# LOCAL POWER OF FIXED-*T* PANEL UNIT ROOT TESTS WITH SERIALLY CORRELATED ERRORS AND INCIDENTAL TRENDS

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The asymptotic local power properties of various fixed T panel unit root tests with serially correlated errors and incidental trends are studied. Asymptotic (over N) local power functions are analytically derived, and through them, the effects of general forms of serial correlation are examined. We find that a test based on an instrumental variables (IV) estimator dominates the tests based on the within-groups (WG) estimator. These functions also show that in the presence of incidental trends, an instrumental variables test based on the first differences of the model has non-trivial local power in an $N^{-1/2}$ neighbourhood of unity. Furthermore, for a test based on the within-groups estimator, although it is found that it has trivial power in the presence of incidental trends, this ceases to be the case if there is serial correlation as well.

The full working paper can be found [here](here).