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From fair market value to judicial market value of real estate

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Abstract. The paper proposes a brief analysis of the main elements that, on a theoretical, normative and situational basis, affect the value of properties placed as collateral for loans, with particular reference to the value they assume in the event that they are affected by an enforced procedure instead of being subject to normal sale, in free market conditions. Starting from the classic analytical estimate of the fair market value of a real estate asset in free market conditions, the paper will define the principles the appraiser has to follow to quantify the value of the asset from which to start the judicial auction. Considering the regulatory mechanisms in place in Italy, the paper will put in evidence how a value calculated for an execution sale of a property occurring in a foreclosure process is considerably far from its fair market value and even more from its final judicial value, considered as the amount that will be recovered at the end of the sale of the property by judicial auction. For debtors and creditors, the significant differences between fair market, execution and judicial values become an increasingly topical issue in the face of the growing number of default and distress of loans.

Keywords: Auction market, Appraisal, Execution sale.
JEL codes: C13, K25.

1. INTRODUCTION

The valuation of a property intended to secure a loan poses a complex set of appraisal issues, particularly articulated due to the various interacting parties (individuals, financial institutions, policy makers) and the different purposes for which the appraisal is required: from determining the security value of assets that have been put when the property is used as a guarantee for a loan, to the value of the same assets calculated for an Execution Sale Value (ESV) placed as the starting price in a judicial expropriation sale process, or where it is necessary to predict its Judicial Market Value (JMV), where the need is, for example, to quantify the value of the portfolio of mortgage loans held by a credit institution.

The paper aims to propose a brief analysis of the main elements that, on a theoretical, normative and situational basis, affect the value of properties

Table 1. Number of mortgaged properties and related amount financed by the main type of asset (year 2021).

Categories	N. of properties	Amount financed (€ billions)
RES properties for exclusive, multiple and mixed residential use	918,302	70.23
Lands	28,865	7.13
No RES properties for mixed non-residential	23,629	10.54
Others	46,291	13.56
Total	1,017,087	101.46

Source: Agenzia delle Entrate (OMI, 2022).

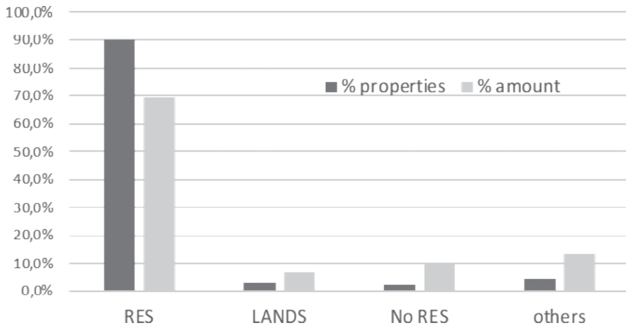

Figure 1. Percentage of mortgaged properties and percentage of the related amount financed by the main type of asset (year 2021). Source: Agenzia delle Entrate (OMI, 2022).

placed as collateral for loans, with particular reference to the value they assume in the event that they are affected by an enforced procedure instead of being subject to an ordinary sale in free market conditions.

The issue is significant considering the number of mortgaged properties in Italy. In 2021, it exceeded one million units, registering a +26% increase over the previous year: 90% of mortgages relate to properties for exclusive, multiple, and mixed residential use, 2.8% for lands and 2.3% for properties designed for mixed non-residential use. This set of properties is placed as collateral for mortgages with a financed capital exceeding 100 billion euro in 2021 (OMI, 2022).

The current economic crisis has greatly intensified cases of non-performing bank loans. It is estimated that more than one million individuals are in such conditions, for a volume of impaired loans close to 15 billion euros: 46% of these loans, amounting to 6.8 billion euros, are related to mortgages contracted for the purchase of real estate, mainly residential (Federazione Autonoma Bancari Italiani, 2023). Such a situation, given the current economic conditions, leads with increasing frequency to bank non-performing conditions and, consequently, to the initiation of legal actions to recover the remaining credit through an execution sale of the property, unless the debtor succeeds in recovering or reaches an agreement with the financial institution to proceed by recourse to a "*settlement offer*" with an "*offerta di saldo e stralcio*" (i.e. "*full and final settlement*") as indicated by the regulations in force in Italy.

The recent economic crisis, together with the pandemic period first and war conflicts later, has greatly emphasized the importance of real estate investments in the Italian economy (Locurcio et al., 2021; Morano et al., 2019). Thus, the valuation issues associated with actuation procedures broadened, especially in light of the weight that the institutional and regulatory environment has on these assets' pricing. Several scientific contributions have punctually demonstrated how regulatory provisions significantly affect the values of assets that are subject to such procedures (Pennington-Cross, 2006). Some research (Amoruso et al., 2020) goes so far as to statistically demonstrate how bureaucratic mechanisms have the upper hand, being the discount between market and execution sale value influenced to a greater extent by the duration of administrative procedures imposed by current relevant laws rather than by the physical characteristics of the assets. While in most cases the influence of institutions depresses the value of assets subject to enforcement, some studies show that in some countries auction mechanisms can even generate values that are higher than those in a fair market (Susilawati and Lin, 2006).

The findings of a series of studies comparing real estate auctions in different states have shown that institutional regulations do not always result in a depreciation of assets subject to enforcement but even in their higher valuation.

Italian laws regarding such actuation procedures have failed to substantially reduce the influence of the institutional structure, unable to curb the gap between the value that real estate properties have on the free market and when they are subject to enforcement. Even today, despite numerous adjustments, Italian regulations are extremely complex and tied to time-consuming procedures (Di Liddo et al., 2022) that make both the timing and values of capital recovery uncertain.

The regulatory changes introduced in Italy with Law 132/215 on "Urgent measures in bankruptcy, civil and civil procedural matters and the organization and functioning of the judicial administration", even if seeking to simplify and reduce the time of actuation procedures, have instead accentuated the influence of the bureaucratic process on values, resulting in a greater depreciation of properties on actuation. All this occurred in spite of the increased transparency of the sales procedures that was achieved through the systematic use of online platforms[1] dedicated to the wider dissemination of auctions: through this system the stakeholders hoped for an increase in the number of potential buyers with which there should have been an expansion in demand and, consequently, a greater speed of adjudication with fewer discounts. However, despite these important measures, auctions are still poorly attended, as are excessive execution times and markdowns practiced. Referring to 2022, the auctions that were finalized came to an end after an average duration of more than 4.5 years, registering an average devaluation of the properties, to be intended as the difference between the initial appraisal value and the award price, equal to -29% (Reviva, 2022). Some significant studies highlight the persistent complexity of the entire judicial process and propose interesting calculation models that offer the estimator an analytical tool capable of reconciling the value of real estate determined according to the Italian appraisal doctrine with all the variables must be that belong to the particular regulatory conditions in which the auction is conducted (Tajani et al, 2021).

2. THE ESTIMATION OF A PROPERTY UNDER AN EXECUTION SALE

In setting up the valuation of a property, the appraiser must start from a careful understanding of the appraisal question, correctly interpreting the client's actual needs and considering all normative and jurisprudential indications referable to the specific case.

In the valuation of a property subject to an execution sale, Article 568 Paragraph 1 of the Italian Code of Civil Procedure (c.p.c.), according to the version revised by order of August 21st, 2015, states punctually that, for the purposes of expropriation, the value of a property must be determined in terms of its market value. In Paragraph 2 of the same article, it is also pointed out how the expert appointed by the court must carry out his assignment by indicating analytically, in addition to this value: *"… all adjustments and corrections of the estimate, including the reduction of the market value applied for the absence of the guarantee for defects of the goods sold, and specifying these adjustments separately for the costs of urban planning regularization, the state of use and maintenance, the state of possession, the constraints and legal charges that cannot be eliminated during the executive procedure, as well as for any unpaid condominium expenses"*.

Interpreting the indications of art. 568 in the classic appraisal doctrinal terms, we can state that the market value indicated in the current regulatory provision is calculated considering all the advantages and disadvantages as well as the additions and deductions that concern the specific property examined, thus taking into account not only the intrinsic and extrinsic characteristics of the property in a free market scenario, but also evaluating the particular circumstances in which the sale of the property will take place, explicitly citing, among the various causes, the absence of guarantees for "hidden defects". In the case of a normal sale, these defects can be verified by the appraiser, who can thoroughly examine the property, and even if they are not detected, the law guarantees the buyer, even after the transaction for any defects that significantly reduce the usefulness and/or value of the property[2].

In determining the market value, special consideration must be given to changes that might occur in the medium to long term and are already evident at the time of appraisal. Special attention should be paid to all environmental, social and governance (ESG) risks (European Banking Authority - EBA, 2022). The European Banking Authority plays a crucial role in the European Union's banking sector, providing guidelines, standards, and recommendations to ensure financial stability and protect consumers. EBA has recently emphasised the importance of integrating ESG factors into banks' risk management processes. This includes considering environmental risks (e.g., climate change, pollution), social risks (e.g., human rights violations, labor practices), and governance risks (e.g., board structure, executive compensation) in assessing the overall risk profile of banks. As evident when considering the effects of climate change, these risks are increasingly high and heavily affect the value of real estate assets because they can both lead to lower future profitability and alter their current patrimonial value[3] (Bambagioni, 2022). These ESG risks

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[1] Established and maintained by the Ministry of Justice, the Public Sales Portal (PVP) (www.pvp.giustizia.it) collects, publicizes and manages public sales that undergo through the Judicial Administration.

[2] Article 1490 of the Italian Civil Code states: "*Warranty for defects in the object sold. The seller is obliged to guarantee that the object sold is free from defects that would make it unfit for its intended use or appreciably diminish its value*."

[3] In the real estate market, the impact of ESG is relevant considering the increasing differences in the value of properties according to their energy class, their degree of seismic safety, etc.: these aspects lead to a growing difference between new buildings and older properties. European regulations that have recently proposed mandatory measures to improve the energy class of real estate imposing upgrading expenses reduce the market value of such assets. These dynamics have major effects on the value of real estate assets placed as collateral for debt: valuing them without adequate consideration puts banks at risk of not having adequate capital in the assets placed as collateral to cover their loans.

reduce the permanence of appraisal conditions and can have a significant impact in the case of a judicial recovery transaction where, as we will see more precisely below, the conditions of uncertainty also affect the duration of the process.

The guidelines on the evaluation of properties subject to an enforcement order for the recovery of mortgages indicate market value as the economic aspect to be referred to but do not specify the procedure by which it is to be determined. In currently prevailing practice (Ministero della Giustizia, 2022), especially for the real estate market subject to judicial appraisals, market value is derived from a synthetic, multi-parameter comparative procedure, often inspired by the International Valuation Standards (IVS) as in the case of the Market Comparison Approach (MCA).

The prevalent use of this approach is consistent with the recommendations of the European Banking Authority (EBA), which urges valuations based on technical standards that, shared internationally, are suitable for increasingly globalized markets (EBA, 2020). With such approaches, an international culture of estimation finally seems to be maturing, as some scholars had hoped for many years (Forte, 1968). With particular reference to residential properties, the European Union underlines how the substantial differences in the credit policy adopted in the various Member States "… *create obstacles that restrict the level of cross-border activity on the supply and demand sides, thus reducing competition and choice in the market, raising the cost of lending for providers and even preventing them from doing business*" (Directive 2014/17 EU).

However, as some authors point out (French, 2020), each country may have different policies and different markets with varying degrees of transparency as well and, therefore, a diverse level of access to data on which to build a comparison: differences that may be such as to limit the development of a unique international valuation approach and financial policy.

3. THE FAIR MARKET VALUE AND THE FREE-MARKET CONDITIONS

Before going into the specific issues related to the valuation of a real estate subject to an enforcement order for the recovery of mortgages, it is necessary to recall the meaning to be attributed to the market value of an estate on the theoretical estimative level. The market value of an economic good expresses the amount of currency with which it will be exchanged in a market at a specific time and place. This market value will be considered as a "fair market value" if it is referred to a free (open) market. Free market conditions occur in the presence of free negotiation, with *"… all economic actors uniformly subjected to the forces acting in the market"* (Polelli, 1997). In other words, such value is obtained by matching supply and demand under conditions of free competition, with all actors operating "*…in a market governed by exclusively economic forces*" (Michieli and Michieli, 2011). These conditions should not be reduced to a perfectly competitive market: a condition that, moreover, would lead to an equivalence between the market value of the good and all the other different values (cost, subrogation, complementary and transformation) that may be associated with the same good (Medici, 1977).

These theoretical considerations regarding fair market value and free market conditions find broad confirmations with what the European Union (EU) and the Italian Banking Association (ABI) specified in this regard, with precise reference to the real estate market.

The EU, reiterating an earlier definition formulated by the International Valuation Standards Council (IVSC, 2007), considers market value as "*the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.*" (Reg. 2013/575/EU).

The reference to "*an arm's length transaction*" emphasizes that this estimated value must not be inflated or deflated by special conditions or circumstances that make trading conditions particular. In the definition, the term "*willing*" associated with the seller and the buyer is of particular importance, emphasizing that both parties must operate in the market for exclusively personal motivations without being compelled. It should also be underlined that the definition specifies how this market value should result "*after adequate marketing*", giving the owner time to bring the property to the attention of an appropriate number of potential buyers.

A similar definition of market value is formulated by the ABI in a document that, in summarizing the guidelines for the valuation of properties as collateral for credit exposures, specifies that "*Market value is a representation of the exchange value, i.e., the amount at which a property would be sold if offered for sale on the ('free') market on the valuation date under circumstances that meet defined criteria*" (ABI, 2019).

The previously formulated theoretical definition and these two operational definitions of the EU and ABI essentially express the same concepts with different words, attributing to the market value referred to the law a meaning that generally is compatible with a "fair market value" (Fernandez, 2005). With regard to the issues under consideration, in the present work, reference will always be made to a fair market value in order to underline how the market value of a property should be associated with a market characterized by free trade conditions, in which all the actors involved in the formation of supply and demand can operate with the maximum freedom of movement and information.

4. FROM THE "FAIR MARKET VALUE" TO THE VALUE IN AN EXECUTION SALE

As pointed out in Chapter 3, the fair market value of a property must refer to a market in which the matching of supply and demand is the expression of a free choice of all interacting actors, assuming, moreover, that they operate with the time and the necessary information to be able to make informed decisions.

However, both the conditions of free choice and full awareness are lacking in the case the appraisal must evaluate a property subject to an execution sale. In fact, in such cases, almost opposite conditions are generated, with an absolute non-spontaneity of the offer and often significant information asymmetries that make the knowledge of the property incomplete and the date of the sale uncertain.

The consistency of these constraints has a very significant impact on the specific market in which a valued property is affected by an execution sale, and this is punctually quantified by the relevant differences that occur between market values and the final auction base prices at which these properties are sold.

Some statistical sources made available by private institutions operating in the field of real estate appraisals in Italy (Astasy, 2019; Immobiliare.it, 2020) have accurately quantified these differences, showing how, over time in the Italian market, the differences between auction prices and free market values have increased.

In 2007, before the financial turmoil triggered by the bankruptcy of Lehman Brothers, the auction prices were, on average, 15% lower than market values[4]. After only five years, in 2012, this deviation tripled, reaching in 2020, also due to the mechanisms introduced with the latest Italian law provisions, final auction adjudication prices of the properties even 57% lower than their market values.

As indicated earlier, Article 568 of the *Italian Code of Civil Procedure* (c.p.c.) highlights in Paragraph 1 that

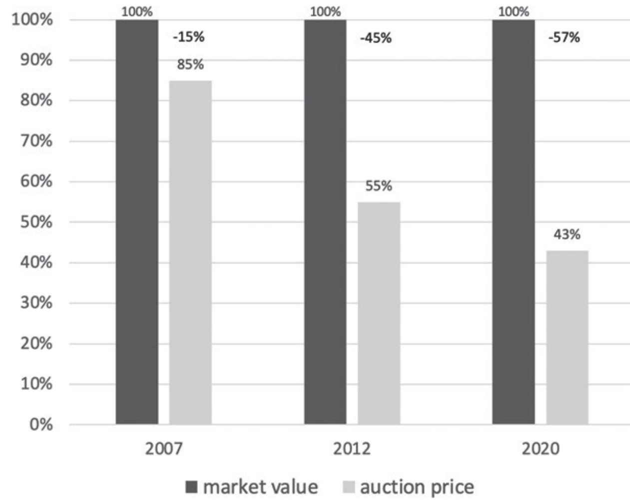

Figure 2. Consistency (%) of the base auction price compared with the free market value. Source: our elaborations on data Immobilare.it and Astasy.

a property subject to an execution sale must be estimated considering its market value, and in Paragraph 2 punctually indicates the need to correct this value by considering all the "adjustments and corrections" that the conditions of expropriation impose. However, looking at the effects that Italian regulation has generated in recent years, it is evident that it does not indicate with sufficient precision the extent to which such adjustments should weight considering the particular market conditions that are generated for a property subject to an execution sale for the recovery of mortgages. The only sentence of the article that offers guidance to this effect can be identified in the following "... *reduction in market value practiced due to the absence of the warranty for defects in the property sold*" (Article 568 c.p.c.)

This issue is specifically highlighted by ABI, which suggests that judges give appraisers a specific mandate to proceed in determining a "*market value with assumption*" (i.e. "*valore di mercato con assunzione*") (ABI, 2019). By this precise term, the Italian Association intends to emphasize the need to urge the professional to properly weigh all the conditions and truths that, surrounding the valuation under consideration, invalidate a normal market value, as already specified in EU Reg. 575/2013.

What elements should the appraiser need to consider in determining the value in an execution sale? In light of the current regulations, is it appropriate to approximate this value to the value of the mortgage portfolio held by a lending institution? We will now consider the first aspect, leaving in Chapter 5 the discussion on the second question.

[4] This deviation has long been a benchmark for appraisers when they had to quantify in their appraisals the percentage of abatement to be applied to the fair market value.

In the practice that ordinarily accompanies an execution sale, the appraiser will not be able to analytically examine all aspects that may reduce the market value of the asset. The appraiser will only be able to quantify an approximate percentage that will be used to reduce the actual market value and to determine a value for the execution sale that will be prudentially lower than the fair market value.

By examining the reports of appraisers appointed by the courts to estimate properties subject to execution sale (Ministry of Justice, Public Sales Portal 2022), it can be observed that, at the first stage, appraisers determine the properties' *Fair Market Value* (*FMV*) often adopting a Market Comparison Approach (MCA). At the second stage, to determine the *Execution Sale Value* (*ESV*), appraisers reduce the *FMV* by applying a percentage (d) that, on average, ranges from 15 to 25%:

$$ESV = FMV \cdot (1 - \delta) \qquad [1]$$

Assuming that the appraiser has perfect knowledge of the property, starting from its profitability up to all the elements that will add up due to execution, it is possible to examine the procedure analytically as follows.

The first step is to determine the value of the property in a free market, adopting an Income Approach. By doing so, the *fair market value* of the property will be calculated using the following formulation:

$$FMV = \frac{I}{r'} + A - D \qquad [2]$$

where:
- I annual income
- r' real capitalization rate[5]
- A additions
- D deductions

The "normal" condition is to show the property in the state of total comparability with other properties, taking into account any "Additions" (A) and "Deductions" (D) to consider the specific differences the estimated property has from all other similar assets considered for comparison. This is the value of the property sold under free market conditions.

To achieve the execution sale value (*ESV*) of the same property, the appraiser will have to consider the fair market value but correcting it considering all the particular conditions under which the sale takes place:

$$ESV = \left(\frac{I'}{r''} + A - D\right) - \sum_{p=0}^{n} \frac{(I' - I^t)_p}{(1+i)^p} - k_0 \qquad [3]$$

where:
- I' income of property including any permanent defects;
- r'' real capitalization rate, including disadvantages due to judicial execution;
- A additions; relating to normal condition of sale
- D deductions, relating both to normal condition of sale and other emerging expenses due to the execution;
- I^t transitional incomes due to:
  – temporary defects of the estate,
  – complete or partial immediate accessibility of the property;
- i discount rate;
- n duration of transitional income;
- k_0 costs for recovery operations to remove transitory defects.

The first element that determines a difference between fair market value and the execution sale value, as moreover explicitly stated by the norm, is due to the fact that in the execution sale there are no guarantees for any "hidden defects". This problem takes on significant relevance because properties subject to execution sale cannot often be accurately examined by the appraiser, and he/she is not able to operate within the so-called "ordinary diligence". Therefore, in the case of an execution, defects represent an unknown of absolute importance that must be appropriately considered by deducting from the full market value of the property an amount that can cover the risks that in this case will be totally at the expense of the buyer of the property.

Hidden defects may be permanent and/or temporary. In the case of a permanent defect, it may result in a lower value of the property by reducing its productivity ($I' < I$) and/or generating disadvantages, reducing the desirability of the estate in the market ($r'' < r'$).

If the hidden defect turns out to be transitory, i.e., it turns out to be somewhat recoverable, it may affect the value of the appraised property:
– by reducing for a certain number of years (n) the profitability of the property ($I^t < I'$);
– by imposing costs k, related to the recovery operations that the buyer will have to undertake to remove the defects.

[5] The real capitalization rate adopted in (2) is analytically determined by first identifying a "normal" capitalization rate (r_n), deriving from the average of the capitalization rates attributable to *i-th* properties similar to the one like under estimation and for which the related annual incomes (Ii) and market values (MV_i) are known:

$$r_n = \frac{\sum_{i=1}^{n} I_i}{\sum_{i=1}^{n} MV_i}$$

Before being used for capitalization, the normal rate must be adjusted for the "advantages" and the "disadvantages" that the real estate possesses and that distinguish it from the other assets with which it is compared: the advantages will reduce the normal rate while, at the opposite, the disadvantages will increase it.

The lower temporary incomes indicated in Equation (3), in addition to being associated with such removable defects, may be generated by the fact that the sale resulting from the enforcement does not allow the buyer to have immediate availability of the asset in its entirety ($I_t = 0$), or only partially ($I_t > 0 < I'$).

Therefore, because of the different causes determining transitory incomes, it is important to consider how the lower profitability of the property due to hidden defects and non-immediate accessibility may also have different durations, with the former predictably being able to outlast the latter[6].

It is of utmost importance to consider that the reduction in the value of the property due to the execution sale should not be included in the other deductions that the appraiser must still take into account in an estimate of the most probable market value of the property, going from its normal value to its real value, as indicated in Equation (2). This distinction must be made by the appraiser in his report, in compliance with Paragraph 2 of Article 568 of the Italian Code of Civil Procedure, distinguishing these adjustments and corrections due to the conditions of execution sale from all other adjustments and corrections that must be considered in determining the real value of the property in a normal negotiation under free market conditions.

5. FROM THE EXECUTION SALE VALUE TO THE JUDICIAL MARKET VALUE

The execution sale value is an appropriate answer if the estimation question is dictated by the need to identify a value to be used as the auction base. But if the question is to know the judicial market value of the property at the present time, then it will be necessary to consider how the value determined for the execution sale requires further adjustment, considering the average duration of the entire process and the average number of auctions and the relative bidding rebates that will most likely be necessary for the adjudication of the property.

In accordance with some operational solutions already formulated (Moncelli, 2021), if the estimative question is to determine the judicial market value (*JMV*), such as in the case where the estimation is necessary in order to quantify the value of the property in the overall value of a mortgage loan portfolio owned by an institution, then it is necessary to reduce the execution sale value (*ESV*) in the following terms:

$$JMV = ESV \cdot (1 - \alpha) \cdot \frac{1}{(1+i)^n} \qquad [4]$$

where:

α average coefficient of bidding rebates in the competent court;

$\frac{1}{(1+i)^n}$ present value factor;

i discount rate;

n average duration of auction process in the competent court.

The introduction of a present value factor into Equation (4) is necessary in order to consider that the recovery of claims may occur at a time (n) significantly distant[7] from the actuality to which the judicial value refers. The coefficient a indicates the reduction to be applied to the EVS due to the progressive auction rebates that may occur on average in the court of jurisdiction[8].

By substituting the term *ESV* in Equation (4) according to the terms expressed by Equation (3), we will achieve the following final analytical formulation of the judicial value:

$$JMV = \left[\left(\frac{I'}{r''} + A - D\right) - \sum_{p=0}^{n} \frac{(I' - I^t)_p}{(1+i)^p} - k_0\right] \cdot (1 - \alpha) \cdot \frac{1}{(1+i)^n} \quad [5]$$

Assuming that it is possible to exclude that the reiteration of auctions is to be attributed to an excessively high initial execution sale value, it is possible to say that these additional elements that further reduce the value of the property represent an aspect that is completely unrelated to any estimative logic, depending predominantly, if not exclusively, on a regulatory provision that tends to improve the efficiency of the offices (Spada, 2019) more than to ensure a fair processing of the enforcement act for the protection of all the stakeholders involved in the process.

The reduction in the value of real estate due to the reiteration of auctions must be considered when determining the value of property pledged as security for a debt. However, as proposed in this contribution, it is strongly recommended that the appraiser keep a clear demarcation between the execution sale value and the judicial market value, considering the former as the starting value to be attributed to the property to be sold

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[6] While the transitory lower income attributable to the non-immediate use of the property ceases immediately upon full availability of the property, quite different may be the time required to remove the defects in the property and the related lower income attributable to it. This is also because the removal of such hidden defects can only occur naturally at the time of full availability of the property.

[7] On average, an auction in Italy takes 1,000 days.

[8] In the case of execution sale, if no suitable offers are received, the judge proceeds with a new auction (art. 532 of the c.p.c., as amended by law 132/2015). For this new auction the judge may set a new ESV, lower than the previous one, by no more than 25% (art. 591 c.p.c.).

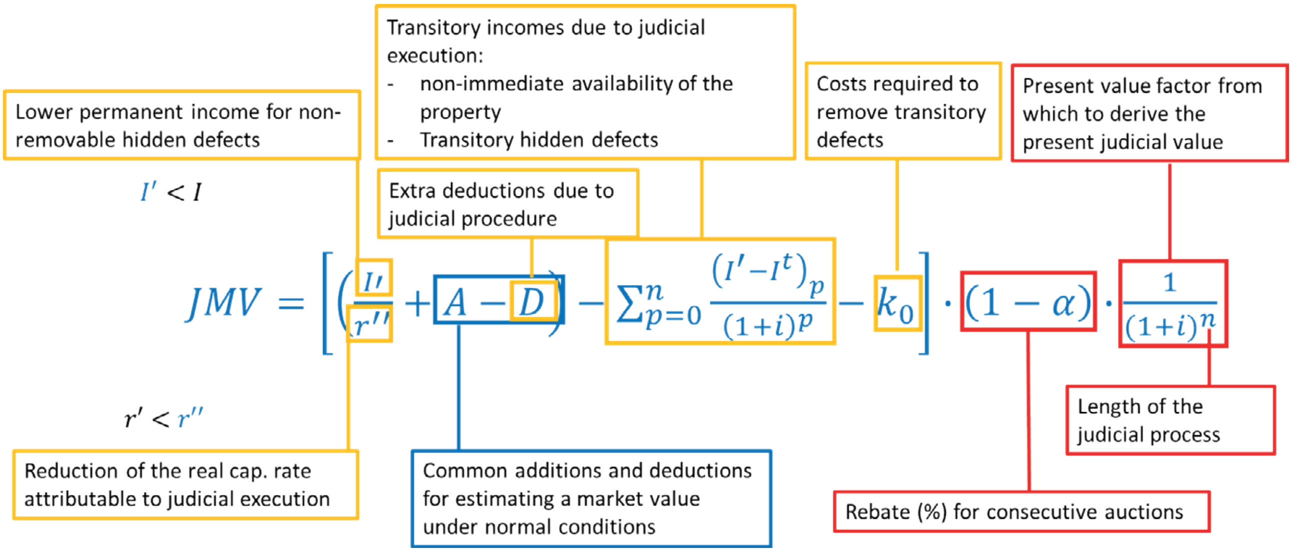

Figure 3. From the market value to the Judicial Market Value.

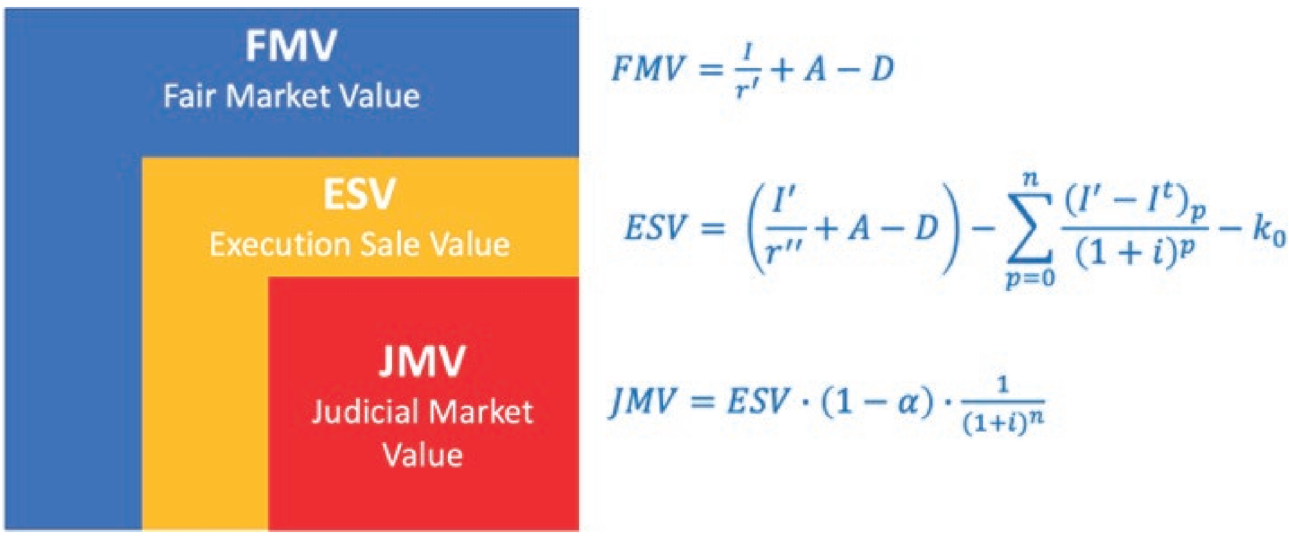

Figure 4. Comparison of the three values.

at judicial auction, while the latter will represent the most probable price that can realistically be recovered at the end of the entire procedure. The substantial difference between these two values lies in the fact that the JMV is affected by the circumstances that in the specific court may cause a different number of auctions and a different overall duration of the entire process: the punctual distinction of an ESV and a JMV allows, on the one hand, a clearer understanding of what different causes the asset gradually loses value and, on the other hand, a more realistic quantification of the amount that will be possible to recover at the end of the procedure.

We report a case study in which the above mathematical equations were implemented.

The case study refers to a residential property located in an urban area of the province of Florence. The annual income of the property, based on rent after taxes and various expenses charged to the owner, is 7,200 euros. The Fair Market Value (FMV) was calculated according to Equation (2), considering an annual real capitalization rate (*r*') of 2%[9] and the absence of addi-

[9] The annual capitalization rate is derived from a comparative assessment of values and rents observed for properties located in the same

tions or deductions.

The FMV resulted in 360,000 euros:

$$FMV = \frac{7{,}200\ €}{0.02} = 360{,}000 \quad [6]$$

Since it is not possible to quantify all the elements that determine the difference between the FMV and ESV, based on Mathematical equation (1), an all-inclusive percentage reduction (d) of 20%[10] is applied:

$$ESV = 360{,}000\ € \cdot (1 - 0.20) = 288{,}000\ € \quad [7]$$

This is the analytical level in which the appraiser can empirically perform his/her task because of the various constraints previously outlined in an execution sale.

However, as a purely illustrative example, to make this 20% reduction less aleatory, in accordance with Equation (3), it is possible to indicate in more detail the main elements that justify this reduction:

$$ESV = \left(\frac{7{,}200\ €}{0.0228}\right) - 7{,}200\ €\ \frac{1.02^2 - 1}{0.02 * 1.02^2} - 13{,}020.76\ € =$$
$$= 315{,}000\ € - 13{,}979.24\ € - 13{,}020.76\ € = 288{,}000 \quad [8]$$

As conveyed in this example, the reduction in value can be analytically associated with three main aspects:

- the not-excludable presence of non-removable hidden defects;
- the non-immediate availability of the property;
- the possible presence of removable hidden defects.

The possible presence of non-removable hidden defects, an aspect that cannot be excluded because of the particular conditions due to judicial execution, is taken into account by reducing the value of the property by 10%. In the example, this reduction is totally associated with a different capitalization rate (*r''>r'*). However, this reduction could also be expressed by a lower income I (*I'<I*).

With regard to the second aspect, the non-immediate availability of the property leads to a temporary reduction in income. In this case the property is occupied and, therefore, it is conservatively assumed that the buyer will not be able to use it in any way for a period of two years: thus, in this period it is legitimate to consider the absolute absence of transitional incomes ($I^t=0$). The total amount of lost income will be given by the entire two-year discounted income (equal to a total of 13,979.24 euros).

The last aspect, related to removable hidden defects, is addressed by quantifying an amount that can cover the expenses k_0 that the new property will face to remove them (in this case 13,020.76 euros[11]).

Considering the above conditions, the ESV resulted in 288,000 euros, 20% lower than FMV.

Lastly, according to Mathematical equation (4), Judicial Market Value (JMV) was calculated, resulting in 221,453 euros, a further 20% (α=0.20) reduction due to the general bidding discount and to the fact that the conclusion of the entire auction lasts about two years.

$$\text{JMV} = 288{,}000\ € \cdot (1 - 0.20) \cdot \frac{1}{(1 + 0.02)^2} =$$
$$= 230{,}400\ € \cdot 0 \cdot 9612 = 221{,}453.29\ € \quad [9]$$

In the case study, we obtained a JMV 38% lower than the initial FMV, in accordance with the differences in value that have been detected for many Italian courts as reported by some authors (Di Liddo et all, 2022).

6. CONCLUSION

At the estimative level, the valuation a real estate subject to an enforcement ordered for the recovery of mortgages represents a typical case in which the regulatory conditions overemphasize the difference between the price and economic value of a property (Gaca, 2018).

As illustrated in this paper, the regulatory provisions currently in force in Italy tend to heavily affect the work of the appraiser, subordinating estimative logic to legislative requirements. The recent amendments to Article 571 of the Italian Code of Civil Procedure (c.p.c.) have significantly accentuated the weight of the regulatory mechanisms on the value of property and, in particular due to the reductions in the value of property at the various auctions that may be necessary to sell a real estate, have greatly accentuated the differences between the initial fair market values (FMV), the execution sale value (ESV) and the final judicial market values (JMV). To ensure maximum transparency for all stakeholders interacting in a judicial appraisal, it is necessary that property valuations

area: on the basis of these values, the capitalization rate is derived by applying the Equation given in Note 5. In addition to being developed directly by the estimator through his or her personal knowledge of the real estate market in which he or she operates, this comparison can be obtained by consulting the national database of real estate quotations managed by the *Osservatorio delle Quotazioni Immobiliari* (OMI). In the OMI database, for each municipality and area, the unit (per square meter) values of properties and their rents are given.

[10] The % indicates an average value deduced by observing the single case study and the prevailing practice adopted by court-appointed appraisers and reported in appraisals available on the Ministry of Justice, Public Sales Portal.

[11] This sum is quantified by considering the 20% cumulative reduction adopted in mathematical equation (7) and subtracting from this value what is due to non-removable hidden defects and the loss of income generated by the non-immediate availability of the property.

are carried out with a clear distinction between these different values. The case study examined in this article is intended to offer a practical example of how to make more transparent the logic by which these different values are calculated. A further fruitful exploration would be to examine other case studies, comparing the results obtained by adopting the methodology proposed with the present paper with the ones from other approaches suggested by some previously mentioned Authors.

To achieve maximum transparency, it is advisable for the various parties involved in the valuation of a property subject to such a procedure to be immediately aware of what the most likely judicial market value of the property might be compared to its fair market value and its execution sale value. By doing so, real estate owners will have a clear indication of how much the pledged asset will be able to cover a debt, just as it will be possible to offer lenders a more realistic value of their mortgage loan portfolios and a more accurate definition of the collateral value of the asset on the basis of which to define the amount of the loan itself, adopting more analytical criteria than the prudential criteria of a percentage decrease in the short-term selling value of the property (Gallerani et al., 2011).

With respect to the above, some unanswered questions remain that might merit further estimative investigation.

In particular, more careful consideration should be given to the fact that both the execution sale value and the judicial value of a real estate are estimates that explore values referable to an unspecifiable future time, i.e. when the property may be the subject of a debt collection measure. This aspect introduces additional valuation uncertainties that will grow depending on the increasing instability of the real estate and financial markets. Therefore, to ensure that such valuations have a minimum period of validity in the long run, it is necessary, as far as possible, that they are made by reducing short-term volatility factors and temporary market trends (Ieppariello, 2015).

Finally, it would be necessary to consider how the valuation of real estate in the context of an execution sale is also often strongly linked to quite particular psychological conditioning. As pointed out at various points in the paper, it is undoubtedly true that the value reductions depend on the absence of free market conditions and the limited efficiency of the various offices. But this reduction in values is certainly also significantly affected by the discomfort that buyers and sellers face in an execution sale.

Considering the growing gap among market, execution and judicial values, it seems appropriate to consider whether recent regulatory changes, while intended to resolve some issues, have instead introduced other undesirable effects. Looking at the results to date, it seems clear that the current regulatory framework has failed to ensure greater uniformity in interpretation and disposition, nor does it appear to have been decisive in terms of speeding up procedures. It is evident how these conditions severely discourage the credit market and general socioeconomic development, going so far as to raise questions of legitimacy, particularly when the progressive decreases in judicial value, theoretically reiterated without any limit, not only lead to harming the interests of creditors, but also can result in an expropriation of property that is not respectful of the fundamental rights of each individual (Council of Europe, 1952; Spada, 2019)[12].

The regulatory mechanisms that currently govern the setting of these values in Italy increase the difficulties and uncertain conditions under which appraisers must operate. These uncertainties should not be underestimated considering the important role that property values play in a country's finances: an unchecked loss of confidence in the valuation of investment properties could, therefore, give rise to systemic risk at national level (Fernandez, 2005; Pereira Grey, 2021).

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[12] Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms (Paris, March 20, 1952), article 1: "*Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law*."

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