

## **Expanded Dual System Estimation Model and its Matching Properties in Census Coverage Error Measurement**

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U.S. Census Bureau's previous coverage measurement surveys were designed primarily to estimate net Census Coverage Errors (CCE) using Dual System Estimation Model (DSEM). National research council (2009) gave a recommendation on developing plans for measuring the components of CCE in U.S. 2010 census coverage measurement using a framework provided by Mulry and Kostanich (2006). Firstly, this paper analysed the lacks between DSEM in theory and application. One assumptions was added to the model. Secondly, expanded DSEM, to measure a general census coverage error in China, was constructed based on ideas of the framework and the added assumptions. At last, matching properties were proved and estimation approaches to measure the components of CCE were also discussed in this presentation.

Key Words: Expanded dual system estimation model; Matching properties;  
Census coverage error;