

Chapter 5

The Convergence Behind the Curtain: An Examination of Crime Rates in Pennsylvania Counties


Olivia A. Habacivch

Indiana University of Pennsylvania, USA

Ryan A. Redilla

Indiana University of Pennsylvania, USA

James J. Jozefowicz

 <https://orcid.org/0000-0002-6543-2504>
Indiana University of Pennsylvania, USA

ABSTRACT

This chapter extends applications of unconditional and conditional β -convergence and unconditional σ -convergence analysis to Part I crime rates in a panel data sample of Pennsylvania counties during the period 1990-2015. Temporal structural breaks at specific points in the business cycle during the time frame and spatial breakpoints between rural and urban counties in Pennsylvania are acknowledged in the analysis in order to avoid spurious inferences regarding convergence behavior. Unit-root testing is performed on measures of dispersion as well as directly on the underlying crime-rate series via panel-data tests for non-stationarity. The findings support the existence of both unconditional and conditional β -convergence in the pooled, urban, and rural samples during 1990-2015. Visual and statistical evidence reveals the presence of σ -convergence in the three samples across the time span as well. The comprehensive convergence analysis of appropriately disaggregated data performed in this study offers strong support for the predictions of modernization theory.

DOI: 10.4018/978-1-7998-1093-3.ch005

INTRODUCTION

In the context of crime, convergence refers to the tendency of existing differences in crime rates across cross-sectional units or time periods to dissipate and effectively close the gap. In other words, disparities in rates of criminal activity will be transitory rather than permanent. The study of crime rate convergence is a relatively new undertaking for researchers in economics (Cook & Winfield 2013, 2016). Empirical results have been mixed thus far, with some studies showing both β -convergence and σ -convergence (Cook & Winfield, 2013), others finding only one of the two present, and still others revealing crime divergence (Cook & Winfield, 2016). Several important facets of crime rate convergence remain understudied, and no single crime theory of convergence (e.g., modernization theory, conflict theory) has distinguished itself as having the most explanatory power. Despite a dearth of empirical investigation, understanding crime rate convergence is important for policy direction and implementation, since criminal behavior remains a matter of ongoing concern for law enforcement officials and policymakers at all geographic levels. Cook and Winfield's (2013, 2016) findings on crime rate convergence have birthed new empirical questions, because there is ambiguity surrounding the policy implications of crime rate convergence. Questions like, "Is the convergence of crime rates favorable or unfavorable?" and "Can crime convergence be increased or limited?" remain unsatisfactorily answered.

Determining whether or not crime rate convergence exists across time and region may better inform crime rate predictions and offer new avenues of inquiry for criminological theory and ultimately crime-rate-reduction strategies. This research is motivated accordingly and acknowledges both temporal and spatial structural breaks. Cook and Cook (2011) argue that analyses of crime convergence over time that ignore breakpoints resulting from fluctuations in economic conditions, significant social shifts, and governmental regime changes may yield misleading results. They note that the persistent assertions of non-stationary U.S. crime rates in the existing literature may arise from overlooked structural breaks in the underlying series and, consequently, run the risk of advancing spurious inferences. Thus, the analysis separately considers the convergence behavior of crime rates across the expansionary and contractionary phases of the business cycle when structural changes occur. In addition, this study includes separate analyses of rural and urban regions based on a structural break between rural and urban counties in Pennsylvania, because criminal activity is a function of the features of a specific geographic location as emphasized by Buonanno and Montolio (2008). This approach to understanding crime rates in rural and urban Pennsylvania counties is consistent with previous literature (Cook & Winfield, 2016; Frederick & Jozefowicz, 2018), and it heeds the warning that equivalently treating non-metropolitan and metropolitan areas risks

30 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/the-convergence-behind-the-curtain/258368

Related Content

Can Information and Communication Technologies Improve the Performance of Microfinance Programs?: Further Evidence from Developing and Emerging Financial Markets

Fredj Jawadi, Nabila Jawadi and Ydriss Ziane (2011). *Advanced Technologies for Microfinance: Solutions and Challenges* (pp. 165-184).

www.irma-international.org/chapter/can-information-communication-technologies-improve/46329

Applying Multiple Linear Regression and Neural Network to Predict Business Performance Using the Reliability of Accounting Information System

Ahmed H. Al-Dmour and Rand H. Al-Dmour (2018). *International Journal of Corporate Finance and Accounting* (pp. 12-26).

www.irma-international.org/article/applying-multiple-linear-regression-and-neural-network-to-predict-business-performance-using-the-reliability-of-accounting-information-system/212735

A Study on Factors Influencing Mutual Fund Portfolio Performance: U.S. Equity Market During 2011-2016

Medhanie Mekonnen, Roger Mayer and Wen-Wen Chien (2018). *International Journal of Corporate Finance and Accounting* (pp. 1-11).

www.irma-international.org/article/a-study-on-factors-influencing-mutual-fund-portfolio-performance/212734

Effect of Financial Leverage on Firm's Market Value Creation in Bangladesh: A Comparison between MNCs and Domestic Firms

Syed Md. Khaled Rahman (2017). *International Journal of Corporate Finance and Accounting* (pp. 41-58).

www.irma-international.org/article/effect-of-financial-leverage-on-firms-market-value-creation-in-bangladesh/204427

Gold Price, Crude Oil, Exchange Rate and Stock Markets: Cointegration and Neural Network Analysis

Shailesh Rastogi (2016). *International Journal of Corporate Finance and Accounting* (pp. 1-13).

www.irma-international.org/article/gold-price-crude-oil-exchange-rate-and-stock-markets/174418