

The Effect of the Financial Leverage on the Profitability in the Tourism Companies (Analytical Study- Tourism Sector- Jordan)

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Abstract

This study aims to identify the financial leverage ratio and the rate of return on investment on profitability for sources of the funding in tourism companies which operating in Jordan. And to achieve this study the researcher use some companies related to the Tourism sector from the firms that listed in Amman Stock Exchange.

The study finds the existence of a statistically significant impact for the independent variables (financial leverage and ROI) of the Tourism companies on the Profitability. Moreover, this study concluded that the independent financial variables explain the 4.4% percentage of changes occurring in the Profitability since they are considered as the dependent variable. Furthermore, the results indicate the presence of a statistically significant impact for the financial leverage on the Profitability of the Tourism companies listed in the Amman Exchange.

Keywords: Financial Leverage, Profitability, Tourism Sector, Amman Stock Exchange, Equity, Loan, Operating Leverage

1. Introduction

During the last years, Jordan witnessed a great development in various economic fields, and the development of Tourism sector is considered to be one of the main important aspects of economic progress in Jordan. It should be mentioned that Amman Stock Exchange has been established in 1976 and started working in the beginning of 1978. During the past decade, the market witnessed a number of changes and developments: the number of companies listed in

financial market increased from 163 companies in 2000 to become 277 in 2010, all of them working in different economic sectors (Amman Stock Exchange, 2011). Within the scope of modernization of capital market in Jordan, the Jordanian government validated a number of laws in 1997 which aim at developing the capital, including securities law where securities commission, Amman Stock Exchange, and securities depository center were established according it.

Investment is defined as current sacrifice of certain financial values in order to obtain future uncertain values whereas the investor sacrifices a part or all of his wealth by freezing his funds and using them in investments with the hope of increasing these funds. Therefore, investment has two features; first the investment must usually generate returns; second these returns are uncertain and subject to fluctuations and volatility. Subsequently, the return on investment is the expected amount added to the wealth or returns during a future period of time. As long as this return is related to the future, it is uncertain, in other words it carries a number of risks that are usually measured quantitatively through contrast or standard deviation of potential returns.

When we talk about leverage we have to remember it helps both the investor and the firm to invest or operate. However, it comes with greater risk. If an investor uses leverage to make an investment and the investment moves against the investor, his or her loss is much greater than it would've been if the investment had not been leveraged - leverage magnifies both gains and losses. In the business world, a company can use leverage to try to generate shareholder wealth, but if it fails to do so, the interest expense and credit risk of default destroys shareholder value.

Any ratio used to calculate the financial leverage of a company to get an idea of the company's methods of financing or to measure its ability to meet financial obligations. There are several different ratios, but the main factors looked at include debt, equity, assets and interest expenses, a ratio used to measure a company's mix of operating costs, giving an idea of how changes in output will affect operating income. Fixed and variable costs are the two types of operating costs; depending on the company and the industry, the mix will differ.

Companies with high fixed costs, after reaching the breakeven point, see a greater increase in operating revenue when output is increased compared to companies with high variable costs. The reason for this is that the costs have already been incurred, so every sale after the breakeven transfers to the operating income. On the other hand, a high variable cost company sees little increase in operating income with additional output, because costs continue to be imputed into the outputs. The degree of operating leverage is the ratio used to calculate this mix and its effects on operating income.

2. The Study Problem

The critical economic situation through which the Kingdom of Jordan became in dire need to exploit and manage funds as efficiently as possible, but noted the absence of strategy or clear vision with Jordanian companies to do so, especially with regard to the structure of the funding optimization, and the degree of leverage is optimal, and confirms the results of telephone interviews Expeditionary that have been made with many CFOs of public shareholding companies about the most important criteria and considerations that are taken into account

when deciding funding; where there is no agreement to a certain standard, but ranged standards between cost and speed of access to finance, and limitations of the financiers, and the policy of the senior management.

As a result of the foregoing from blurred vision, and the presence of the apparent discrepancies in the results of previous studies - that might have due to the variation factors and environmental variables for each study - the matter requires an emphasis on the need to resolve differences and differences made in these studies by building a model of financing takes into account the most important determinants financial sources of funding equity and borrowed, Which is supposed to be used by decision makers in the financial investment funding in line with the reality of the Jordanian environment for investment, which requires the work of studies and research that may contribute to facilitate the task of deciding the funding and determine the optimal financing structure.

From the above problem the researcher can be formulated the study problem by the following key question:

What is the impact each of financial leverage and the cost of funding (equity and borrowed) on the profitability in the tourism sector's companies in Jordan?

3. The study Importance

This study is one of the first attempts scientific in Jordan aimed at clarifying the rules and decisions of financing investments in tourism companies in Jordan, where it connects between the cost of funding and financial leverage and their effect on profitability, by selecting the rate of return on investment, and consistent the content of this study with the trends modern financial management identified by many researchers, such as (Brigham & Neveu, 1981), (Heart & Copeland, 1993) (Gapenski, 2002).

And the impact of the cost of financing and financial leverage on return on investment and in particular the subject of profitability, where it can contribute to the construction of a practical framework for financial decision-making in the areas of management and the use of funds to achieve maximize the market value of the business, and this represents a basic goal of financial management contemporary, and thus a target CFOs of major in tourism companies.

Through the review of studies that have addressed the issue of leverage in the funding structure, show a dearth of clear in the application of specific variables of the theory of finance in the Arab countries in general - and in Jordan in particular - where is the study of the practical side in the fields of finance and investment is an urgent need to know the extent to which the Chief Financial Officer for compatibility between the borrower and the financing ratios and their relationship to the property at a cost of financing and leverage and then determine the impact of such a success in achieving the best return sought by the investment institutions.

4. Objectives of the study

This study aims to:

- (1) Identify the leverage ratio for sources of the borrowed funding in tourism companies operating in Jordan.
- (2) Identify the impact of the financial Leverage and the rate of return on investment on profitability in the tourism companies operating in Jordan.
- (3) Identify the impact of the cost of funding on the rate of return on investment and profitability in the tourism companies operating in Jordan.
- (4) Identify the most important criteria and determinants which influence in the selection of the source of financing investments.
- (5) Reaching to scientific and practical results which will help the financial decision-maker in Jordan to choose between funding decisions, and thus choose the optimal financing structure.

5. The study Hypotheses

To accord with the study importance & the study objective, the researcher put many hypotheses to explain the matter of study as follow:

(1) The main Hypothesis

There is no statistically significant relationship between the total cost of funding (the Equity and the borrower) and profitability, including the rate of return on investment for the companies of the tourism sector in Jordan.

(2) The 1st Sub- Hypothesis

There is no statistically significant relationship between the cost of funding in Equity and profitability for the companies of the tourism sector in Jordan.

(3) The 2nd Sub- Hypothesis

There is no statistically significant relationship between the cost of funding by loans (Borrowing) and profitability for the companies of the tourism sector in Jordan.

6. Literature Review

6.1 Smith and his colleagues study (conducted in 1990) entitled: "the Impact of Financial Leverage on Return on Investment"

This study has been conducted on a group of 59 companies among the American industrial companies, and it shows the existence of a relationship between financing cost and financial leverage which influences on the return on investment. Moreover, the study recommended that the cost of borrowed and possessed financing must be used to eliminate the impacts of financial inflation that is shown in the financial statements, in order to determine the true and net value

of returns and achieve the budget between financing cost and the financial leverage.

6.2 Al Khalayla (1998) study, entitled: Correlation degree between measures of financing risk and its Relationship with market beta and aggregate risk”

The study has found a strong and statistically significant correlation with 1% importance level between measures of financial risk. This fact supports the use of some of these measures in general as powerful alternatives. The results of market beta regression analyze on different measures of financing risk, were consistent with those of the previous studies, where the results indicate the existence of a positive relationship between market beta and the four measures of financing risk: (total debt to assets, total debt to book value property rights, long term liabilities to property rights, total debt to market value property rights) this is a statistically significant relationship to all financing risk measures, with the exception of the ratio of total debt to market value property rights. The study didn't found any results supporting the existence of a statistically significant relationship between financing risk measures and standard deviation of stock returns.

6.3 Chen study (2004) entitled: “The Relationship between Operational Leverage & Financial Leverage”

This study has been carried out in the Republic of China, and according to this study, if the chief financial officer is aware of the possibility of a high development, he will choose a high operational leverage as a tool to help him realizing a low capital cost. On the other hand, if the chief financial officer knows that the company is in a bad financial position, he will choose a low operational leverage, and the company will assume a higher capital cost, leading by its turn to a higher risk. Furthermore, the study concluded the existence of a positive relationship between operational leverage and financial leverage, which means that what is applicable on the operational leverage, will be applied on the financial leverage too.

6.4 Study (Beaver, Kettler & Scholes, 1979) entitled: "The association-between market determined and accounting determined risk-measures"

The study of (Beaver, Kettler & Scholes, 1979) of the first empirical studies in this area , aimed to measure the relationship between measures of systemic risk (beta) and seven metrics accounting for the risk are: the proportion Distributed to net income , the percentage growth in assets , leverage (the ratio of debt to assets) , the current liquidity ratio , the average size of assets , earnings variation (standard deviation of the ratio of earnings to share price) , the proportion of the company's profits to the share price . Testing was conducted using the relationship contributed to individually configure and investment portfolios for the first two periods (1947-1956) and the second (1957-1965) in order to measure the ability to predict.

The results showed that the three standards of a positive relationship with the beta stock, namely: Leverage, and the variability of profits, and the proportion of the company's profits to the share price, while the ratio of dividends to net profit of negative correlation with beta stock.

The study tested the multivariate models to gain access to the beta coefficient using the accounting data as well as market data, and results showed that the coefficient of interpretation

ranged between (37-42 %) when using the data alone, while the market increased to (63-69 %) when using market data and accounting together.

6.5 Study (Jahankhani & Lyngge, 1980) entitled : "Commercial bank financial-policies and their Impact on market-determined measures of risk"

The study aimed to test the relationship between systemic risk and the college and some of the indicators of accounting in the banking industry , I have been using seven variables accounting are: (dividends , leverage , the coefficient of variation of deposits , the coefficient of variation of return on the stock , the proportion of facilities for deposits , loan loss provision , and the liquidity ratio) .

Using beta as the dependent variable , the study found that the transactions related to the distribution of profits and the coefficient of variation of the deposits and the facilities to deposits ratio of statistical significance , and interpreted those changes accounted for (25%) of systemic risk . On the other hand found by using the overall risk as the dependent variable that all accounting standards with the exception of facilities to deposits ratio was statistically significant , and explain what accounted for 43% of the volatility in the overall risk .

6.6 Study (Abd Al- Rahman , 1987) "The impact of change in the funding structure policies on the profitability of the company "

The aim of this study was to measure the effect of the change in the funding structure on the profitability of the facility, was conducted on 12 companies from the industrial public sector Arab Republic of Egypt , and it was the most important findings of the study: that the average leverage ratio for the sample of the study was (47%) which was broken down as follows : the proportion of debt financing long-term (19%) and the proportion of short-term debt (28 %) , and the study concluded that the companies in which the debt ratio is higher than the proportion of property rights were more likely to achieve the losses , which means that the relationship was counterproductive between leverage and the rate of return on investment.

7. Conceptual Framework

Financial management differentiates between two types of leverages – Operating leverage and financial leverage. Operating leverage is the leverage effect on account of all fixed costs other than interest and financial leverage is the leverage effect on account of the financial cost, interest. The formulae for calculating the operating leverage and financial leverage are:

$$\begin{array}{l} \text{Operating leverage} \\ = \frac{\% \text{ change in PBIT}}{\% \text{ change in sales}} \end{array} \quad \dots\dots\dots (1)$$

$$\begin{array}{l} \text{Financial leverage} \\ = \frac{\% \text{ change in PBT}}{\% \text{ change in PBIT}} \end{array} \quad \dots\dots\dots (2)$$

The leverage therefore gives the sensitivity of profit changes to changes in sales. In the method indicated above for calculating the leverages, two sets of values of the income statement for two levels are needed. However, by using the modified formula given below, the operating and financial leverages can be calculated directly from the data in one income statement.

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{PBIT}} \dots\dots\dots (3)$$

$$\text{Financial Leverage} = \frac{\text{PBIT}}{\text{PBT}} \dots\dots\dots (4)$$

7.1 Combined Leverage Factor

If a firm uses a considerable amount of both operating and financial leverage, even small changes in the level of sales will produce wide fluctuations in PBT. The effect of the superimposition of financial leverage on operating leverage is obtained by multiplying the two leverages. The product is called the combined leverage factor or the leverage multiplier.

$$\text{Combined leverage factor} = \text{Operating leverage} * \text{Financial leverage} \dots\dots (5)$$

$$= \frac{\text{Contribution}}{\text{PBIT}} * \frac{\text{PBIT}}{\text{PBT}} = \frac{\text{Contribution}}{\text{PBT}}$$

A firm having a high operating leverage at a particular sales level means that its profits (PBIT) will be very sensitive to change in sales. Small changes in sales will bring about a magnified change in PBIT. This is both advantageous as well as disadvantageous. A small increase in sales will bring about a greatly magnified increase in profits but a small decrease in sales might well put the firm into losses.

7.2 Factors Affecting Financial Leverage

Financial leverage is PBIT/ PBT. Therefore as interest increases, financial leverage will increase. Interest, in turn, being the cost of borrowed funds, will increase with increase in the proportion of debt used for financing assets. That is why; the ratio of borrowings to assets is also called financial leverage. The higher the degree of financial leverage of a firm, the greater is the sensitivity of its profits before tax to changes in PBIT. The combined leverage factor which is the product of operating leverage and financial leverage determines the overall sensitivity of profits before tax to change in sales. As income taxes are calculated as a percentage of profit before tax, the net profit will normally be proportionate to the profit before tax. Therefore, fluctuations in profit before tax will bring about corresponding fluctuations in net profits which in turn will bring about fluctuations in earnings per share (EPS) as EPS equals

net profit divided by the number of equity shares. Therefore, the combined leverage factor influences the extent to which net profits and EPS will fluctuate for a given fluctuation in sales.

It is important to remember that additional benefits will accrue only when the return on assets is higher than the cost of borrowings. If however, the cost of borrowings is higher than the return on assets; the return on net worth will be even less than the return on assets.

8. Methodology

8.1 The Study Population

The researcher use in this study the tourism companies that listed in Amman Stock Exchange (www.ase.org.jo) as a Study Population because these companies can express for the Tourism Sector in Jordan, and the results can be generalized for all the companies in this sector. The table (1) below shows the Study Population as take as from the Amman Stock Exchange

Table 1. The Study Population

S.R	The Company's Name
1	Arab International Hotels
2	Groupings for tourism projects
3	Mediterranean Sea for Touristic Investment
4	Zara Investment Holding Co.
5	Middle for investment projects
6	Dawliyah for Hotels & commercial markets
7	Jordan Projects for Tourism Development
8	Winter Valley Tourism Investment Co.
9	Al-Rakaez of investment
10	Model for Restaurants
11	Sura for Development and Investment

8.2 The study Sample

The researcher selects randomly (5) companies from the table 1 as a study sample which means (45%) from the study population, as the table 2 below shows:

Table 2. The study Sample

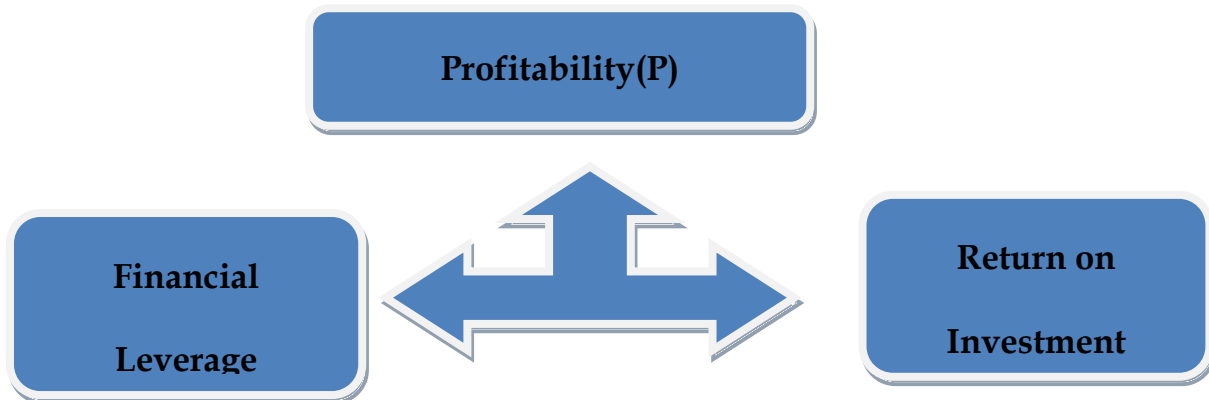
S.R	The Company's Name
1	Groupings for tourism projects
2	Mediterranean Sea for Touristic Investment
3	Dawliyah for Hotels & commercial markets
4	Jordan Projects for Tourism Development
5	Arab International Hotels

8.3 The Study Model

8.3.1 Virtual Model

The researcher suggests the model below to explain the relationship between the (Financial Leverage & Return on Investment) as Independent variables with the Profitability as dependent

variable.



8.3.2 Mathematical Model

This study is trying to examine the impact of the relationship between the (Financial Leverage & Return on Investment) as Independent variables with the Profitability as dependent variable. To achieve this step, and in order to examine the hypothesis, the study adopted the models that were used in many previous studies conducted for examining the Relationship between such variable in the financial market. The studies included those conducted by “Fama & French, 1992”, “Smith.et.al, 1990”, “Abdel Rahman, 1987”, “Chen 2004”, “Glenn W. Boyle, Leslie Young, 2002”, “Andrew A. Christie, 2002”, in addition to the Mahmoud Al Rifai study conducted in 2008.

According to explain above the Mathematical model can be expressed as:

$$P_{it} = \alpha_0 + B_1 * ROI + B_2 * Lev_{it} + e_{it} \dots \dots \dots (6)$$

Whereas:

P_{it}: Profitability, it is considered as the dependent variable in the study

ROI: Return on Investment

Lev_{it}: Financial Leverage, it is expressed by debt ratio

All the companies in the study must available Annual reports and financial statements for the companies included in the study sample, Website of the Ministry of Industry and Trade / industrial statistics reports. Availability of sufficient data such as income statement, balance sheet in order to calculate financial indicators and ratios that were used in the study, Availability of all monthly closing prices for the companies stocks during the whole period in which the study was conducted.

8.4 Data Analysis Methods

Adopting the statistical analysis method SPSS (Statistical Package for Social Sciences)

Examining coefficient of determination (R^2) in addition to the adjusted coefficient of determination (Adjusted R^2). The coefficient of determination (R^2) measures to which degree

the dependent variable is affected by independent variables. If all the changes occurring in the dependent variable are derived from the changes that occur in the independent variables, the coefficient of determination will be equal to one. The more the coefficient is close to number one; this will give us an impression that independent variables have a huge impact on the dependent variable. We can also refer to (Adjusted R^2) in order to explain the results with more accuracy.

Examining the total statistical significance of the model by using the (F) distribution.

In case the calculated F value exceeded the tabular F value at 5% and multiple degrees of freedom, then the alternative hypothesis is accepted, stating that the model evaluation characteristics are not all equal to zero (Gujarati, 1995). We can also use the (F-sig.) that is shown in the statistical program and that displays its statistical significance.

9. Analyzing Data

In order to examine the effect of independent variables on the Profitability – as a dependent variable – for the Tourism companies in Amman Stock Exchange, we will realize the following steps:

Calculating the value of independent variables represented by ROI and the financial leverage for each company according to the above mentioned.

Calculating the value of the dependent variable represented by Profitability for the company's using the income statement.

After finding the value of the dependent variable and the independent variables for each year included in the study, the rates of financial leverage and ROI will be associated to the annual Profitability of the company's, and the study model will be evaluated in order to extract the results.

9.1 Measures of Central Tendency and Dispersion of the Study Variables

Table 3. Measures of central tendency and dispersion

	Pit	Lev	ROI
Mean	0.1213	30.2701	-0.0089
Std. Deviation	0.34646	19.56269	2.65984
Skewness	3.988	0.679	-1.183
Kurtosis	40.944	-0.064	7.900
Minimum	-1.97	0.44	-17.67
Maximum	3.74	93.76	8.32

Table 3 shows the calculation results of the measures of central tendency and dispersion concerning the study variables, the average financial leverage for the sample companies attained 30.27%, representing the average debt ratio of these companies (liabilities to assets ratio). Each dinar in the companies' assets corresponds to 30.27% of the liabilities. Speaking about skewness, and since we can remark the negative and positive values, this proves the

skewed distribution of data (positive and negative), where it should have a value close to zero since the skewness is considered to be moderate.

9.2 The Correlation between the Study Variables

The matrix of correlation shown in Table 4 has been studied in order to make sure there's no strong relationship between each of the independent variables. The results reveal the absence of a strong correlation between these variables. Moreover, this correlation won't have an impact on the convenience of the model as it's shown through the (VIF) values indicated in Table 5.

Table 4. Matrix of the correlation between the study variables

	Pit	Lev	Beta
P _{it}	1	-0.192	-0.019
Lev	-0.192	1	0.007
Beta	-0.019	0.007	1

10. Results of Testing Hypothesis

The Table indicates the results of evaluating the model between annual Profitability and independent variables:

Table 5. Results of evaluating the model

Variables	Beta	T	Sig.	VIF
Lev	-0.173	-3.744	00.000	1.057
ROI	-0.160	-0.3660	00.714	1.001
R-Square	0.044			
Adjusted R-Square	0.036			
Mean Square	0.635			
F	5.487			
Sig.	0.000(a)			

10.1 Examining the Main Hypothesis

Hypothesis: There is no statistically significant relationship between the **total** cost of funding (the Equity and the borrower) and profitability, including the rate of return on investment for the companies of the tourism sector in Jordan.

Result

Table 5 shows the result of the examination of this hypothesis. The abovementioned results indicate that the P value (corresponding to 0.00) neighboring the F Statistic value (corresponding to 5.487) is less than (-1) with a confidence level of 5%. This means that the nihilistic hypothesis is refused according to the adopted decision support; subsequently, there's

a statistically significant impact for the independent variables on the dependent variable. In other words, the alternative hypothesis is accepted.

10.2 Examining the 1st Sub- Hypothesis

There is no statistically significant relationship between the cost of funding in loans (Borrowing) and profitability for the companies of the tourism sector in Jordan.

Result

Table (5) reveals the result of the examination of this hypothesis. The abovementioned results indicate that the P value, corresponding to 0.00, is less than (-1) with a confidence level of 5%. This means that the nihilistic hypothesis, stating the absence of statistically significant impact for this independent variable (financial leverage) on the dependent variable (Profitability), is not supported. Subsequently, alternative hypothesis, which consists of the presence of a statistically significant impact between the financial leverage variable and the annual Profitability, must be accepted and taken into consideration.

10.3 Examining the 2nd Sub- Hypothesis

There is no statistically significant relationship between the cost of funding by Equity and profitability for the companies of the tourism sector in Jordan.

Result

Table 5 reveals the result of the examination of this hypothesis. The abovementioned results indicate that the P value, corresponding to 0.714, is more than (-1) with a confidence level of 5%. This means that the nihilistic hypothesis is supported. In other words, there's no statistically significant relationship between this independent variable (ROI) and the dependent variable (Profitability). Subsequently, nihilistic hypothesis is accepted.

11. Results and Recommendations

11.1 Study Results

The study underlines the existence of a statistically significant impact for the independent variables (financial leverage and ROI) of the Tourism companies in the Amman Exchange on the Profitability of these companies. Moreover, this study concluded that the independent financial variables explain the 4.4% percentage of changes occurring in Profitability since they are considered as the dependent variable. Furthermore, the results indicate the presence of a statistically significant impact for the financial leverage on the Profitability of the Tourism companies listed in the Amman Exchange.

11.2 Study Recommendations

When taking investment decisions, investors and financial managers are interested in studying the directions of financial indicators and ratios in industrial companies particularly, and in all companies in general, because of the impact of some financial indicators and ratios on returns stocks.

Research department in Amman Stock Exchange must adopt a new mechanism for elaborating Public Joint-stock companies guidebook through the calculation of the value of beta coefficient for all companies listed in the Bourse, and distributing it to interested people in order to provide them with useful information about decision making in investment field.

Researchers can take advantage from this study by applying it to another companies, in different sectors in Amman Stock Exchange, in order to discover the relationship between the risks and financial indicators and ratios, in addition to the stock returns of the companies

In line with the study results, researchers are advised to choose new financial indicators and ratios that were not taken into consideration previously, in order to acknowledge the relationship between these ratios and the companies' profitability.

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