

顧以謙研究員於 74 屆美國犯罪學學會發表研究成果

美國犯罪學學會(ASC)是國際的學術組織，其追求關於犯罪和犯罪的測量，病因，後果，預防，控制和治療的學術，科學和專業知識。美國犯罪學會年會也為現今全世界最具代表性的國際犯罪學術研討會。

ASC 今年於 11 月 14 日至 17 日，在亞特蘭大舉辦第 74 屆年度會議，今年的會議主題為機構、文化與犯罪(Institution, Culture and Crime)。

顧以謙博士代表法務部司法官學院與美國賓州大學博士後研究員，與內布拉斯加州奧馬哈分校鄒穎峰博士生合作，前往亞特蘭大發表『毒品危害條例之修正可以降低毒品犯罪嗎？一個間斷時間序列分析』“Does the Revised Against Narcotics Act Reduce Drug Offenses in Taiwan ? : An Interrupted Time Series Analysis”。

此研究針對 2008 年 10 月施行之緩起訴附命戒癮治療對於一二級毒品使用與販賣有罪人數的影響進行分析。初步研究結果顯示，在緩起訴附命戒癮治療施行後，一級毒品使用、一級毒品販賣、二級毒品販賣之有罪人數皆有顯著下降，然此政策干預影響的時間點與效果不一致，同時屬於不同的時間序列模型。詳細結果將待正式期刊發表後公開。

Abstract

The implementation of Revised Against Narcotics Act (RANA) is a landmark drug policy in Taiwan that emphasizes more on public health perspective than before. The content of RANA includes the use of syringe-exchange, methadone-maintenance, deferred prosecution along with drug abstinence and treatments, etc. Despite studies showing this policy had impact on HIV injections, the effect of this Act on drug offenses remains unexamined. The present study seeks to answer this question by analyzing the monthly time series data from the Ministry of Justice Statistics of Justice System. Interrupted time series models are applied, results and discussion will be presented.

部分簡報與照片



Does the Revised Against Narcotics Act Reduce Drug Offenses in Taiwan ? An Interrupted Time Series Analysis

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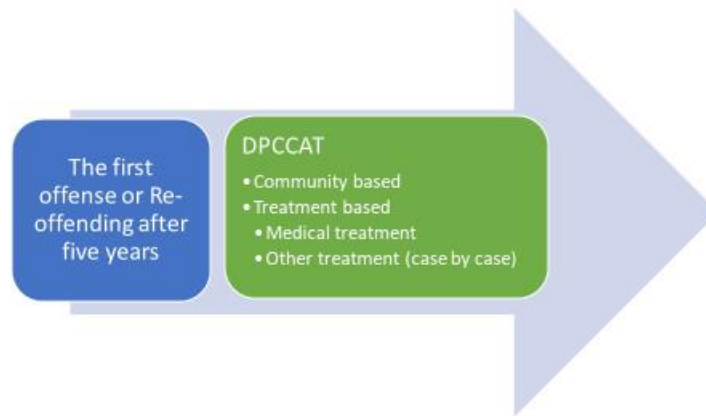
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Introduction

In 2008, Taiwan Government initiate another policy called “Deferred Prosecution with Condition to Complete Addiction Treatment (DPCCAT).”



Method

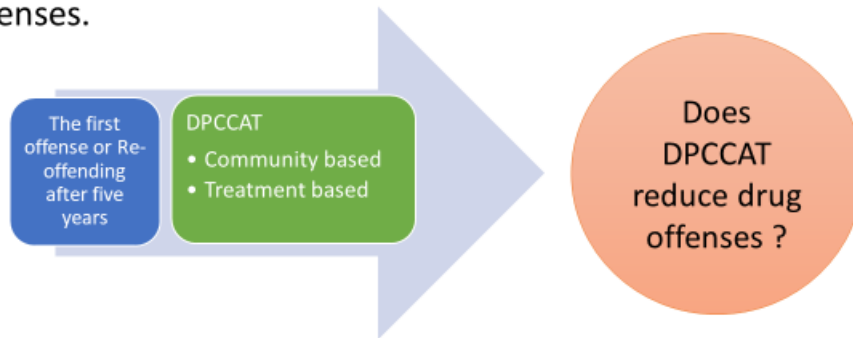
- Data: The monthly number of convicted Schedule 1 and Schedule 2 offenders from the Ministry of Justice of Taiwan
 - Included drug users and sellers/manufacturers/transporters
 - Time: January 2001 - December 2017
- ANA divided drugs into four schedules. Why do we focus on Schedule 1 and Schedule 2?
 - They are not only criminalized, but also the most serious drug problems in Taiwan.
- Excluded offenders who were convicted for both drug uses and sells.



The previous and present study

Despite the previous studies showed the recidivism rate of this policy had reached 51.6% (Wang, 2015)(which was lower than the recidivism rate of the inmates who were released from prison), the effect of this Act on drug offenses remains unexamined.

The aim of this study is to examine whether the DPCCAT reduce drug offenses.



Interrupted time series

- Time series quasi-experimental design ^{1, 2} :
 - Comparing the observations before and after the intervention(s)
 - 0 0 0 0 0 X 0 0 0 0 0
- Autoregressive Integrated Moving Average (ARIMA)
 - Control the past realization of memory (auto-regressive) and random shocks (moving average)
 - Remove trends and drifts (integrate)
- Intervention models
 - Input intervention variables after establishing suitable ARIMA models
 - Four types of changes are modeled for each intervention variable.

¹ Shadish, W.R., Cook, T.D. and Campbell, D.T. (2002). *Experimental and Quasi-experimental Designs for Generalized Causal Inference*, New York: Houghton Mifflin.

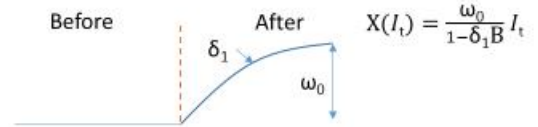
² McCleary, R., McDowall, D., & Bartos, B. J. (2017). *Design and Analysis of Time Series Experiments*, New York: Oxford University Press.

Four types of changes

Abrupt-permanent



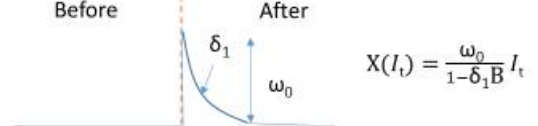
Gradual-permanent (increase)



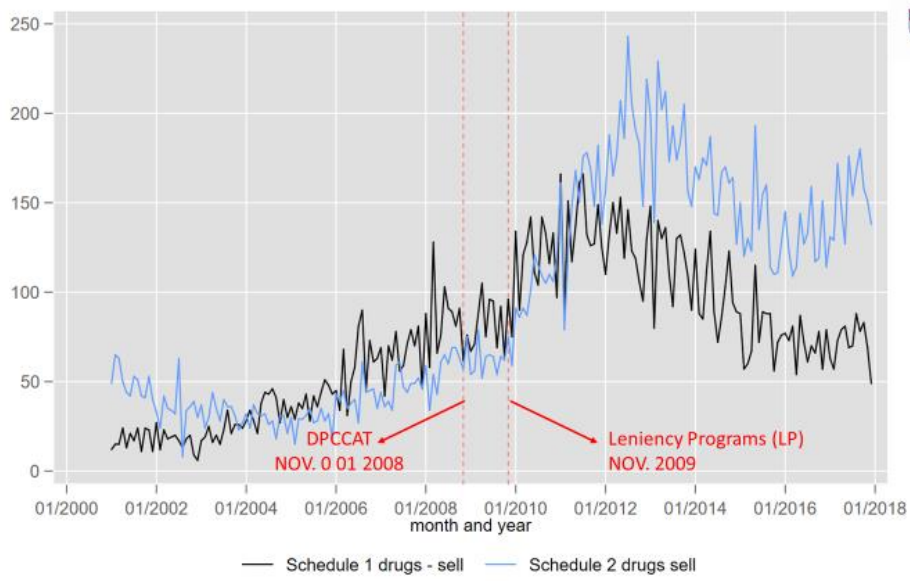
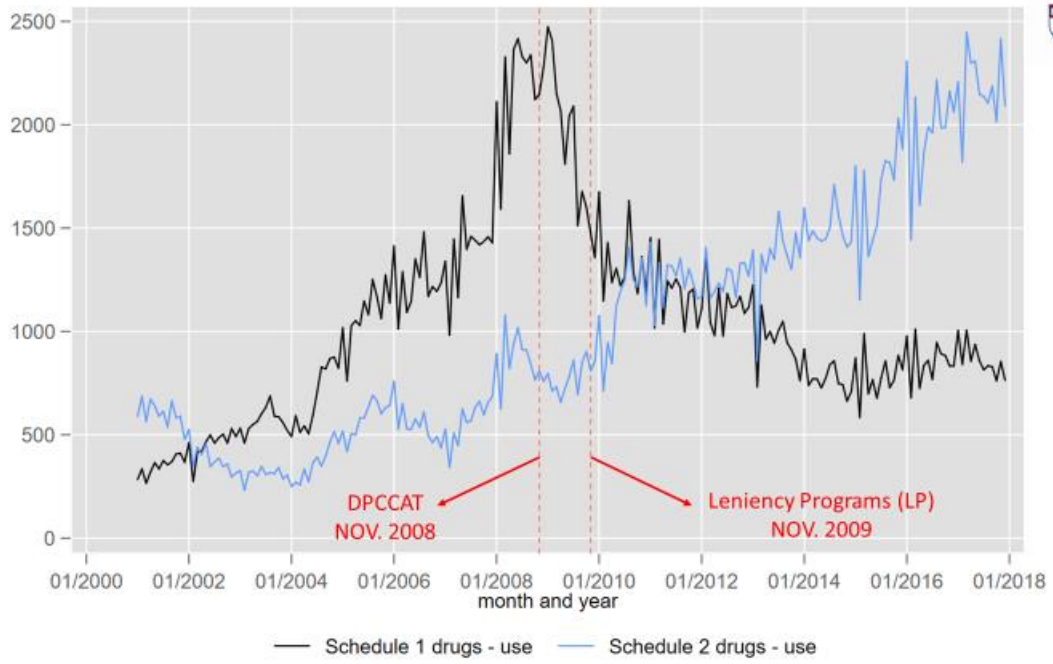
Abrupt-temporary



Gradual-temporary (decrease)



Result



Summary

- Does DPCCAT reduce drug offenses ?

Schedule	USE / SELL	Model	Effect	Detected time point	Possible explanations
I	USE	Gradual-permanent	99.45% reduction	2 months	<ul style="list-style-type: none"> • Medical treatment • Stabilized the social-connection
II	USE	Abrupt-temporary	19.48% increase	3 months	<ul style="list-style-type: none"> • Abrupt events. Ex: drug party was occasional uncovered by police on Jan. & Feb. 2009
I	SELL	Abrupt-temporary	3 people were reduced	No delayed	<ul style="list-style-type: none"> • The effect is too tiny to be taken into account, could be due to the random fluctuation
II	SELL	Abrupt-permanent	19.91% reduction	5 months	<ul style="list-style-type: none"> • After the drug users gradually decrease, the shrinkage of drug market could happen.

- **These are our preliminary findings, further explanations are needed.**

Thank you for your attention!

We especially thank to Hung-Ping Chung,
Meng-Ting Tsai and Academy for the Judiciary, MOJ.



