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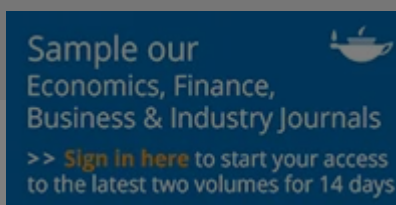
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# Are implied volatilities more informative? The Brazilian real exchange rate case

Eui Jung Chang & Benjamin Miranda Tabak 

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## Abstract

This article examines the relation between dollar-real exchange rate volatility implied in option prices and subsequent realized volatility. It investigates whether implied volatility is not precise enough to estimate the true volatility. The results show that implied volatility is not precise enough to estimate the true volatility. Autoregressive prediction of volatility is not precise enough to estimate the true volatility. Contact: ...

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## Notes

<sup>1</sup> Jorion ([1995](#)), Xu and Taylor ([1995](#)), Taylor and Xu ([1997](#)), Christensen and Prabhala ([1998](#)), Fleming ([1998](#)) and Blair et al . ([2001](#)).

<sup>2</sup> However, their results depend on the symmetry hypothesis of the loss function used to evaluate forecasts.

<sup>3</sup> There was a major change of regime in January 1999, when Brazil moved from a quasi-fixed to a floating exchange rate. Before February 1999, the dollar-real options market was very illiquid and restricted to deep out-of-the-money calls.

<sup>4</sup> To the best of our knowledge the only paper that addresses this issue for the Brazilian exchange rate is Andrade and Tabak ([2001](#)). However, the authors only evaluate two years of data and do not take into account the nature of the options expiration cycle.

<sup>5</sup> The closest-to-the money call for each expiration date is the one whose strike price is nearer to the futures price maturing on the same date.

<sup>6</sup> We emphasize that the results for the out-of-the-money options prices would not be significantly different if we had used the implied volatility of the simultaneous futures contracts.

<sup>7</sup> Xu and Taylor (1995) use 15 calendar days to calculate the implied volatility, more than 3 business days for the Brazilian market.

<sup>8</sup> We also used the implied volatility of the futures contracts. The results are the same.

<sup>9</sup> This approach is also taken by Canina and Figlewski ([1993](#)), Jorion ([1995](#)), Amin and Ng ([1997](#)), Campa and Chang ([1998](#)), Christensen and Prabhala ([1998](#)) and Blair et al . ([2001](#)).

<sup>10</sup> Unit roots tests were done for all series and no evidence of nonstationarity was found for volatility measures.

<sup>11</sup> The  $R^2$  provides a direct assessment of the variability in realized volatility that is explained by the estimates. It is considered a simple gauge of the degree of predictability in the volatility process and hence of the potential economic significance of the volatility forecasts.

<sup>12</sup> This approach of comparing multiple forecasts, often called ‘encompassing regression’, is discussed in Jorion ([1995](#)), Christensen and Prabhala ([1998](#)) and Campa and Chang ([1998](#)).

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