The Capitalization of Seller Paid Concessions

Authors

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Abstract

Using a hedonic pricing model, we analyze the capitalization of total seller paid discount points and closing costs into the price of a house. We hypothesize that sellers are concerned about the sales price net of total seller paid concessions (SPNC), rather than the exact terms of the transaction. Since the SPNC is easily ascertained in the negotiation process, we further hypothesize that total seller paid concessions (TSPC) are fully capitalized into the sales price. To test this hypothesis, sales price is regressed on a set of control variables including TSPC. In this framework, TSPC will be positive and not significantly different from one if concessions are fully capitalized. The empirical results provide support for the capitalization hypothesis. Negotiation strategies and study limitations follow from the empirical results.

Introduction

The real estate literature contains numerous studies that examine the sales price of residential property. Over the last two decades, researchers have rigorously investigated the impact of creative financing techniques on contract price. Creative financing is a generic term that includes, but is not limited to, issues such as mortgage buydowns, below market interest rates, mortgage assumptions, seller paid discount points and seller paid closing costs. The majority of the prior research examines the first three issues. Representative studies in this area of research include Bible and Crunkelton (1983), Sirmans, Smith and Sirmans (1983), Clauretie (1984), Rosen (1984), Smith, Sirmans and Sirmans (1984), Sirmans, Sirmans and Smith (1985), Sunderman, Cannaday and Colwell (1990) and Black (1995).

Some, but not all, issues relating to discount points and/or closing costs have been addressed in the real estate literature. For example, Zerbst and Brueggemnan (1977), Gunterman (1979), Smith and Sirmans (1984) and Colwell, Guntermann and Sirmans (1979) examine the impact of concessions on non-conventional financing. In general, these studies find that creative financing is capitalized into the final sales price but less than fully. Hence, there is economic significance in

negotiating the sales price as well as other terms of the transaction. Other studies examine discount point\interest rate tradeoff strategies in the mortgage decision process. Follain (1990) has provided research in this area along with Dunn and Spatt (1988) and Cannaday and Yang (1995).

Recently, research analyzing the capitalization of discount points and closing costs has reignited. Black and Nourse (1995) examine whether a buyer's broker could reduce the closing costs that are usually paid by the buyer. They find statistically significant evidence that a buyer's broker can reduce these costs. Asabere and Huffman (1997) directly address the capitalization of seller paid discount points and closing costs. They hypothesize that seller paid concessions in the form of discount points and closing costs will be significantly capitalized into the final selling price for affordability and ''out of pocket'' expense reasons, respectively. Using a hedonic pricing framework, the authors find that discount points are capitalized into the selling price,[1] but closing costs are not. Imperfect capitalization implies that the structure (price and other terms) of a contract is significant and should impact the negotiation process. For example, a seller would be economically worse off by paying closing costs and/or points if he/she is unable to recover these concessions in the form of a price premium at closing.

The results of the Asabere and Huffman paper are intuitively unappealing as the seller can easily ascertain the impact of his/her concessions on their final proceeds. Utilizing multiple approaches and a different data set, this study reexamines the capitalization of seller paid discount points and closing costs. The article provides the theoretical framework from the buyer's and seller's respective points of view. The study then presents the methodology and data, analyzes the empirical results and presents the conclusions.

Theoretical Framework

Seller Concessions from the Buyer's Vantage Point

In the simplest sense, a buyer may ask for seller concessions of discount points and/or closing costs to overcome some financial shortcoming. With respect to discount points, the seller is subsidizing the buyer's debt service payment. In effect, the seller makes the house more affordable to the buyer on a monthly payment basis and reduces the buyer's ''out of pocket'' expenses at closing in the process. In essence, additional demand is created for the property as more potential buyers can theoretically afford to purchase the house.

Closing costs, on the other hand, will not reduce the potential buyer's debt service. In fact, if a premium is demanded for the concessions, the buyer's debt service may increase. What closing cost concessions do is reduce the buyer's ''out of pocket'' expense at closing. Again, this could create additional demand for the property, as more people will have the funds necessary to close. This type of

financing is common for buyers with relatively large incomes but limited cash or marketable securities.

Finally, it may be that certain buyers believe that they can economically enhance themselves by negotiating on more factors than price. This would be true if seller concessions are not fully reflected in the form of a price premium.

Concessions from the Seller's Vantage Point

This study, as does Asabere and Huffman (1997), expects that a seller would require an increase in price to offset any concessions provided at closing. With respect to discount points, it is assumed that a seller would be willing to concede points to facilitate a sale, as long as the payment is recovered as a price premium at closing. Similarly, a seller would offer to pay substantial closing costs in the negotiation process if they could recapture these outlays via capitalization. To this point, our theoretical framework coincides with that of Asabere and Huffman. However, due to tax incentives and debt service issues, Asabere and Huffman hypothesize that discount points are more likely to be fully capitalized into the sales price as a premium. Certainly, there are tax implications with respect to the final construction of the closing. However, we assume that a buyer as well a seller is primarily concerned with the pretax implications of a closing. While this assumption may not hold for the astute buyer or seller, it is a reasonable assumption for the average buyer and seller.

Framework for Seller Concession Capitalization

In the negotiation process, a seller is easily able to ascertain the sales price net of total seller paid concessions (SPNC). A simple example will illustrate this point. A seller, with utility function and financial constraints, determines ex ante the minimum SPNC that is acceptable. Any offers that do not meet the seller's minimum SPNC would be rejected. We hypothesize that any offer that meets the seller's minimum SPNC would be accepted regardless of its' structure with respect to concessions.[2] For example, if a seller's reservation SPNC is $100,000 and a buyer offers $100,000 as the sales price, but requests positive seller concessions, the offer will be rejected. However, if the buyer increases the offer by the magnitude of the concessions, the seller will accept the offer, as the seller will receive the amount of proceeds necessary given his/her utility function and financial constraints. Certainly, a seller would accept all offers where the SPNC exceeds the minimum reservation SPNC. Furthermore, we recognize the possibility that a buyer could begin by offering something less than the seller's minimum SPNC. However, given the seller's ex ante ability to set the reservation SPNC, a legally binding contract will only be formed if this minimum is obtained.

If the above is true, both seller paid discount points and closing costs will be fully reflected in the sales price because the seller is indifferent to the structural form

of the contract and is only concerned with his/her SPNC.[3] Hence, a seller can establish a contract sales price given his/her acceptable SPNC and the concessions requested by a buyer. A buyer may still desire to negotiate for seller concessions, due to individual circumstances, but should expect to pay for the concessions in the form of a price premium.

Methodology and Data

The Model(s)

In order to test our capitalization hypothesis, we first regress sales price (*SP*) on a set of control variables commonly used in hedonic pricing models, including a separate control for total seller paid concessions (*TSPC*). Where *TSPC* is defined as the sum of total seller paid closing costs and discount points.[4] If our capitalization hypothesis is correct, *TSPC* will be positive with a coefficient not statistically different from one, indicating concessions are fully capitalized into the contract sales price. A base model, hereafter referred to as Model 1, is expressed as:

$$\begin{aligned} SP = {} & \beta_0 + \beta_1 AGE + \beta_2 SQFT + \beta_3 BED + \beta_4 BATH \\ & + \beta_5 LEE + \beta_6 LANIER + \beta_7 CARVER + \beta_8 COUNTY \\ & + \beta_9 GAR + \beta_{10} CPT + \beta_{11} POOL + \beta_{12} FP + \beta_{13} GB \\ & + \beta_{14} NC + \beta_{15} TSPC + \varepsilon_i. \end{aligned} \tag{1}$$

Here, *SP* represents the contract sales price. The variables *AGE*, *SQFT*, *BED* and *BATH* serve as continuous predictors and represent the property's age, square footage, number of bedrooms and number of baths, respectively.

Five high school zones serve as location proxies. We place four dummy variables in the model: *LEE*, *LANIER*, *CARVER* and *COUNTY*, which are equal to one if the property is located in the Lee, Lanier, Carver and County high school zones, respectively. They are zero otherwise. The base dummy variable is Jefferson Davis (*JD*) and is reflected in the constant term. In addition, three types of parking are specified for the model: driveway only, carport and garage. Two dummy variables are placed in the model, *GAR* (representing garage) and *CPT* (representing carport), which take on values of one if the property has a garage or carport, respectively. Otherwise they are zero. Again, the base dummy variable driveway only (*DRIVE*) is captured by the intercept.

Control variables are also specified for the presence of a pool (*POOL*), fireplace (*FP*), garden bath (*GB*) and whether or not the property is newly constructed or

existing (*NC*). *NC* is specified to control for the possible segmentation in the market between existing and new properties. The professional negotiating skills of builders might exceed those of existing property owners. Along the same line, the demand for new construction might be such that it would place a premium on newly constructed properties. In either case, a control for new construction is warranted.

As specified in Model 1, the independent variable *TSPC* should be positive and significant with a coefficient of one, if concessions are fully capitalized into the contract sales price. We formally test whether the estimated coefficient is equal to one in two ways. Initially, we simply construct a 95% confidence interval on *TSPC* and ascertain if one is contained within the interval. Subsequently, we directly test the null hypothesis that β_{15} is equal to one verses the alternative hypothesis that β_{15} is different from one. To do this, we estimate a reduced model that subtracts *TSPC* (technically 1**TSPC*) from *SP* and removes *TSPC* from the right hand side of Model 1. The reduced model is specified as:

$$\begin{aligned}(SP - 1{*}TSPC) = {} & \beta_0 + \beta_1 AGE + \beta_2 SQFT + \beta_3 BED \\ & + \beta_4 BATH + \beta_5 LEE + \beta_6 LANIER \\ & + \beta_7 CARVER + \beta_8 COUNTY + \beta_9 GAR \\ & + \beta_{10} CPT + \beta_{11} POOL + \beta_{12} FP \\ & + \beta_{13} GB + \beta_{14} NC + \varepsilon_i. \qquad (2)\end{aligned}$$

Essentially, if the coefficient equals one, the ratio of the sum of squares error for Models 1 and 2 will not be statistically different. Formally, the following *F*-test is used to test if β_{15} is significantly different from one and thereby serve as another test of the capitalization hypothesis:

$$F^* = \frac{SSE\,(2) - SSE\,(1)}{df\,(2) - df\,(1)} \div \frac{SSE\,(1)}{df\,(1)}.$$

The degrees of freedom (df) above are associated with the sum of square errors (*SSE*) of the respective models. Finding an insignificant *F**-Statistic is indicative of full capitalization. That is to say, we fail to reject the null hypothesis that β_{15} is equal to one.

An alternative way to explore capitalization is to alter Model 1 by changing the dependent variable to sales price less total seller paid concessions (*SPNC*) as shown next:

$$SPNC = \beta_0 + \beta_1 AGE + \beta_2 SQFT + \beta_3 BED + \beta_4 BATH + \beta_5 LEE + \beta_6 LANIER + \beta_7 CARVER + \beta_8 COUNTY + \beta_9 GAR + \beta_{10} CPT + \beta_{11} POOL + \beta_{12} FP + \beta_{13} GB + \beta_{14} NC + \beta_{15} TSPC + \varepsilon_i. \quad (3)$$

All of the independent variables are defined as in Model 1. In this specification, *TSPC* will be statistically insignificant if concessions are capitalized. However, finding an insignificant coefficient on *TSPC* is a necessary but not sufficient condition for capitalization. If *TSPC* is insignificant in Model 1, it could prove to be insignificant in Model 3. Hence, if Model 3 is estimated in isolation, a false positive result supporting capitalization could be obtained. As such, Model 3 serves as a check of our capitalization hypothesis, but the prior estimations are necessary.

The Data

The initial data set consists of all residential real estate conventional loan closings (2,716) that occurred during the calendar year 1998 in Montgomery, Alabama. The data is provided via two primary sources. The Multiple Listing Service (MLS) of the Montgomery Area Association of Realtors provides all of the data except for property age and square footage measurements. These measurements are provided by the Montgomery County Tax Assessor's office.

In obtaining the final data set, we first eliminate observations that do not have data on age and square footage. In addition, data entry errors from the MLS such as seller concessions that exceed conventional lender's underwriting guidelines, negative days on market, negative bedrooms or baths, etc., are eliminated leaving 1,556 observations. An examination of the raw data (1556 observations) reveals that the majority of transactions involving zero seller paid concessions occurred for properties selling in excess of $100,000. This finding is consistent with our concessions framework, which suggest that relatively ''cash poor'' buyers are likely to request concessions. Moreover, seller concessions for houses greater than $100,000 represent approximately 1% of the total contract sales price. Hence, for these houses, the impact of seller paid concessions would be swamped by the variability in total sales price.[5] Given these considerations, we only include properties that sold for less than $100,000 to test our capitalization hypothesis leaving a total of 778 observations.[6] Due to the nature of our data, we cannot make any statements regarding capitalization over all price ranges. Descriptive statistics for the final sample are contained in Exhibit 1.

Exhibit 1 | Summary Statistics

Variable	Mean	Median	Std. Dev.
SP ($)	78,387.85	79,900.00	13,955.47
AGE	25.21	23.00	18.17
SQFT	1,628.26	1,541.50	430.19
BED	3.03	3	0.48
BATH	1.96	2	0.39
LEE	0.43	0	0.49
JD	0.34	0	0.47
LANIER	0.19	0	0.39
CARVER	0.02	0	0.15
COUNTY	0.02	0	0.11
GAR	0.11	0	0.32
CPT	0.20	0	0.39
DRIVE	0.69	1	0.46
POOL	0.06	0	0.23
FP	0.63	1	0.48
GB	0.18	0	0.38
NC	0.03	0	0.17
TSPC ($)	2,057.89	2,476.00	1,228.26

SP = Contract sales price
AGE = Age of the property
SQFT = Square footage
BED = Number of bedrooms
BATH = Number of baths
LEE = One if in Lee school zone, zero otherwise
JD = One if in Jefferson Davis school zone, zero otherwise
LANIER = One if in Lanier school zone, zero otherwise
CARVER = One if in Carver school zone, zero otherwise
COUNTY = One if in County school zone, zero otherwise
GAR = One if property has a garage, zero otherwise
CPT = One if the property has a carport, zero otherwise
DRIVE = One if the property has a driveway only, zero otherwise
POOL = One if the property has a pool, zero otherwise
FP = One if the property has a fireplace, zero otherwise
GB = One if the property has a garden bath, zero otherwise
NC = One if the house is newly constructed, zero otherwise
TSPC = Total seller paid concessions, which is the sum of seller paid discount points and closing costs

Empirical Results

The empirical results for Model 1 are contained in Exhibit 2, Panel A. The model is highly significant with an overall F-Statistic of 37.35 (p-value $< .000$) and a R^2 of 42.4%. The general hedonic modeling assumptions of normality and common variance were verified by way of examining the specified model's normal probability plot and scatter plots of the residuals versus predicted values. None of the plots suggest significant deviations from the assumptions of the general linear model.[7]

Problems with multicollinearity are always a concern in hedonic pricing research utilizing multiple regression techniques. Accordingly, the regression coefficients of Model 1 were compared to the correlation matrix. This examination revealed no multicollinearity concerns. Formally, the variance inflation factors (VIF) were computed and reported in Exhibit 2, Panel A. VIF values in excess of 10 indicate that multicollinearity may be unduly influencing least squares estimates. In Model 1, as well as in the other models, none of the factors are near this upper bound rule of thumb (Neter, Wasserman and Kutner, 1989).

In examining the control variables (excluding for the moment the critical factor of total seller paid concessions), the results show that several variables are significant and display their expected sign. In particular, for the continuous predictors, total square footage, number of bedrooms and baths are significant and positively related to *SP*, as expected. The continuous predictor age is negative and significant, as expected.

Next, considering the dichotomous variables controlling for the presence of a fireplace, garden tub and pool, the coefficients are all positive and significantly related to *SP*, as expected. The base case for parking type (driveway only), being the least desirable of the parking options, indicates the coefficients for garage and carports should be positive with garage having the larger magnitude due its preference over carports. We find this result; however, the coefficient on carports is statistically insignificant.

Additionally, each of the dichotomous variables representing school zones are negative and significantly (excluding *COUNTY*) related to *SP* as expected, due to general preference for houses located in the Jefferson Davis school zone. Finally, *NC* is insignificant in the model. Earlier we hypothesized that the natural market segmentation between existing and newly constructed properties warranted a control for new construction. The empirical results suggest that neither builders negotiating skills nor excess demand for new construction significantly impact *SP*.

Turning to the critical factor of this study, *TSPC*, the variable's coefficient is significant in Model 1 with a coefficient .921 (p-value = .004). To test our capitalization hypothesis, we need to determine if the coefficient is equal to one. As noted, we test this by first constructing a confidence interval on the coefficient. The 95% confidence interval is (.298, 2.14) indicating that one is contained within

Exhibit 2 | Regression Analysis

	Coef.	Std. Dev.	*t*	*p*	VIF
Panel A: Predictor					
Constant	43,262	3,463	12.49	0	
AGE	−59.65	24.13	−2.47	0.014	1.3
SQFT	4.61	0.93	4.96	0	1.1
BED	4,733.1	824.3	5.74	0	1.1
BATH	4,848	1,067	4.55	0	1.2
LEE	−2,686	904.8	−2.97	0.003	1.4
LANIER	−8,813	1,162	−7.58	0	1.4
CARVER	−11,962	2,595	−4.61	0	1.1
COUNTY	−4,279	3,473	−1.23	0.218	1
GAR	3,300	1,274	2.59	0.01	1.1
CPT	135	1,037	0.13	0.896	1.2
POOL	4,278	1,674	2.56	0.011	1
FP	6,579.4	868.3	7.58	0	1.2
GB	9,829	1,119	8.78	0	1.3
NC	1,203	2,332	0.52	0.606	1.1
TSPC	0.92	0.32	2.90	0.004	1
R^2	.424				
Overall *F*-Stat	37.35			.000	
SSE	8.72+10				
df-error	762				
Panel B: Model 2					
Constant	43,060	3,364	12.8	0	
AGE	−59.46	24.11	−2.47	0.014	1.3
SQFT	4.61	0.93	4.96	0	1.1
BED	4,734.7	823.7	5.75	0	1.1
BATH	4,862	1,065	4.57	0	1.2
LEE	−2,693.6	903.7	−2.98	0.003	1.4
LANIER	−8,798	1,160	−7.58	0	1.4
CARVER	−11,931	2,591	−4.61	0	1.1
COUNTY	−4,271	3,471	−1.23	0.219	1.0
GAR	3,311	1,272	2.60	0.009	1.1
CPT	152	1,034	0.15	0.883	1.1
POOL	4,259	1,671	2.55	0.011	1.0

Exhibit 2 | (continued)
Regression Analysis

	Coef.	Std. Dev.	*t*	*p*	VIF
Panel B: Model 2					
FP	6,577.6	867.8	7.58	0	1.2
GB	9,830	1,119	8.79	0	1.3
NC	1,270	2,315	0.55	0.584	1.1
R^2	.418				
Overall *F*-Stat	39.14			.000	
SSE	8.72 + 10				
df-error	763				

Note: The dependent variable = sales price.

the interval. Secondly, we utilize a reduced model (Model 2) and directly test the null hypothesis that β_{15} is equal to one verses the alternative hypothesis that β_{15} is different from one. The regressions results from the reduced model are contained in Exhibit 2, Panel B. From Exhibit 2, the F^*-Statistic can be constructed and has a value of .061, which is insignificant, indicating we cannot reject the null hypothesis that β_{15} is equal to one. Both of these tests indicate that the coefficient on total seller paid concessions in Model 1 is not statistically different from one, indicating capitalization of concessions into sales price for our sample set as hypothesized.

As a final check of our capitalization hypothesis, we investigate the necessary condition suggested in Model 3 in Methodology and Data. We regress sales price less total seller paid concessions (SPNC) on the property characteristics as defined in Model 3 (see Exhibit 3). Again, the coefficients exhibit signs and significance similar to those of prior specifications in this work. Most importantly, the coefficient of *TSPC* is insignificant as expected in our framework indicating capitalization.[8]

Thus, the cumulative empirical evidence using our sample suggests to the extent that seller paid concessions are present in the negotiation process that it is reasonable to assume that buyers pay for concessions in the form of price premiums. A normative negotiation strategy follows from this result for buyers. Since the buyer effectively pays for these seller granted concessions, the buyer should not be misled into believing that simply shifting these costs to the seller in contractual terms will relieve them from paying these expenses.[9]

Exhibit 3 | Regression Analysis

Predictor	Coef.	Std. Dev.	*t*	*p*	VIF
Constant	43,262	3,463	12.49	0	
AGE	−59.65	24.13	−2.47	0.014	1.3
SQFT	4.61	0.93	4.96	0	1.1
BED	4,733.1	824.3	5.74	0	1.1
BATH	4,848	1,067	4.55	0	1.2
LEE	−2,686	904.8	−2.97	0.003	1.4
LANIER	−8,813	1,162	−7.58	0	1.4
CARVER	−11,962	2,595	−4.61	0	1.1
COUNTY	−4,279	3,473	−1.23	0.218	1
GAR	3,300	1,274	2.59	0.01	1.1
CPT	135	1,037	0.13	0.896	1.2
POOL	4,278	1,674	2.56	0.011	1
FP	6,579.4	868.3	7.58	0	1.2
GB	9,829	1,119	8.78	0	1.3
NC	1,203	2,332	0.52	0.606	1.1
TSPC	−0.08	0.32	−0.25	0.80	1
R^2	.418				
F-Stat	36.49			.000	

Note: Dependent variable = sales price net of total seller paid concessions.

Conclusion

In this study, linear hedonic analysis is applied to a data set of residential real estate closings that occurred in Montgomery, Alabama in 1998. This study analyzes the capitalization of seller concessions. Specifically, we regress the sales price on a set of predictor variables including our variable of interest, total seller paid concessions (*TSPC*).

We find strong support for our hypothesis that total seller paid concessions are capitalized into the contract sales price. As such, a buyer requesting seller concessions will be forced to pay for these costs in the form of a higher contract price. In other words, since the buyer pays for these costs, they should understand that negotiating for the seller to pay concessions will not allow them to escape these fees.

Real estate professionals have long understood this point. They understand that buyers negotiate on their total investment in a property. Whereas, sellers, being

able to ex ante establish their reservation SPNC and thereby a contract sales price, negotiate on their acceptable level of SPNC. Thus, the task for the real estate broker becomes that of establishing the seller's reservation SPNC and adjusting the contract sales price for the concessions necessary to the buyer.

Endnotes

[1] When controlling for financing type, Asabere and Huffman (1997) find that discount points are not capitalized into the contract price for nonconventional financing.

[2] It may be possible that the equity position of a seller alters the minimum acceptable SPNC. Unfortunately, the data provided does not contain any information about the mortgage balances and/or the equity positions of the sellers.

[3] Since market conditions can impact sales price, it is important to note that in 1998 the National Association of REALTORS® reported an upward trend in the national housing markets with respect to both new and existing properties. In fact, existing house sales reached an all time annualized high while existing inventories hit an all time low. New house starts also approached all time highs (NAR, 1999). In our framework, however, market conditions should have little impact on the shifting of costs. We implicitly assume that in a strong sellers' market, the SPNC increases accordingly. In other words, the seller requires a relatively high SPNC. In a buyer's market, we implicitly assume that the seller sets the SPNC lower. Again, it would not matter what form the offer came in (*i.e.*, the contract structure) as long as the seller attains the desired SPNC. Hence, in our model, market conditions alter what offer(s) the seller is willing to accept.

[4] Some of the prior research in this area specified models that control separately for discount points and closing costs paid by the seller. However, during the timeframe of our data, as well as presently, the use of discount points (seller paid or otherwise) is very limited. Given the limited use of discount points, the impact of a separate variable for discount points would be swamped by the large variation in house prices in the sample set. Hence, we combine both types of seller paid concessions into a single variable, which is theoretically consistent with our capitalization framework.

[5] In addition, in sales price—SC/SP (seller concessions/sales price) space, lowess point fitting technology suggests that the occurrence of concessions as a percentage of price drops off dramatically above $100,000.

[6] We also parsed the data by including all houses with sales price less than the mean and sales price less than the median. The results were robust across all samples. As such, the remainder of the article only discusses the sample of houses with sales price less than $100,000.

[7] Slight evidence of unequal error variance, suggests a transformation of the dependent variable sales price might be warranted. Accordingly, we transform sales price to the natural log of sales price as done in prior work. In this specification, all of the predictor variables are as defined in Model 1. All of the results are consistent across models, providing support for our hypothesis.

[8] In addition, estimates of Model 3 were conducted employing the natural log of SPNC (to combat the possibility of unequal variance), the results were robust with respect to our capitalization hypothesis.

[9] Again, care should be taken in interpreting the results. We cannot make any statements for capitalization for relatively high-priced properties.

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