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A Time-Series Analysis Of Two Decades in Peoria's Labor Market

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Oral Presentation O5.3

A TIME-SERIES ANALYSIS OF TWO DECADES IN PEORIA'S LABOR MARKET

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Over the past few decades, the U.S. unemployment rate in the manufacturing industry has steadily increased, particularly during recessions. In the Peoria Metropolitan Statistical Area (MSA), an area with a relatively high proportion of the population employed in the manufacturing industry, this is a particular concern. This study focuses on the monthly unemployment rate in the Peoria MSA between 1992 and 2011, with data collected from the Bureau of Labor Statistics, and compares it to national levels both overall and in the manufacturing industry. This statistical analysis establishes the presence of seasonal patterns and linear trends in the data. It also determines the order of integration of the series in order to fit an auto-regressive and moving-average (ARMA) model. Finally, it performs static and dynamic forecasting to project the series into the short-term future.