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## Time-Series Analysis of Recent Employment Statistics in the Champaign-Urbana Metropolitan Area

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Oral Presentation O5.1

**TIME-SERIES ANALYSIS OF RECENT EMPLOYMENT STATISTICS IN THE  
CHAMPAIGN-URBANA METROPOLITAN AREA**

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This research studies employment trends in the Champaign-Urbana metropolitan area. The 2007-2009 recession has made a better understanding of employment statistics a priority. This study focuses on, the number of employed citizens in the area. Monthly data beginning in January 1990 and ending in November 2011, was collected by the Bureau of Labor Statistics. We apply time-series analysis techniques including the seasonal adjustment of the data and the fitting of linear, long-term, trends. Preliminary analysis reveals that the rate of change of growth in employment figures between 1990 and 1995 was, on average,  $-0.2164\%$  and that during the remainder of the sample period employment grew at a rate of  $0.7207\%$ . We also estimate an auto-regressive and moving-average (ARMA) model. This model allows us to forecast future employment figures as a function of previous values in the series.