0.121
selling, general and administrative expenses	0.052	0.043	0.472	0.002	0.045

8.3 Reliability of Variables

The reliability of the variables can be proven by establishing that the mean and variance of variables over time and covariance of variables between different years are constant. This will ensure that using these variables in the model does not create spurious regression. A series of tests such as Levin, Lin, and Chu (LLC), Im, Pesaran and Shin (IPS), and Dickey-Fuller can be used for this purpose.

Table 2. The table of IPS (Im, Pesaran and Shin) test

research variables	Dividend policy	Flexibility value	Residual income	Equity	Net profit	Growth in sales	Firm size	Cash balance	Fluctuations in stock returns	selling, general and administrative expenses
t-statistic	-10.87	-5.687	-20.165	-9.287	-15.085	-25.025	-9.287	-13.749	-14.479	-17.077
Level of significance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
research variables	Stock returns	Liabilities	Long-term debt	Tobin's Q index	property, plant and equipment	Change in cash balance	Working Capital	Capital expenditures	Operating cash flow	
t-statistic	-8.251	-13.975	-14.274	-10.084	-10.412	-35.096	-14.091	-19.93	-14.666	
Level of significance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

According to this table, significance levels corresponding to all variables are less than 5%, and therefore

reliability of all research variables is established.

8.4 Investigating the Research Hypotheses

Table 3. Results regarding the test of first hypothesis

Variable	coefficient	Standard error	t-statistic	Level of significance
Constant value	0.095	0.241	0.396	0.692
Flexibility value	-0.007	0.016	-5.436	0.000
Residual income	-3.317	0.399	-8.311	0.000
Equity	0.273	0.124	2.188	0.029
Net profit	2.241	0.279	8.019	0.000
Growth in sales	0.026	0.046	0.558	0.577
Firm size	0.035	0.039	0.885	0.376
cash balance	-0.644	0.381	-1.69	0.092
Fluctuations in stock returns	-0.006	0.02	-0.311	0.755
F-statistic		21.396	Coefficient of determination	0.373
significance level of F-statistic		0.000	adjusted coefficient of determination	0.355
EGLS method (eliminates the potential effects of heterogeneity of variance)			Durbin-Watson statistic	1.866

According to the above table, since the t-statistic of flexibility value (-5.436) is greater than -1.965 and its significance level is less than 0.05, it can be concluded that there is a significant relationship between the value of flexibility and dividend policy of firms listed in Tehran stock exchange.

This is while control variables of equity and net profit have direct significant relationships with dividend policy, and residual income has a negative significant relationship with that variable.

8.5 Investigating the Second Hypothesis

Table 4. Results regarding the test of second hypothesis (using total liabilities)

Variable	coefficient	Standard error	t-statistic	Level of significance
Constant value	1.034	0.743	1.391	0.165
Flexibility value	-0.036	0.024	-4.518	0.000
Average financial leverage	0.42	0.062	6.701	0.000
Tobin's Q index	-0.052	0.04	-1.322	0.187
Property, plant and equipment	0.224	0.328	0.685	0.493
Net profit	-1.55	0.289	-5.357	0.000
Logarithm of assets	0.211	0.124	1.695	0.091
F-statistic		14.33	Coefficient of determination	0.838
significance level of F-statistic		0.000	adjusted coefficient of determination	0.779
EGLS method (eliminates the potential effects of heterogeneity of variance)			Durbin-Watson statistic	2.478

According to the above table, since the t-statistic of flexibility value (-4.518) is greater than -1.965 and its significance level is less than 0.05, it can be concluded that there is a significant negative relationship between the value of flexibility and liabilities of firms listed in Tehran stock exchange.

This is while control variable of net profit has negative significant relationship with dependent variable, and control variables of average financial leverage of the industry has a positive significant relationship with that variable.

8.5 Investigating the Third Hypothesis

Table 5. Results regarding the test of third hypothesis

Variable	coefficient	Standard error	t-statistic	Level of significance
Constant value	0.002	0.03	0.076	0.939
Flexibility value	-0.002	0.002	-3.379	0.001
Logarithm of assets	-0.002	0.004	-5.253	0.000
Tobin's Q index	0.008	0.005	1.633	0.103
Net profit	0.006	0.028	0.215	0.829
Working Capital	0.011	0.014	4.589	0.000
Capital expenditures	0.015	0.043	4.237	0.000
liabilities	0.001	0.002	0.737	0.461
Operating cash flow	0.058	0.022	2.6	0.009
selling, general and administrative expenses	-0.037	0.075	-0.498	0.618
F-statistic		12.394	Coefficient of determination	0.261
significance level of F-statistic		0.000	adjusted coefficient of determination	0.235
EGLS method (eliminates the potential effects of heterogeneity of variance)			Durbin-Watson statistic	2.467

According to the above table, since the t-statistic of flexibility value (-3.379) is greater than -1.965 and its significance level is less than 0.05, it can be concluded that there is a significant negative relationship between the value of flexibility and (level of) cash holdings of firms listed in Tehran stock exchange.

This is while control variable of logarithm of assets has a significant negative relationship with dependent variable, and control variables of working capital, capital expenditures, operating cash flow all have positive significant relationships with that variable.

9. Conclusion

The integrated data model and estimated generalized least squares (EGLS) method were used to investigate the first hypothesis, which stated that “financial flexibility has a significant impact on dividends”. The results showed that value of financial flexibility has a significant negative impact on dividends paid by company. This result is consistent with the results of studies conducted by Maleki (2011) and Rapp et al. (2014), and is in conflict with the results of study conducted by Arsalan et al. (2013).

The above mentioned approach was also used to investigate the second hypothesis, which stated that “financial flexibility has a significant impact on financial leverage”. The results showed that value of financial flexibility has a significant negative impact on current liabilities and long-term debt (and so on leverage), which is consistent with the results of study conducted by Rapp et al. (2014).

The same approach was also used to investigate the third hypothesis, which stated that “financial flexibility has a significant impact on the level of cash holdings”. The results showed that value of financial flexibility has a significant negative impact on changes in cash balance, which is in conflict with the results of study conducted by Rapp et al. (2014).

In the study by Rapp et al. (2014) titled “The value of financial flexibility and corporate financial policy”, authors investigated the relationship between the value of financial flexibility and three aspects of financial policies, and reported that “firms for which shareholders consider financial flexibility more valuable have lower dividend payouts, prefer share repurchases to dividends, and exhibit lower leverage ratios.”

10. Recommendations

10.1 Practical Recommendations

Shareholders investing in companies listed in Tehran stock exchange are recommended to:

- 1) Pay due attention to the value of financial flexibility for the firms whose shares they are buying or trading, in order to earn better returns on investment.
- 2) Use the financial leverage (total liabilities and long term debts) as a metric to measure the value of financial flexibility for a firm (the lower this metric, the better), since it has significant positive impacts on its

performance.

- 3) Use the changes in cash balance as a metric to measure the value of financial flexibility for a firm (the lower this metric, the better), since it also brings positive benefit to the firm's performance.

10.2 Suggestions for Future Research

Future studies regarding this subject are recommended to:

- 1) Incorporate variables of stock returns and abnormal stock price into the study and compare the results.
- 2) Use the ratio of dividends to total assets in the study and compare the results.
- 3) Estimate the variables separately for different industries.

10.3 Research Limitations

- 1) Taking samples from a longer time period would have reduced the number of firms in statistical population and samples, which in turn would have reduced the research validity and its ability to investigate the studied relationships.
- 2) Political and economic conditions and the psychological atmosphere of the Tehran stock exchange are the uncontrolled factors that may have affected the variables of the study.
- 3) The data extracted from the financial statements have not been adjusted to include the inflation effects. Due to variation of inflation rates over the study period, this adjustment may have led to different results.

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