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# The Role of Value Relevance of Earnings according to the Predicative Ability in Forecasting Market Stock Prices and Returns: An Empirical Study

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#### Abstract

Purpose: In this research, I want beyond conducting the current research is to verify the relationship among the earnings and stock market prices and returns by using the predicative ability of the research sample represented by Al-Mansour Investment Bank during the period (2011-2021).

Theoretical framework: It deals with the theoretical framework of the research deals with the concept of Concept of Earnings, The Concept of Value Relevance of Earnings, The importance of value relevance of earnings and Forecasting Stock Prices and Return.

Method: The research relied on the inductive approach for the theoretical side, and the statistical approach was followed by using modern statistical programs, Verifying the relationship was made through applying two models of accounting measurement, namely (the price model and the return model) because of their instrumental role in forecasting the prices and returns of market stocks that lead to rationalizing the investment decisions among the investing stakeholders as well as shareholders in the Iraqi Stock Exchange by using the (SPSS) program

Result and conclusion: One of the most important findings of the research is the high predicative ability when measuring earnings in forecasting market stock prices and returns, due to the high coefficient of determination (R2) in both models. The research results for Ohlson's scale showed that there was a direct and significant effect of earnings and stock market prices, as an increase in earnings by one unit would lead to an increase in stock market prices by (0.914). The research results for the (Easton & Harris) scale showed that there was a direct and significant effect of earnings and stock market returns, as an increase in earnings by one unit would lead to an increase by (4.434). These results were positive indicators in forecasting the stock market prices and returns.

**Keywords:** *earnings, value, value relevance of earnings, The predicative ability, forecasting, forecasting market stock prices, and return market stock.* 

#### Introduction

The studies concerning accounting emphasized earnings as a measure of the efficiency of economic units across a wide range of sectors, including banking. It can forecast the

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prices and returns of market shares in the stock markets through what is known as (Value Relevance of Earnings), which means in contemporary accounting the ability of accounting earnings in the financial statements to forecast the prices and returns of market stocks. Accordingly, earnings has the ability to forecast the prices and returns of market stocks. The greater predicative ability means that the relevance value is high. The value relevance of earnings is one of the concepts that has received research interests, which was reflected in the interest of international accounting professional bodies, federations, and associations, serving stakeholders in general, on the one hand, and researchers, academics, and financial analysts. Therefore, the research was divided into four axes, in addition to the introduction and research and the contribution made by the current research. The second axis concerned the theoretical framework of the research. In the third axis, the applied side of the research was addressed, while the fourth axis was divided into conclusions and recommendations.

#### **Research Methodology: Conceptual framework:**

2.1. The Value Relevance of Earnings

2.1.1: Concept of Earnings

The concept of earnings in the accounting refers to the final outcome of the income statement, i.e. net profit after tax. It is a measure of accounting performance, which shows the result of the financial reports of the economic unit. (Ryan, 2014:13). Thus, it is disclosed in the financial reports of financial analysts and stakeholders with the success or failure of the economic unit (Kadri, 2015:3).

2.1.2: The Concept of Value Relevance of Earnings

The value relevance of earnings is part of accounting information that has attracted researcher's attention in stock market studies in accounting. It is the extent to which earnings can forecast stock prices or stock returns through its predicative ability (Mulenga & Bhatia,2020:196).

It is also known as the earnings is relevant to the value if it has a significant (statistical) predictive relationship with the market prices. In this case, the decrease and increase in earnings corresponds to the decrease and increase in market stock prices (Putri & Panggabean,2020:174). Earnings is a good measure that can summarize a substantial percentage of the important economic events that have been reflected in the prices and returns of market stocks. It can help users forecast and correct past judgments (Rachmawati,2019:134).

By presenting the previous concepts, it becomes clear that the value relevance of earnings means the ability of the information resulting from the accounting measurement of the earnings disclosed in the income statement, as it had an predicative ability in forecasting the prices and returns of the market stocks of the economic units.

2.1.3: The importance of value relevance of earnings

The value relevance of earnings becomes vital through (Putri & Panggabean, 2020:175), (Aksu et al, 2021:142), (Kim, 2021:648):-:

1- Evaluating the decisions of economic units in several investment fields by financial analysts and stakeholders, as analysts' expectations are important to provide useful guidance to stakeholders, especially investors.

2- Availability of key information for investing stakeholders, creditors, or any other users in forecasting prices and returns of market stocks, or on the level of ability to confirm or correct future expectations regarding the economic unit in order to increase the

level of awareness among stakeholders in understanding the benefit of profit as one of the most important list of financial information in decision-making.

3- Providing scientific, practical and field evidence on the extent to which earnings can be used in forecasting the prices and returns of market stocks and the extent of the relevance and reliability of earnings and its importance to investors.

4- The professional bodies that set accounting standards, such as the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB), need to view the results of studies of the predicative ability of the value relevance of earnings.

2. 2: Forecasting Stock Prices and Return.

#### 2.2.1: The Concept of Stock Prices

Stocks are the primary financing tool for forming the capital of economic units involved in stock markets. Tradability is one of the most important characteristics that distinguish stocks from other securities, the most important one is. Stocks have a great flexibility in the stock markets that make it possible to assign it through commercial methods. In other words, by selling shares in stock markets (Rebecca et al, 2015:27).

#### 2.2.2: The Concept of Market Return

The return is defined as the real cash flow that the investor gets during a certain period of time, as it is expressed in proportion to the investment cost at the beginning of the period. As for stock returns, it is the return from investing in stocks, which is measured as the rise in stock prices in addition to the dividends. Thus, rates of return can be calculated by adding the change in stock prices and the dividends received. The return as a concept carries some characteristics represented in the fact that it is related to the outcome of the activity, whether profit or loss (Heijker, 2014: 9).

#### 2.2.3: The Concept of Forecasting

Several definitions of forecasting have been developed, which was defined in multiple ways and forms from different points of view. Gibson defined forecasting as a set of subjective and objective procedures and methods designed primarily for the purpose of anticipating possible future events and knowing the results that will be achieved. (Gibson, 2011: 592). Shofia and Utami pointed out that forecasting targets the future and aims to explore the results of past and current events in the future, and to indicate what will happen in terms of events and their consequences, and to study what options may be available in the future. The future forms an obsession for all stakeholders in the economic unit, as their access to predictive information based on mathematical and statistical methods or relying on personal estimation based on experience and knowledge contributes effectively to reducing the uncertainty of the decision-maker. Experience and the accumulation of knowledge help in identifying and evaluating potential future risks in order to avoid them (Shofia & Utami,2021:49). Based on the foregoing, there is agreement on the concept of forecasting, as the previous concepts focused on the use of estimation with information and future events based on the appropriate past and current methods for the purpose of forecasting the future regarding the variables to be predicted.

#### 2.2.4: Types of Forecasting

There are many types of forecasting used by stakeholders and financial analysts in order to plan investment activities. (Takhtaei & Karimi, 2013: 215), (Cao et el, 2018: 3-4), (Young et al, 2019: 155). These types are:

1- Sales Forecasting: Sales forecasting is of great importance, which whereby the economic unit performs all its work, because production is directly related to sales, and knowing the amount of raw materials needed for production for all current and future products.

2- Cash Forecasting: Forecasting the cash flows of economic units plays an important role in decision-making by investing stakeholders, securities analysts, creditors and management because dividends, interest payments and obligations depend on cash flows. It also determines the amount of cash flows resulting from the operational, investment and financing operations of the economic unit. Thus, the amount of cash flows represents the guarantee of the distribution of earnings to the stakeholders who are the providers of the capital of the economic unit. This, in turn, stimulates stakeholders to invest.

3- Earnings Forecasting: Forecasting the future earnings achieved by economic units is one of the basic topics that have attracted the financial analysts' attention for the purpose of comparing economic units with similar activity when making investment decisions related to buying or selling stocks. In addition, it is considered one of the most important achievements that attracted the attention of researchers, accountants and economists in the field of searching for the best way to communicate accounting information to stakeholders, and its ability to assist investment decision makers.

4- Forecasting stock prices and return: Forecasting stock prices and returns in the stock markets is one of the main challenges facing speculators, investors and economic units in their endeavor to forecast stock prices and returns. It is one of the main tasks of all investing stakeholders and investment units in the field of investment and financial decision-making. They assume that what may happen in the future is partly based on past and current events and data, and is calculated according to the following equation (Pochiraju & Seshadri, 2019:805):

#### 2.2.5: Importance of Forecasting

The importance of forecasting market stock prices and returns stems from the importance of future accounting information. The importance of forecasting earnings can be identified as follows (Vliet, 2018: 5), (Travers et al, 2019: 13):

1- Facilitating the process of making investment decisions when preparing future plans, which is a source of analytical evidence for stakeholders from policy makers, lenders and financial analysts.

2- The use of new predictive methods contributes to bridging a gap among scientific methods and practices, and enhancing cooperation among academics and practitioners. There is a need for theoretical integration in accounting in order to systematize the accounting practices of economic units, and the interaction between institutional and market forces through mainstream accounting research that strives to develop generalizable knowledge that can be applied in forecasting applied phenomena.

3- It is a good indicator for judging the efficiency of management, as the success of predictive methods is a vision for stakeholders in the predicative ability of the results whereby information about the economic unit could be improved.

4- The investing stakeholder need to forecast the prices when buying or selling shares and returns of shares for the purpose of evaluation and knowing the expected returns from the investment process.

2.2.6: The objectives of forecasting stock prices and return

The objectives of forecasting market stock prices and returns are evident through the following (Nichols & James, 2011: 787), (Frank, 2018: 37):

1- Evaluating the real value of the economic unit by forecasting the prices and returns of market stocks.

2- Preparing accounting information on forecasting the prices and returns of market shares, which determine the future return on investment for investing stakeholders, and providing a base of important information that determines the economic feasibility of investing in economic units.

3- Reducing the state of uncertainty facing the stakeholders of the economic units in the future.

2.2.7: The relationship of earnings to forecasting stock prices and returns

There is a relationship between earnings and market stock prices, because the profit disclosed in the financial reports has a predicative ability in forecasting stock prices. Investors view the information as relevant and reliable if it can help them in making their investment decisions in the shares of the economic unit (Rani, 2011:12). As for the relevance of earnings and share returns through the availability of earnings in the current period, information about earnings in future periods, dividend distributions and the share of each share of those distributions (Heijker, 2014:16).

Economic units with a positive change in earnings (compared to earnings in the previous period) experience positive equity returns, while economic units with negative profit changes experience negative equity returns. By verifying the ability of earnings to forecast market stock returns over a longer period of time, assuming that earnings over a longer period of time reflects the performance of the economic unit better than the short period of time. The higher the response coefficient among earnings and stock returns, the higher the predicative ability (Heijker, 2014:16). The appropriate value study is the study of the correlation among earnings and stock prices and returns (Kadri et al, 2010: 3).

2.3: Forecasting stock prices and returns by using value relevance of earnings

The value relevance of earnings studies relied on two models to verify the relationship among earnings as an independent variable and measures of market stock prices and returns as a dependent variable. The value relevance of earnings is measured by the ability of earnings to forecast market stock prices and returns, which is determined by the statistical relationship among earnings as an independent variable and market stock prices and returns as dependent variables. The coefficient of determination ( $R^2$ ) is used to measure the predicative ability of the regression of earnings as the independent variable in the relationship to forecast stock prices and returns as dependent variables. The closer the value of the determination coefficient is to (100%), the higher its value. This indicates a high ability of earnings to forecast market prices and returns (Heijker, 2014:5).

They can be explained as follows:-

1- The predicative ability (determination coefficient  $(R^2)$ , which consists of two measures, the following: (Rasyid, 2018:4):-

#### A- Price Model:

This model, which was described by (Ohlson) in (1995), is the relationship among earnings and market share prices at the same time using the following formula:

$$P_{it} = \beta_0 + \beta_1 EPS_{it} + e_{it}$$

Source:- Muharam, Harjum, "Value relevance of earnings and book values during IFRS convergence period in India" Journal of financial reporting accounting, diponegoro university, emarang, Indoneia (2021), P(142).

B- Return Model: The return model describes the relationship between profit and stock returns. This model was developed by (Easton & Harris) in (1991).

$$\mathbf{R}_{it} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 \, \mathbf{EPS}_{it} + \mathbf{e}_{it}$$

Source:- Heijker, Rob. "The influence of the mandatory adoption of IFRS on the value relevance of earnings for Dutch listed companies", (2014), Page (33).

It represents:	
Symbol	Indication
EPS <sub>it</sub>	Accounting profits (the independent variable).
P <sub>it</sub>	Market stock prices for the economic unit (dependent variable).
R <sub>it</sub>	Return on market shares of the economic unit (dependent variable).
$\beta_1, \beta_2, \beta_3$	estimation coefficients.

Source: The table was prepared by the researchers

## Practice

3.1: Description of the Applied Case Study (A Brief Profile of Al-Mansour Investment Bank)

Owing to the fact that the banking sector is one of the most active sectors in the Iraqi market for securities compared to other sectors, the percentages were the highest in trading volume for all sectors. Therefore, the researchers relied on this sector in conducting its tests, as Al-Mansour Investment Bank, which is listed on the Iraq Stock Exchange, was chosen. The establishment of the bank and its capital can be clarified in the following table (1):

#### Table (1) Al-Mansour Investment Bank, which is listed on the Iraq Stock Exchange

Mansour Commercial Bank	capital upon listing	Date of Establishment	Date of listing	Code
Wansour Commercial Bank	55,000,000,000	2005/9/13	2008/8/1	BMNS

Source: The table was prepared by the researchers based on the Iraq Stock Exchange website (www.isx-iq.net).

3.2: Determining the predicative ability of the value relevance of earnings by using the Ohlson Measurement Model

The researchers found the results of the required regression equation, where table (2) represents the values of the correlation coefficient in addition to the coefficient of determination and the corrected coefficient of determination. We note that the coefficient of determination has a value of (0.77). This means that the used regression model has the predicative ability (77 %) of the total differences in it, and the remaining percentage is due to other variables not included in this model as follows:

 Table (2) Correlation and specificity coefficients for the regression model

Model Summary <sup>b</sup>								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.890ª	.792	.769	.178064				
a. Predictors: (	Constant), EPS							
b. Dependent V	/ariable: Pit							

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

As for Table (3), it includes the analysis of variance table for the used regression model, where it is clear that the value of the F test) for the above regression model amounted to (34.312), with a significant value equal to (0.000). This value is less than the

level of significance specified by the researcher and indicates that this model is significant for the data of this bank as follows:

<b>D</b>				Mean Square		Sig.
Re	gression	1.088	1	1.088	34.312	.000 <sup>b</sup>
Re	esidual	.285	9	.032		
Tot	otal	1.373	10			

Table (3) The analysis of variance table for the regression model

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researcher found the estimated values of the regression model coefficient that will be adopted for the purpose of measuring the prediction of market stock prices. Table (4) shows this estimated value in addition to the (t) test values for it and its significance as follows:

Table No. (4) Estimated values of the regression model coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
	(Constant)	.131	.145		.901	.004
1	EPS	10.946	1.869	.890	5.858	.000

a. Dependent Variable: Pit

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researchers relied on the estimators of the above coefficients for the purpose of measuring the relevance of earnings to the estimated value of this bank, which will be used later to indicate its impact in forecasting market stock prices. The estimated regression model is as in the following equation based on the above results:

$$Pit_i = \beta_0 + \beta_1 EPS_i + e_i$$
  
$$\widehat{Pit}_i = 0.131 + 10.946 EPS_i$$

3.3: Determining the predicative ability of the value relevance of earnings by using the measurement model (Easton and Harris)

The researchers found the results of the required regression equation, where table (5) represents the values of the correlation coefficient in addition to the coefficient of determination and the corrected coefficient of determination. We note that the coefficient of determination was (0.74). This means that the regression model used has the predicative power by (74%) of the total differences in it, and the remaining percentage is due to other variables not included in this model as follows:

Model Summary <sup>b</sup>							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate			
1	.877ª	.770	.744	.050616			
		onstant), EPS riable: Rit					

Table No. (5) Correlation and determination coefficients of the regression model

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

As for Table (6), it includes the analysis of variance table for the regression model used, where it is clear that the value of the (F) test for the above regression model amounted to (30.072), with a significant value equal to (0.000). This value is less than the level of significance specified by the researchers, as it indicates that this model is significant for the data of this bank as follows:

Table No. (6) The analysis of variance table for the regression model

Model	-	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.077	1	.077	30.072	.000 <sup>b</sup>
	Residual	.023	9	.003		
	Total	.100	10			

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researchers created the estimated values of the regression model coefficient, which will be adopted for the purpose of measuring the prediction of market stock returns. Table (7) shows these estimated values in addition to the (t) test values for them and their significance as follows:

Model		Unstandar	dized Coefficients	Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
l	(Constant)	.057	.041		1.372	.000
	EPS	2.913	.531	.877	5.484	.000

Table No. (7) Estimated values of the regression model coefficients

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researchers relied on the estimations of the above coefficients for the purpose of measuring the value relevance of earnings estimated for this bank, which will be used later to indicate its impact on forecasting market stock returns. The estimated regression model is as in the following equation based on the above results:

$$Rit_i = \beta_0 + \beta_1 EPS_i + e_i$$
  
$$\widehat{Rit}_i = 0.057 + 2.913 EPS_i$$

3.4: The effect of the value relevance of earnings in forecasting market stock prices

After the measuring the value relevance of earnings, these values have been used to indicate their impact on forecasting market stock prices. Table (8) represents the values of the correlation coefficient in addition to the coefficient of determination and the corrected coefficient of determination, where we note that the coefficient of determination amounted to a value of (0.74). This means that the regression model used has the predicative power (74%) of the total differences in it, and the remaining percentage is due to other variables not included in this model as follows:

Table No. (8) Correlation and determination coefficients of the regression model
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Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.876ª	.768	.742	.174875				
a Predia	ctors: (Co	nstant). Pithat						

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

As for Table (9), it includes the analysis of variance table for the regression model used, where it is clear that the value of the (F) test for the above regression model amounted to (29.713) with a significant value equal to (0.000). This value is less than the level of significance specified by the two researchers, which indicates that this model is significant for the data of this bank as follows:

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.909	1	.909	29.713	.000 <sup>b</sup>
	Residual	.275	9	.031		
	Total	1.164	10			

Table No. (9) The analysis of variance table for the regression model

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researchers found the estimated values of the regression model coefficients. Table (10) shows these estimated values in addition to the (t) test values for them and their significance as follows:

Coefficients <sup>a</sup>						
Model				Standardized Coefficients Beta	t	Sig.
1	(Constant)	.023	.163		.139	.004
	Pithat	.914	.168	.876	5.451	.000

Table No. (10) Estimated values of the regression model coefficients

#### a. Dependent Variable: Y1

Source: The table was prepared by the two researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The values of the coefficients of the regression for the value relevance of earnings in the market stock prices shown in the table above amounted to (0.914), with a significance (sig) of (0.000). This value is less than the level of significance (5%), which indicates that there is a significant direct effect of earnings in forecasting the market share prices of this bank. In other words, an increase in the value of earnings by one unit leads to an increase in the value of market stock prices by (0.914). Therefore, the research hypothesis (1) is accepted, which states the following:

There is a significant relationship between the value relevance of earnings and forecasting market stock prices by using predictive power.

3.5: The impact of the value relevance of earnings in forecasting Market Stock Returns

After measuring the value relevance of earnings, these values were used to indicate their impact on forecasting market stock returns. Table (11) represents the values of the correlation coefficient in addition to the coefficient of determination and the corrected coefficient of determination, where we note that the coefficient of determination was 0.74). This means that the regression model used has the predictive power (74%) of the total differences in it, and the remaining percentage is due to other variables not included in this model as follows:

Table No. (11) Correlation and determination coefficients of the regression model

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.876 <sup>a</sup>	.768	.742	.174875		
a Dradi	tore: (Const	tant) Rithat				

#### a. Predictors: (Constant), Rithat

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

As for table (12), it includes the analysis of variance table for the regression model used, where it is clear that the value of the test (F) for the regression model above amounted to (29.713) with a significant value equal to (0.000). This value is less than the level of significance specified by the researchers, which indicates that this model is significant for the data of this bank as follows:

ANOV	/A <sup>a</sup>					
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.909	1	.909	29.713	.000 <sup>b</sup>
	Residual	.275	9	.031		
	Total	1.184	10			
a. Dep	endent Variabl	e: Y1				
b. Prec	lictors: (Consta	ant). Rithat				

Table No. (12) The analysis of variance table for the regression model

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The researchers found the estimated values of the regression model coefficients. Table (13) shows these estimated values in addition to their t-test values and their significance as follows:

Model		Unstandardized Coefficients		Standardized Coefficients		~ .
		В	Std. Error	Beta	t	Sig.
1	(Constant)	.291	.110		2.643	.027
	Rithat	3.434	.630	.876	5.451	.000

#### Table No. (13) Estimated values of the regression model coefficients

Source: The table was prepared by the researchers based on the data of Al-Mansour Investment Bank and the (SPSS) program.

The values of the regression coefficients of the value relevance of earnings in forecasting market stock returns shown in the table above amounted to 3.434 (sig.) of (0.000). This value is less than the level of significance (5%), which indicates that there is a significant positive direct effect of the value relevance of earnings in forecasting market returns for this bank. In other words, an increase in the earnings value by one unit leads to an increase in the forecast value of market returns by (4.434). Therefore, the research hypothesis (2) is accepted, which states the following:

(There is a significant relationship among the value relevance of earnings and forecasting market stock returns by using predictive ability)

### **Conclusions:**

The value relevance of earnings contributes to improving the measurement of future accounting information through the predictive ability in order to support the confidence of investing stakeholders in the annual financial reports, which enhances investment decision-making in forecasting market stock prices and returns. The results of the analysis showed that there was a direct and significant effect of earnings in forecasting the market share prices of Al-Mansour Investment Bank. In other words, an increase in the value relevance of earnings ratio by one unit would lead to an increase in stock prices by (0.914). The results of the analysis indicated that there was a direct and significant effect of earnings in forecasting the market returns of Al-Mansour Bank. In other words, an increase in the value relevance of earnings by one unit would lead to an increase in forecasting market stock returns by (4.434). This could reverse the price model that was practically applied to the relationship among earnings and stock prices to determine what is the reflection of earnings on the value of the economic unit at a specific point in time. The return model studies the extent to which the value relevance of earnings evolves over time through the relationship between earnings and return. These measures give a good picture when measuring the prediction of stock prices and returns for the purpose of evaluating the economic unit at any time during the fiscal year.

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