Mingshi Kang. Research Project: Size and Asymptotic Power Performance of HAR Wald Tests Using Fixed-b TheoryAbstract

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The paper compares the performance of finite sample heterosckedasticity and autocorrelation robust (HAR) Wald tests using the traditional chi-squared critical values and fixed-b critical values introduced by Kiefer and Vogelsang (2005) in two and three restrictions tests. Simulation results show that using fixed-b critical values could substantially reduce size distortions in tests with ARMA errors. Prewhitening is suggested to use in tests using the Bartlett kernel while should not be used in tests using the QS kernel. An asymptotic power analysis is done for different combinations of kernels and bandwidths from a new perspective. Similar to the t-test results in Kiefer and Vogelsang (2005), when fixed-b theory applies, tests using the Bartlett kernel have higher powers and higher size distortions compared to those using the QS kernel. Both power and size distortion decreases as bandwidth increases. These resultsindicate the similar power and size trade-offs mentioned by Kiefer and Vogelsang (2005) in t-test.