

Modelling foreign currency denominated mortgage loans without and with risks

Abstract

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Between 2004-2008 the foreign currency denominated loans were very popular in Hungary, until the recession reached Hungary on the fall of 2008. The currency of Hungary depreciated, the share of defaulting borrowers significantly increased.

I used data from MNB to demonstrate the risk of change of exchange rates in case of foreign currency denominated loans.

I used various formulas to compare the installments of HUF loans, EUR based and CHF based loans. The installments increased greatly in the case of foreign currency denominated loans.

From the calculations of total costs we can see that the HUF loans were cheaper, the CHF based and EUR based loans were more expensive than the expected cost.

To compare the loans I calculated the present values of the loans, the HUF loans were the cheapest for 10 year maturity with 01.2005 borrowing date, of course it is heavily dependent on the date of borrowing.

The installments do not depend on the progress of time but depend on the change of interest rate and the change of exchange rate. I gave a recursive formula for the installment if the exchange rate is changing with a given percent, unfortunately I was unable to do so with the interest rate changes.