# *OIL PRICE FLUCTUATIONS AND UNEMPLOYMENT IN KERN COUNTY: AN ARDL BOUNDS TESTING APPROACH*

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## Overview

Kern County is one of the country’s largest oil producing regions where a significant population of the labor force works in the oil industry. In this study, the short- and long run effects of oil price fluctuations on unemployment in Kern County are investigated. First, we investigate whether the West Texas Intermediate (WTI) or Brent Spot prices have an effect on unemployment in Kern County. This relationship is explored using a modified version of the Granger (1969) causality test proposed by Toda and Yamamoto (1995). Once results reveal which of the two prices has a greater effect on unemployment, the autoregressive distributed lag (ARDL)-bounds testing approach by Pesaran et al. (2001). is used to examine the unemployment-oil price linkage both in the long and short run.

In what follows, we provide some background on the literature before investigating the relationship between oil prices and unemployment in Kern County. The fourth section presents the empirical results of the unemployment – oil price nexus while the fifth concludes the study.

## Methods

* Granger Causality (The modified version proposed by Toda and Yamamoto (1995)).
* Autoregressive distributed lag (ARDL)

## Results

* The Granger Causality results suggest causality running from Brent to unemployment. The test results also *strongly* suggest that a unidirectional causal linkage runs from WTI to unemployment.
* Oil prices (WTI) and unemployment in Kern County do not have long run associationship
* Oil prices (WTI) and unemployment in Kern County have short run associationship
* The magnitude of the error correction term implies that nearly 4.3% of any disequilibrium between Kern unemployment and WTI prices is corrected within one period.

## Conclusion

The West Texas Intermediate (WTI) has a greater impression on unemployment in Kern county in comparison to Brent. We find that this relationship holds in the short run and not in the long run. We surmise that this relationship does not last long because of migration of the labor force to neighboring counties.

## References

Pesaran M. H, Shin, Y., R.J Smith (2001). “Bounds testing approaches to the analysis of level relationships.” Journal of Applied Econometrics 16, 289-326.

Toda, H. Y. and T. Yamamoto (1995). "Statistical inference in vector autoregressions with possibly integrated processes." Journal of Econometrics 66(1-2): 225-250.