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Italian mortgage markets and their dynamics

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Abstract

This paper deepens previous studies on the analysis of the fixed (FRMs) and adjustable rate mortgages (ARMs) dynamics and the interconnections between FRMs and ARMs markets. In particular, an econometric analysis on the Italian mortgage markets series from 1997:q1 to 2012:q3 is set up by involving the VAR estimation technique. Very interesting results are achieved to point out how the effects of the European Central Bank control on the Euribor transmit (i) to the behavior of interest rates term structure as well as (ii) to interest rates of contracts involved in different technical forms offered in the Italian mortgage markets. © 2014 IMACS. Published by Elsevier B.V. All rights reserved.

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1. Introduction and motivation

The interconnections between the markets of fixed (FRMs) and adjustable rate mortgages (ARMs) are an interesting phenomenon to analyse under different profiles. In particular, with regard to Italy, this phenomenon has been able to get the effects of the economic crisis triggered in 2008, to deflagrate to the same moment of the Lehman Brothers failure (cfr, for details, [10]).

If, more generally and for purposes of comparison, the market for housing finance in the industrial countries is taken into account, it is well-known that over the past 25 years this market has changed and developed greatly and the literature concentrates primarily on two countries: the US and UK. An interesting systematic presentation of the state of research and the available literature is traceable in [14] (see also [1] and, recently, for example, [13,6,5]; and, in particular, [16] for the choice between FRMs and ARMs in both inflationary and deflationary US environment).

As regards the euro area, the analysis and the comparison of statistics on EU mortgage and housing markets are particularly interesting as well as data and information from several third countries such as the United States; these extensive analysis are available in several publications, for example the reports of the European Mortgage Market Federation (EFM) and the Working Papers of European Central Bank. The reactions of these markets to macroeconomic impulse as changes in monetary policy (see ad example [3]) in terms of both prices and quantities (i.e. interest rates

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Fig. 1. (a) Fixed and adjustable interest rate mortgage contracts shares; (b) EURIBOR interest rate from 1999:q1 to 2012:q3; (c) fixed and adjustable average market interest rates spread. Source: Bank of Italy.

level and numbers of new contracts) could have a large impact on the balance sheets of banks, families as well as construction industrial sectors (see [9,17,5]).

In [4,20] some of the dynamics of the Italian markets of FRMs and ARMs are analysed: the switching mechanism between these two markets is pointed out by historical data on the universe of mortgages in Italy since 1999 (the year of entry into force of EURIBOR rates) to 2011 and an original model is proposed to grasp these peculiar interconnection behaviours.

One of the fundamental assumptions of these studies is that the interest rates for mortgages are also indexed to the EURIBOR rate, among other factors. More precisely, since a mortgage is a form of funding that the financial institutions deliver to customers, part of the funds granted in the mortgages are thought coming from the EURIBOR interbank market. So, from the financial institution's viewpoint, the spread between the charged interest rate to the mortgage contract and the interbank interest rate can be considered as an indicator of contract's profitability. The values of the quarterly EURIBOR rates are calculated as the average of the monthly EURIBOR rates at three months for those following its entry into force.

The time series of Italian mortgage markets (see Fig. 1; source Bank of Italy) used by [4,20] have become attractive not only, as stressed above, to look back at some phases of the recent past, but also for further aspects: (i) the interconnection between the two markets has become more evident by evaluating the series of *k*th market values $V_{k,t} = \rho_{k,t}N_{k,t}$, where the average rate $\rho_{k,t}$ of the *k*th type of market is defined as a price and the absolute number of contracts $N_{k,t}$ evaluates the demanded and, at the same time, the supplied quantities for the *k*th type of contract, (ii) the volatility of market values and, finally, (iii) the effect that could induce a shock to the reference rate for mortgages, the EURIBOR rate t_t .

In order to study the dynamics of market shares, according to cobweb phenomenology, a mathematical model is developed in [4] and applied because it turned out able to easily see the switching mechanisms observed between FRMs and ARMs markets. Then, from this initial mathematical model, an econometric model is derived and estimated in [20]. Although this derived econometric model reveals a good capacity to replicate the time series, it also highlights

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