ARE WINE CO-OPS CREATING VALUE?

by

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Abstract

This article examines introducing Economic Value Added (EVA) as a performance measure for wine cooperatives in South Africa to determine whether member's value have been created. After a thorough explanation and calculation of the components of EVA, the EVA of a number of co-operatives were calculated and analyzed. Important trends were identified, conclusions drawn and recommendations made from these results. Finally, potential improvement opportunities resulting from using EVA as a performance measure in wine cooperatives are discussed.

1. INTRODUCTION

Financial theorists have long argued that the objective in decision making should be to maximize firm value. Managers and practitioners have often criticized them for being too single minded about value maximization and for not considering the broader aspects of corporate strategy or the interests of other stakeholders. In the last decade, however, managers seem to have come around to the view that value maximization should be, if not the only, at least the primary objective for their firms. This turn-around can be partly attributed to the frustration that many of them have felt with strategic consulting and its failures, or partly to an increase in their ownership of equity in the firms that they manage.

Cooperatives are regarded as a separate form of business organization, extending the conventional classification of single proprietorships, partnerships and shareholder owned firms. Like other firms, cooperatives buy, sell and produce goods and services. However, unlike other firms, cooperatives are owned by their members and exist to serve their members, they distribute profits or surpluses according to patronage and not according to investment, thus creating value.

The search for tools that can put firms a step ahead of the competition never ends. A significant challenge for managers is to distinguish between methods that can actually help their firm and those offering no advantage or might actually make them worse off. One such a tool is Economic Value Added (EVA). The question posed in this article is whether wine co-operatives are creating value for their members.

2. WHAT IS "VALUE"?

It may be helpful to begin this article by defining its core term. *Value* is simply the quality/price which is perceived/paid by the customer. The quality component of value includes the inherent quality of the particular product or service, as well as all of its auxiliary features (follow-up service, complaint resolution, etc.)

From the viewpoint of the customer, the price of the product or service must at least be commensurate with — or, ideally, commensurately lower than — the perceived value of the product or service received, or else the customer will feel that he or she has not received real value from the exchange (Ray, 2001). In the long run, if a firm's customers perceive that they're not receiving value, then the firm will almost certainly become just another corporate fatality (assuming free markets, of course).

3.   EVA DEFINED

EVA is a way of measuring the economic value (profitability) of a business after the **total** cost of capital - both debt **and** equity - has been taken into account. One must remember that most traditional (accounting-based) methods take only debt into account. The calculation of EVA also includes the often considerable cost of equity (Firer 1995).

The key principle of EVA is that value is created when the return on an investment exceeds the total cost of capital that correctly reflects its investment risk. One can improve EVA (and thus shareholder value) as long as one accepts new projects on which the rate of return exceeds the cost thereof. EVA is an **internal** performance measure of a company's operations on a year-to-year basis. It reflects the successes of the efforts of corporate managers to add value to the shareholders' investment. EVA is the residual income left over from the operating profits after the total cost of capital has been subtracted. A **positive** EVA implies that the rate of return on capital **must** exceed the required rate of return. To the extent that a company's EVA is greater than zero, the firm is creating (adding) value for its shareholders (Stern 1994).

EVA is a measure that properly accounts for all the complex trade-offs involved in creating value. It is computed by taking the spread between the rate of return on capital (r) and the cost of capital (c) and then multiply this with the economic book value of the capital committed to the business (Stewart 1990):

$$EVA = (rate\,of\,return - \cos t\,of\,capital) * capital$$

$$EVA = (r - c) * capital$$

and $$r = \frac{Net\,Operating\,\Pr ofit\,After\,Tax(NOPAT)}{capital}$$

where

    NOPAT
    = Income attributable to ordinary shareholders
    <u>+ Increase in equity equivalents</u>
    = ADJUSTED NET INCOME
    + Preferred dividend
    + Minority interest provision
    + Interest payments after tax savings

and

Capital
= Common equity
+ Equity equivalents
= ADJUSTED COMMON EQUITY
+ Preferred share capital
+ Minority interest
+ Debt

Although there are countless individual actions in a business that employees can perform to create value, eventually they all fall in one of the three categories (r, c and capital) captured by EVA. EVA increases when operating efficiency is enhanced, when value enhancing investments are undertaken, and when capital is withdrawn from unrewarding activities. To be more specific, EVA increases when:

a)   the rate of return (r) earned on the existing capital base improves; that is, the operating margin increases without investing more capital;

b)   additional capital is invested in projects that earn a rate of return (r) greater than the cost of capital (c); and

c)   capital is liquidated from unrewarding projects (where r < c).

These are the only ways in which shareholder value can be created, and EVA captures them all.

4.   RESEARCH METHOD

The research method which was followed to achieve the objective of this research, was firstly to obtain the financial statements of all the wine co-operatives in South Africa from the Registrar of Co-operatives. Secondly, the financial statements were standardized and captured electronically in a database. The next step was to calculate the EVA (with all its components such as NOPAT, capital, cost of equity and weighted average cost of capital (WACC) of each co-operative. The research method is illustrated below with an example. The selection of the example was random.

Table 1:   Extracts from the financial statements of Aan de Doorns Winery for the financial years ending 28 February 2000 and 2001

Balance sheet for the year ended	2000	2001
Reserves & undistributed income		
Total own resources	3,912,072	4,144,170
Total members' sources	2,060,280	2,063,790
Total members interest	**5,972,352**	**6,207,960**
External LT liabilities		
Total interest-bearings external	3,549,259	4,158,469
Deferred tax	181,295	400,397
Total LT liabilities int free	181,295	400,397
Total LT liabilities	**3,730,554**	**4,558,866**
Total current liabilities	2,270,831	2,508,053
Total external liabilities	**6,001,385**	**7,066,919**
Total members interest & liab	**11,973,737**	**13,274,879**
Fixed assets		
Total LT assets	6,773,831	7,985,670
Total current assets	5,199,906	5,289,209
Total assets	**11,973,737**	**13,274,879**

Income statement for the year ended	2001
Net operating income before taking the following into account	2,294,234
Plus all interest received	209,145
Adjusted net income	**2,503,379**
Income from investments	3,010
Lease monies	-
Depreciation of fixed assets	1,056,666
Directors remuneration	36,317
Auditors remuneration	58,922
Provisions	-
Irrecoverable debts written off	270,000
Interest paid	664,485
Capital profit/(loss) on the disposal of fixed assets	-
Net income/(Loss) before taxation and other items	**413,979**
Tax	(219,102)
Extraordinary items	
Net income/(Loss) for the year (after tax)	**194,877**

4.1   NOPAT

Economic value added is an accounting-based measure of periodic operating performance, and is defined as the difference between accounting earnings and the cost of invested capital used to generate those earnings. EVA depends on net operating profit after taxes. To properly calculate economic profit, a variety of adjustments must be made to most financial statements. Certain expenditures such as research and development and employee training costs are capitalized and then amortized rather than expensed (Burkette & Hedley:1997). Other adjustments include goodwill and operating leases (Mills, *et al.*:1998). Given the format of the financial statements of the co-operatives, the calculation of NOPAT

for the selected co-operatives is:

$$NOPAT = Net\ income\,(loss) + \left(\text{int}\ erest\ paid\ *\langle 1 - Tax\rangle\right) + \left(Def\ tax - Def\ tax_{prev}\right)$$

where:

$$Def\ tax = Deferred\ tax$$

NOPAT for Aan De Doorns Winery is:

$$NOPAT = 194877 + \left(664485\ *\langle 1 - 0.3\rangle\right) + \left(400397 - 181295\right)$$
$$= 879119$$

4.2　Capital

The following equation was used to determine capital:

$$Capital = Adjusted\ common\ equity + Total\ debt$$

Adjusted common equity consisted out of the sum of total members interest and deferred taxes of the previous year. Total debt consisted out of the sum of total interest bearing external long-term liabilities and total interest bearing current liabilities of the previous years. The previous year was used, because beginning amounts must be used in determining EVA.

The capital for Aan De Doorns Wineray is calculated at:

$$Capital = (5972352 + 181295) + (3549259 + 650789)$$
$$= 10\,353\,695$$

4.3　Cost of equity capital

Accordingly, EVA represents residual income that is left after investors earn their required minimum rate of return which compensates them for the risk incurred by investing in the company. This residual approach as stated in Section 4 is:

$$EVA = \left(rate\,of\ return - \cos t\,of\ capital\right)*capital$$

The capital asset pricing model (CAPM), with assumptions about no transactions cost or private information, concludes that the marginal investor hold a portfolio that includes every traded asset in the market, and that the risk of any investment is the risk added on to this "market portfolio". The expected return from the model is:

$$Rj = Rf + \boldsymbol{b}\left(Rm - Rf\right)$$

Where:

$$Rj = Cost\ of\ equity\,capital$$
$$Rf = Risk - free\,rate$$
$$\boldsymbol{b} = Beta$$
$$Rm = Average\,market\ return$$

The cost of equity capital is the opportunity cost which shareholders forgo by investing in a specific company. While this opportunity cost does not appear in any financial statements, Stern Stewart approximates it, based on the CAPM, by adding an individual company's adjusted risk premium to the return on long-term government bonds. The adjusted risk premium equals the company's stock beta multiplied by 6% (see Stewart, 1991), a long-term risk premium common to equities in general (Stewart, 1991; Stern Stewart, 1993).

The cost of equity capital for Aan De Doorns Winery for 2001 is calculated as:

$$Rj = 10.78\% + 0.83(16.78 - 10.78)$$

$$= 15.75\%$$

4.3.1 Risk-free rate

Before the CAPM can be applied, the question of what is the risk-free rate must first be answered. To understand what makes an asset risk free, it is necessary to determine how risk is measured in finance. Investors who buys assets have a return that they expect to make over the time horizon that they will hold the asset. The actual returns that they make over this holding period may by very different from the expected returns, and this is where the risk comes in. Risk in finance is viewed in terms of the variance in actual returns around the expected return. For an investment to be risk free in this environment, then, the actual returns should always be equal to the expected return.

Under what conditions will the actual returns on an investment be equal to the expected returns? A condition necessary is that there can be no default risk. Essentially, this rules out any security issued by a private firm, since even the largest and safest firms have some measure of default risk. The only securities that have a chance of being risk free are government securities, not because governments are better run than companies, but because they control the printing of currency. At least in nominal terms, they should be able to fulfill their promises. Even this assumption, straightforward though it might seem, does not always hold up, especially when governments refuse to honor claims made by previous regimes and when they borrow in currencies other than their own. In this study, the average return on the R150 is used as the risk-free rate. Table 2 indicates the return on the R150 for the period from 1997 to 2001.

Table 2:   Average return of R150 for the period from 1997 to 2001

1997	1998	1999	2000	2001
14.57%	15.03%	14.49%	13.17%	10.78%

4.3.2 Beta

The last input in the CAPM is the beta. The beta or betas that measure risk in models of risk in finance have two basic characteristics that need to keep in mind during estimation. The first is that they measure the risk added on to a diversified portfolio, rather than total risk. Thus, it is entirely possible for an investment to be high risk, in terms of individual risk, but to be low risk, in terms

of market risk. The second characteristic that all betas share is that they measure the relative risk of an asset, and thus are standardized around one. The market-capitalization weighted average beta across all investments, in the CAPM, should be equal to one. In any multi-factor model, each beta should have the same property. The average betas, over a 5-year period, of the selected companies were used in the CAPM to determine the expected return. The companies were chosen on principle of their main activities. The selected companies were: Afgri, Distell, KWV-Bel, Omnia, Rainbow, SAPPI and Tigerbrands.

Table 3 indicates the betas used in determining the costs of capital for the period from 1998 to 2001.

Table 3:   Average beta used for the period from 1998 to 2001

1997	1998	1999	2000	2001
0.65	0.66	0.78	0.85	0.83

4.4   Cost of debt

To determine the cost of debt, the return on the R150 was used and a risk premium of 2% was added. The cost of debt must be after tax, to take the tax benefit of debt into consideration.

The cost of debt for Aan De Doorns Winery for 2001 was calculated as:
$$id = (Rf + 2)(1 - Tax)$$
$$= (10.78\% + 2\%)(1 - 0.3)$$
$$= 8.94\%$$
where:
$$id = after\ tax\ \cos t\ of\ debt$$

4.5   Weighted average cost of capital

The weighted average cost of capital (WACC) was used in determining the cost of capital. The weighted average cost of capital can be defined as:
$$WACC = Rj * (E/A) + id * (D/A)$$
Where:

E	=	adjusted common equity
A	=	assets
D	=	debt

The WACC for Aan De Doorns Winery for 2001 was calculated as:
$$WACC = \left(15.75\% * \frac{6153647}{10353695}\right) + \left(\langle10.78 + 2\rangle\langle1 - 0.3\rangle * \frac{4200048}{10353695}\right)$$
$$= 12.99\%$$

The WACC of the co-operatives reflects their unique composition between debt and equity, thus reflecting the risk of the cooperative. An advantage of using

EVA as a financial performance measure is that it takes into account the company's total cost of capital.

The EVA for Aan De Doorns Winery for 2001 is calculated as:

$$EVA = \left(\frac{879119}{10353695} - \frac{12.99\%}{100} \right) * 10353695]$$
$$= (465387)$$

5.   RESULTS AND INTERPRETATION

Seven co-operatives were randomly selected to discuss the EVA-results in detail. The EVA results of seven of the 36 co-operatives are presented in table 4 below.

Table 4: **EVA calculation of 7 selected co-operatives for the period 1998 to 2001**

Co-op	Year	NOPAT	Capt	Return	WACC	Spread	EVA
Agterkliphoogte	1998	191,425	2,249,100	8.5	16.5	-8.0	(179,279)
	1999	156,711	2,296,727	6.8	17.0	-10.2	(233,965)
	2000	19,017	2,415,541	0.8	16.2	-15.4	(371,509)
	2001	184,086	2,671,236	6.9	13.4	-6.5	(172,687)
Badsberg	1998	339,404	5,641,457	6.0	16.0	-10.0	(562,292)
	1999	485,001	6,797,409	7.1	15.6	-8.4	(573,013)
	2000	463,481	6,418,551	7.2	14.8	-7.5	(484,436)
	2001	572,739	7,812,535	7.3	12.0	-4.6	(362,805)
Barrydale	1998	444,638	3,029,292	14.7	15.0	-0.3	(10,602)
	1999	(213,288)	5,148,568	-4.1	13.8	-18.0	(924,591)
	2000	191,795	4,913,393	3.9	12.1	-8.2	(402,455)
	2001	535,561	4,439,763	12.1	10.1	1.9	86,519
Citrusdal	1998	392,467	8,263,821	4.7	16.9	-12.1	(1,003,649)
	1999	355,894	12,714,809	2.8	15.7	-12.9	(1,637,155)
	2000	3,346,959	15,693,623	21.3	14.2	7.1	1,116,031
	2001	2,987,721	19,802,316	15.1	11.9	3.2	633,378
Perdeberg	1998	1,096,830	5,658,112	19.4	15.9	3.5	198,202
	1999	1,379,548	6,559,484	21.0	16.0	5.1	332,413
	2000	4,854,874	4,430,484	109.6	13.5	96.1	4,257,464
	2001	5,023,152	27,197,480	18.5	10.4	8.0	2,187,529
Robertson	1998	2,846,005	27,408,688	10.4	15.0	-4.6	(1,267,121)
	1999	341,319	26,071,958	1.3	15.6	-14.3	(3,720,630)
	2000	1,598,275	28,570,232	5.6	15.0	-9.4	(2,675,237)
	2001	1,004,042	37,265,347	2.7	12.6	-9.9	(3,686,064)
Spruitdrift	1998	1,756,337	13,727,786	12.8	13.3	-0.5	(65,664)
	1999	2,664,039	19,336,668	13.8	12.7	1.1	205,338
	2000	2,387,933	24,540,542	9.7	11.6	-1.9	(466,491)
	2001	2,491,378	24,993,419	10.0	9.9	0.1	17,638

As one can see from the EVA from Agterkliphoogte Co-operative, the negative Eva values occur during each of the four years under review. During 2000 the highest negative value of R371,509 occurs, whilst the lowest negative value (R172,687) was achieved in 2001. With the formula of EVA in mind ((r – WACC) x capital)), a positive sign over the four year period for this Co-operative is the fact that the WACC has decreased from 17.01% in 1999 to 13.36% in 2001. In addition, the rate of return (r) has increased from 6.82% in 1999 to 6.89% in 2001. This means that the spread is still negative, but is becoming smaller.

The EVA results of the Badsberg Co-operative were negative for the four years under review. However, the negative EVAs are becoming smaller from 1999 (R562,292) to 2001 (R362,805). This improvement resulted from the continuous increasing in the return (from 6.02% in 1998 to 7.33% in 2001) as well as the decreasing of the WACC (from 15.98% in 1998 to 11.97% in 2001). Although

the spread is still negative, it is becoming smaller. The improvement in EVA of this Co-operative is even more remarkable if one take into account that it has been achieved with an increased amount of capital employed over the four year period.

The Barrydale Co-operative has improved their EVA from negative R924,591 in 1999 to positive R86,520 in 2001. Whilst the rate of return has improved from negative 4.14% in 1999 to 12.06% in 2001, the WACC has decline from 13.82% to 10.11% over the same period, thereby creating the first positive spread during 2001. NOPAT over this period has improved and capital employed has remained constant. One can see that this Co-operative is now in the position to invest more capital and become a constant value creator.

The EVA of Citrusdal Co-operative improved from negative R1,637,155 in 1999 to positive R633, 378 in 2001. This is a good example of a value destroyer that has become a value creator. The reason for this improvement lies in the increasing of the rate of return from 4.75% in 1998 to 15.09% in 2001, as well as in the declining of WACC from 16.89% in 1998 to 11.89% in 2001. This means that a positive spread has been achieved and thereafter the correct action appears to have been undertaken: Increase capital employed. With the positive spread, capital has been increased from R8,263,821 in 1998 to R19,802,316 in 2001.

Perdeberg Co-operative is an example of a consistent value creator. A positive and increasing EVA has been achieved over the four year period. EVA improved from R198,202 in 1998 to R2,187,529 in 2001. Whilst the rate of return has remained constant at around 18% during this period, WACC has declined from 15,88% in 1998 to 10.43% in 2001. The WACC of 10.43% is amongst the lowest of the whole sample of 37 Co-operatives. The consistent positive spread has caused the increase in EVA together with an increase in capital employed over the four year period.

Robertson Co-operative is an example of a consistent value destroyer. A negative EVA has been achieved over the four year period. EVA decreased from negative R1,267,121 in 1998 to negative R3,686,064 in 2001. Whilst the rate of return has declined from 10.38% in 1998 to only 2.69% in 2001, WACC has declined from 15,01% in 1998 to 12.59% in 2001. This means that a negative spread has been achieved. This value destruction situation has been worsened by the fact that in addition to a negative spread of around 10% for 2000 and 2001, an ever increasing amount of capital has been employed. Capital employed increased from R27,408,688 in 1998 to R37,265,347 in 2001.   This amount of capital employed is amongst the highest of the total sample of 37 Co-operatives.

The EVA created by Sruitdrif Co-operation is an example of mixed results over the four year period. The EVA varied from negative R466,491 in 2000 to positive R205,338 in 1999. What is also interesting about this Co-operative is the very small spread. From 1998 to 2001 it appears that both the return and the WACC has decreased.   The Co-operative however is producing a very

consistent and relatively high NOPAT throughout the four year period. In addition to that, capital employed is not only at a high level, but has been increasing as well. Is seems that a small increase in the rate of return or a small decrease in WACC will definitely bring about a large value creating opportunity.

Table 5 looks at the EVA-performance of all the wine co-operatives as an industry.

Table 5:   EVA for all the wine cooperatives for the period from 1998 to 2001.

		1998	1999	2000	2001
EVA	Total	(6,623,035)	(44,024,292)	(19,892,992)	(15,657,220)
	Average	(200,698)	(1,222,897)	(552,583)	(434,923)
NOPAT	Total	43,075,963	21,362,911	34,820,170	28,248,962
	Average	1,305,332	593,414	967,227	784,693
Captal	Total	318,772,524	428,276,370	372,307,226	409,063,147
	Average	9,659,773	11,896,566	10,341,867	11,362,865
Equity	Total	165,675,762	208,390,704	198,459,584	186,418,027
	Average	5,020,478	5,788,631	5,512,766	5,178,279
Debt	Total	153,096,762	219,885,666	173,847,642	222,645,120
	Average	4,639,296	6,107,935	4,829,101	6,184,587
Return	Average	13.74	7.05	10.70	7.18
WACC	Average	15.37	15.25	14.52	12.12
Spread	Average	-1.63	-8.20	-3.82	-4.94

The total EVA in each of the four years under review has negative values. There are however an improvement in the trend, because from 1999 to 2000 EVA has declined from negative R44,024,292 to negative R15,657,220. During the same period NOPAT has increased from R21,362,911 to R28,248,962. This is a very positive sign and can be one of the reasons for the improvement in EVA.

Capital, equity and debt show interesting changes over the four year period. Whilst there was a steady increase in the total capital employed from R318, 772,542 in 1998 to R409,063,147 in 2001, the mix or ratio between equity and debt changed over this period.   Equity declined steadily from R208,390,704 in 1999 to R186,418,027 in 2001. Debt, on the other hand, showed an increase in value and the highest level of R222,645,120 is reached in 2001. Debt as a ratio to total capital has increased from 48% in 1998 to 54% in 2001. This is an indication that debt as financing alternative has become more preferable, possibly due to the declining interest rates during the period under review.

The rate of return is a cause of concern as it has declined from 13.74% in 1998 to 7.18% in 2001. As the rate of return is central in the value creating process and calculation thereof, this decline is another explanation of the negative EVA values that has been achieved over the period. What is also alarming is that the decline in the rate of return has occurred despite an increase in the value of NOPAT over the four year period. The profit margins and cost structures of the cooperatives must therefore be the subject of intense scrutiny by management.

WACC has declined over the four year period from 15.37% in 1998 to 12.12% in 2001. This means that it has from the cost of capital point of view, become more easy to be in a position to render a positive spread. The reason for the decline in WACC is firstly due to the fact that debt (which is arguably the least expensive after-tax source of capital to the firm) has become a bigger portion of total capital and therefore has reduce the WACC of the co-operatives. Secondly, the component cost of debt itself has declined over the four year period.

The spread is the difference between the rate of return (r) and WACC. A positive spread (r greater than WACC) will imply a value creating situation whilst a negative spread will be a value destruction situation. As can be observed from table 5, the spread is negative in each of the four years under review. This situation occurred despite a constant decline in WACC which highlights once again the fact that the rate of return is arguably the main problem area or stumbling block that prevents the cooperatives from being in a value creating situation.

From the above analysis certain recommendations will be made in the next section.

6.   CONCLUSION AND RECOMMENDATIONS

The shareholder of any enterprise wants to know whether value is being created or destroyed by the management of that enterprise. Whilst there are many ways in which "value" can be expressed, the so-called "economic" methods take not only the total cost of capital into account, but also the amount of capital needed to generate the accompanying profit.

In this study EVA has been identified as the method to express the value created or destroyed by the management of wine co-operatives. After a thorough explanation and calculation of the components of EVA, the EVA of a number of co-operatives were calculated and analysed. Important trends can be identified, conclusions drawn and recommendations made from these results.

It was illustrated that of the 36 co-operatives the minority created value as expressed by a positive EVA. By far the majority destroyed value which result in a negative EVA. In addition, this situation in many occasions occurred for a number of years in succession.

It was evident from the data that over the four year period under review that WACC declined consistently (this was partly due to declining interest rates over the period as well as an increased usage of cheaper debt in the capital structure). Whilst this was a positive factor in the value creation process, it was virtually nullified by the fact that the rate of return declined which result in a negative spread. In addition, more capital was committed to the enterprises. This was naturally a recipe for value destruction to take place.

From these results it can be recommended that in the first place a co-operative

must determine its position in terms of value creation and destruction – does it have a positive or a negative EVA? From this position it is clear what to do to improve the EVA:

a) Increase the rate of return by improving the operating margins under which the specific co-operative operates. This will include a thorough analysis of operating activities as well as an analysis of the markets within which the co-operative operates and the products which it sell;

b) decrease WACC, firstly by obtaining financing at as low as possible rates and secondly, by structuring the capital base of the co-operative in such a way as to take into account the fact that debt is the cheapest form of financing;

c) invest in project that renders a rate of return greater than WACC;

d) liquidate capital from projects where the cost (WACC) is greater than the return thereon.

As a value-based management system, EVA includes measures to gauge financial performance, evaluate strategic, plans and acquisition candidates, identify unprofitable product lines, and increase working capital focus. The system is designed to focus on key value drivers and the cost of capital, while establishing a basis for incentive compensation and communications within the firm and with the investment community.

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