Forced sales and their impact on real estate prices

Herman Donner*, Han-Suck Song, Mats Wilhelmsson

a *Division of Building and Real Estate Economics /Center for Banking and Finance, Department of Real Estate and Construction Management, KTH Royal Institute of Technology, Drottning Kristinas Väg 30, 100 44, Stockholm, Sweden*

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ABSTRACT

Based on data of sold apartments and single-family houses in Stockholm, Sweden, during the period of 2006 through 2013, we find that forced sales of apartments and single-family houses cause a substantial price discount. The results of a hedonic spatial Durbin model show a negative impact on transaction price of 20.1% for foreclosed apartments and 24.6% for foreclosed single-family houses. Furthermore, the price discount increases when the number of attempted auctions is limited, which is the case for forced apartment sales owing to a lost membership in a housing association (forfeited). In those cases, the discount is as high as 29.1%.

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1. Introduction

If foreclosed properties are sold at substantially lower prices for no reason other than foreclosure status itself, it would enable buyers of such properties to resell the property subsequently in the general market and earn quick excess returns. Such arbitrage opportunities might indicate that the market for foreclosed properties is inefficient.

A major empirical challenge in estimating the magnitude of a foreclosure discount is that the characteristics of foreclosed properties tend to diverge from those properties that are sold through ordinary, unforced sales. Several studies have found that properties with foreclosure status tend to have property characteristics that have a negative impact on prices (Carroll et al., 1997; Harding et al., 2012; Pennington-Cross, 2006). The finding that foreclosed properties are sold at lower prices because they are considered less attractive than properties sold through ordinary sales does not indicate that the market is inefficient. The presence of such selection bias might cause an overestimation of a price discount associated with foreclosure status. To avoid an overestimation of the impact on price that a forced sale has, Clauretie and Daneshvary stated in

their 2009 study that researchers need to distinguish between a discount owing to no reason other than a property having foreclosure status (a "stigma effect") and an effect caused by foreclosed properties having less attractive characteristics from the general population of properties (a "proxy effect").

Several previous studies have linked a foreclosure discount to sellers having an incentive to achieve a quick sale so as to avoid costs associated with holding a property (Campbell et al., 2011; Forgey et al., 1994; Hardin and Wolverton, 1996; Shilling et al., 1990; Springer, 1996). Such seller incentives that influence the achieved price are likely to be influenced by the regulatory setting of the sale. For instance, some U.S. states require a judicial foreclosure process, which generally takes a considerably longer time to be carried out, whereas some states allow a nonjudicial foreclosure process in which a lender can repossess a property without having a court order. In addition, sale mechanisms might vary considerably within states owing to local legal and customary practices (Pennington-Cross, 2006). Therefore, the implications of forced sales will exhibit considerable differences depending on the local institutional conditions. Consequently, diverging estimates of price discounts caused by foreclosures found in previous research might be attributable to some degree to the location of the transaction data. This notion is supported by Pennington-Cross (2006), who found that foreclosures have a greater negative impact on prices in U.S. states that require a judicial foreclosure process compared with those that do not.

* Corresponding author.
E-mail addresses: herman.donner@abe.kth.se (H. Donner),
han-suck.song@abe.kth.se (H.-S. Song),
mats.wilhelmsson@abe.kth.se (M. Wilhelmsson).

A vast majority of previous studies estimating the impact of a foreclosure on the real estate sales price have been based on U.S. data, whereas empirical studies on European data have received little attention. The principal aims of this study are to determine whether a forced sale has a negative impact on the achieved sales price and the magnitude of the discount if such negative effects are present. We apply a hedonic spatial Durbin model (SDM) on data of apartment and single-family house transactions in the greater Stockholm area in Sweden, from 2006 through 2013. To our knowledge, this is the first article that applies an SDM model to estimate the potential presence and magnitude of a foreclosure discount. This model offers the benefit of being able to capture spatial dependence on both dependent and independent variables.

In Sweden, the Swedish Enforcement Authority is responsible for all final debt enforcement, including sales of foreclosed property. There are two different forms of forced sales of apartments: foreclosures and apartments sold owing to a lost membership in a housing cooperative (referred to as *forfeited sales* in this paper, see Section 3). As these forms of forced sales primarily diverge regarding the number of potential auction attempts, differences in the impact on price between these two types of sales illustrate the impact of a time constraint on achieved prices.

The remainder of this paper is structured as follows: Section 2 provides a literature review. The regulatory framework regarding forced sales in Sweden is outlined in Section 3. Section 4 presents the data, and Section 5 describes the method used. Our results are presented in Section 6, and the conclusions we draw from these results are summarized in Section 7.

2. Previous research on forced sales

An early study by Shilling et al. (1990) examined foreclosed residential condominiums in Baton Rouge, Louisiana, that had been sold by lenders in 1985. They found that these condominiums had been sold at a 24% discount, which was attributed to the lenders' incentives to sell quickly so as to avoid the costs associated with holding foreclosed condominiums. Although foreclosed condominiums might be in worse condition than non-foreclosed condominiums, the authors argued that some condominiums had been foreclosed shortly after construction and that lenders had carried out repairs of condominiums in other cases. A subsequent study by Forgey et al. (1994) on foreclosed single-family properties in Arlington, Texas, sold during the period of 1991 to 1993 found a discount of 23%. Again, the researchers argued that the discount could be attributed to sellers' willingness to accept lower prices so as to sell quickly. The study further found that cash sales resulted in a 16% discount. In addition, Hardin and Wolverton (1996) found a 22% foreclosure discount of income-producing apartment complexes sold in Phoenix, Arizona, in 1993 and 1994, which they attributed to sellers' willingness to accept prices below market value so as to sell quickly.

Based on data of single-family homes sold in Arlington, Texas, from May 1991 to June 1993, Springer (1996) found that foreclosed homes had been sold at a 4% to 6% discount and more quickly than non-foreclosed homes. The smaller impact on price compared with the previous studies by Shilling et al. (1990) and Forgey et al. (1994) is argued to be attributed to these studies' omission of variables that capture seller motivations. According to Springer, motivational factors, such as relocation, vacancy, and listing price, can have a negative impact on price. Carroll et al. (1997) found no statistically significant foreclosure discounts when examining residential house sales in Las Vegas, Nevada. Without controlling for location and common property characteristics, Carroll et al. found that foreclosed properties sold at a 12% to 14% lower price than a random sample of other properties not within a block of foreclosed properties.

The repeat sales approach taken by Pennington-Cross (2006) differentiated from earlier research carried out with hedonic pricing methods. Appreciation returns of foreclosed properties in relation to non-foreclosed properties were examined for 12,280 properties bought through unforced transactions that were subsequently sold as real estate owned (REO) properties (which are foreclosed properties that are subsequently bought by the note holder before being sold). Such properties were found to appreciate 22% less than the metropolitan-area average appreciation rate during the holding period prior to a foreclosure. This finding is consistent with research demonstrating substantial discounts of foreclosed properties. However, this does not necessarily indicate that foreclosure status itself causes a negative deviation of value appreciation. The finding is stated to be consistent with the idea that foreclosure status is a proxy for locational and property-specific characteristics, such as a neighborhood in decline. It was also found that a longer period during which the lender owns a property after a loan default causes a greater price discount, indicating that lower prices are attributable to poorer maintenance when compared with non-foreclosed properties.

When examining the correlation between real estate sales price and seller characteristics, Brasington and Sarama (2008) found that deeds indicating a foreclosure sale were associated with a 36% lower sales price. This discount on price is argued to point to a flawed auction design, offering a possible explanation for why foreclosed properties sell at such substantial discounts. Brasington and Sarama also found that foreclosures were associated with a lower mortgage interest rate, indicating that such properties are bought by more sophisticated buyers.

In their 2009 study, Clauretie and Daneshvary argued that previous research tended to mention possible explanatory factors of why foreclosed properties are sold at lower prices but did not manage to capture such effects in the models used. The authors also argued that earlier estimates of discounts above 20% were upwardly biased by about one third, mainly owing to the use of models that did not properly capture property condition and the influence on price that time on the market has. A distinction needs to be made between a stigma effect and a proxy effect: The former is a discount with no explanation other than the property is in foreclosure, and the latter describes a situation in which the foreclosure variable is a proxy for other characteristics affecting house sales prices. When correcting for endogeneity and autocorrelation, as well as including variables that capture property condition and occupancy status, Clauretie and Daneshvary found the discount on price to be 7.5% based on home sales data from November 2004 to November 2007 in Las Vegas, Nevada.

To determine whether houses sold after foreclosure or shortly after the death or bankruptcy of at least one seller are sold at a discount on price compared with other houses, Campbell et al. (2011) examined data of 1.8 million transactions (of which 110,000 were forced sales) in Massachusetts during the period of 1987 through 2009. The price discount impact was found to be 3% for bankruptcies, 5% for deaths, and, most substantially, 27% for foreclosures. Foreclosure-related sales had larger discounts in low-priced areas and for cheaper houses, which may possibly reflect a response to a greater threat of vandalism in bad neighborhoods, with high fixed costs of protection justifying larger discounts. Discounts associated with foreclosure are found to be related to the urgency of sale. The price discount on forced sales resulting from deaths was larger for older sellers as well as for larger houses whose value to a greater extent depends on their structure, which in combination with smaller discounts for condominiums led to the conclusion that death-related discounts are attributed to poor maintenance. It is argued that forced sales reflect time-varying market illiquidity of local housing markets, causing substantial and time-varying discounts—in contrast to unforced