



Office Memorandum

To: Members of the Executive Board

July 24, 2014

From: The Secretary

Subject: **People's Republic of China—Macao Special Administrative Region—Modifications—Staff Report for the 2014 Article IV Consultation Discussions**

Attached for the information of Executive Directors are modifications to the staff report for the 2014 Article IV consultation discussions with the People's Republic of China—Macao Special Administrative Region (SM/14/171, 6/23/14), which have been proposed by the authorities of the People's Republic of China—Macao Special Administrative Region and agreed with the staff in accordance with the policy on publication of papers.

Highly Market-Sensitive Material

Page 17, Box 1, para. 2, line 15: for "By this measure, and depending on the choice of filtering techniques, house prices in Macao SAR may currently be in the range of 20–40 percent above the benchmark"
read "By this measure, house prices in Macao SAR may currently be above the benchmark"
para. 3, line 8: for "overvaluation of around 17 percent, broadly in line with the lower bound of the 'user-cost model'"
read "overvaluation broadly in line with the 'user cost model'"
para. 3, line 14: for "This exercise suggests that housing prices would need to adjust downward by around 45 percent, closer to the top end of the user cost results."
read "This exercise also suggests that housing prices would need to adjust downward"
para. 3: figure replaced to remove "17%" and "46%" in the labels

Questions may be referred to Mr. Syed (telephone number 202-758-7495), Ms. Myrvoda (ext. 38150), and Mr. Sun (ext. 36239) in APD.

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

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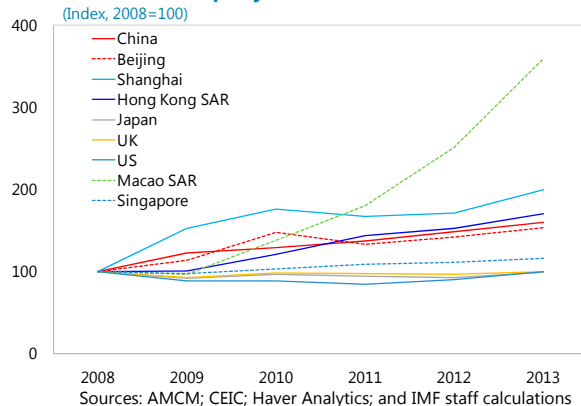
Box 1. Is There a Housing Bubble in Macao SAR?

Macao SAR's property price growth path has been steeper than in a number of regional and international comparators. Between 2008 and 2013 alone residential property prices more than tripled, while household disposable income is estimated to have increased by about 1.5 times. As discussed below, two empirical approaches were used to relate residential property prices in Macao SAR to a set of fundamentals.

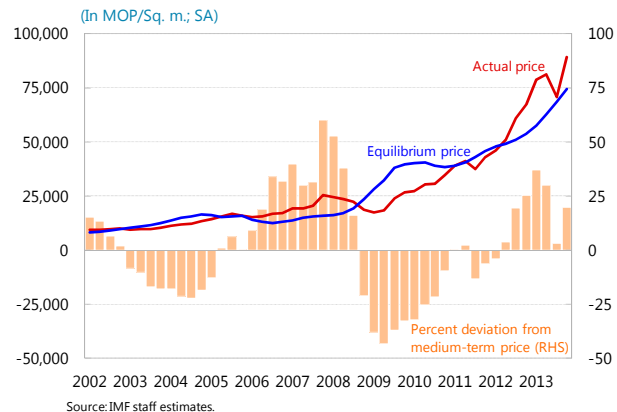
Use Cost Model. The first approach is an asset pricing model that compares the market price with a benchmark based on an equilibrium relationship between prices, rents, and cost of ownership. The model assumes that in a housing market with well-functioning rental and credit markets, the cost of owning a house should be in line with the cost of renting a similar property. Consequently, in a “no arbitrage” situation, the annual market rent would be equal to the annual cost of owning a property (imputed rent). If a deviation occurs between the market rent and the cost of ownership, the model suggests that the market price should move gradually toward the benchmark. By this measure, ~~and depending on the choice of filtering techniques,~~ house prices in Macao SAR may currently be ~~in the range of 20–40 percent above the estimated~~^{above the} benchmark.

Regression-based Approach. The second approach is based on a regression linking house prices to a set of macroeconomic fundamentals affecting demand (income growth, credit growth, and real interest rates) and supply (construction activity and costs). The baseline results suggest a current overvaluation ~~of around 17 percent,~~ broadly in line with the ~~lower bound under the~~ ‘user-cost model.’ To illustrate the potential impact of an abrupt tightening of global monetary conditions, the regression estimates were used to calculate what would happen to the equilibrium price if credit growth and the real interest rate were to suddenly return to their 2002–07 average. This exercise ~~also suggests that housing prices would need to adjust downward by around 45 percent, closer to the top-end of the~~ ^{user-cost results.}

Residential Property Price Growth



Benchmark and Actual Price



Macao SAR: Real Residential Property Price

