FROM LIGHT CRIME BUT SEVERE PENALTY TO CRIME EQUALING PENALTY: AN EMPIRICAL STUDY ON EMBEZZLEMENT AND BRIBERY CRIME IN CHINA

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TO CRIME EQUALING PENALTY: AN EMPIRICAL STUDY ON
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Abstract
This paper empirically examines how a criminal leniency policy from light crime but severe penalty to crime equaling penalty—exemplified by the 2016 new Judicial Interpretation in China’s embezzlement and bribery crime—impacts the average sentence and social impact of crimes committed. Employing a panel data containing data on embezzlement and bribery crimes in 296 Chinese cities from 2001 to 2020 and exploring the variations of these crimes before and after the Judicial Interpretation came into effect, this paper finds that the Judicial Interpretation does reduce the average penalty of embezzlement and bribery crimes significantly, and this reduction is not only because crimes of the same level are sentenced lower under the new standard, but also due to the fact that crime equaling penalty has the function of reducing potential offenders’ intentions to commit serious crimes. In addition, while the Judicial Interpretation significantly increases the number of embezzlement and bribery crimes, this does not imply that the efforts toward crime and penalty condone corruption, and it actually mitigates the social impact of corruption offences. This paper provides not just an empirical response to questions concerning the validity and fairness of the Judicial Interpretation, but also evidence for similar reforms of crime equaling penalty.

I. INTRODUCTION

The Communist Party of China (CPC) has always taken the fight against corruption as an important task of party construction and national governance, and it has become the common aspiration of all party comrades and the general public to tackle the problem of embezzlement and bribery. Since the 18th CPC National Congress, in response to the

* Anonymous contributor.
1 See XI JINPING (习近平), Gengjia Kexue Youxia de Fangzhi Fubai Jian dinghu yi ba Fanfuchanglian Jianshe Yinxiang Shenru (更加科学有效地防治腐败 坚定不移把反腐倡廉建设引向深入) [Scientifically and Efficiently
serious situation in which embezzlement and bribery crimes continue to proliferate, the
Central Committee of CPC has further underlined the significance and urgency of
combating corruption and upholding integrity, strengthened relevant rules and regulations
and severely punished corrupt individuals.2

During this period, one of the most well-known and far-reaching legal updates was
the Interpretation of the Supreme People’s Court and the Supreme People’s Procuratorate
on Several Issues concerning the Application of Law in the Handling of Criminal Cases
of Embezzlement and Bribery (《最高人民法院、最高人民检察院关于办理贪污贿赂刑事案件
适用法律若干问题的解释》, hereinafter referred to as the Judicial Interpretation)
promulgated in 2016. The Judicial Interpretation greatly raised the sentencing amount
standard for the embezzlement and bribery crime. For example, the starting point of
embezzlement crime and bribery crime increased from the original 5,000 yuan to 30,000
yuan, the ‘especially large’ standard from 100,000 yuan to 3 million yuan, and so on.
Enjoying the same effect as the law,3 the implementation of the Judicial Interpretation
meant that the penalties for embezzlement crime or bribery crime (and many similar
offences such as the crime of misappropriation of public funds) of the same amount would
be far less severe than in the past.

Consequently, this reform is considered a vital effort to shift from light crime but
severe penalty to crime equaling penalty. Proponents argue that the new Judicial
Interpretation upwards the standard of sentencing amount, solving the problem of the
original standard being too harsh under the continuous economic and social
development.4 Moreover, it places more emphasis on the importance of the crime

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2 See ZHANG WENXIAN (张文显), Xi Jinping Fazhi Sixiang Yanjiu Xia—Xi Jinping Quanmian Yifazhiguo de Hexin
Guandian (《习近平法治思想研究 (下)——习近平全面依法治国的核心观点》) [A Study of Xi Jinping’s Thought on
the Rule of Law (Volume III) —Xi Jinping’s Core Perspectives on the Comprehensive Rule of Law], 4 FAZHI YU
SHEHUI FAZHAN (法制与社会发展) [L. AND SOCIAL DEVELOPMENT] 29 (2016).

3 See CAO SHIBING (曹士兵), Zuigao Renmin Fayuan Caipan, Sifa Jieshi de Falü Yiyi (最高人民法院裁判、司法
解释的法律意义) [The Status of Decisions and Judicial Interpretations of Supreme People’s Court], 3 ZHONGGUO

4 See PEI et al., Guanyu Banli Tanwu Huilu Xingshi Anjian Shiyong Falü Ruogan Wenti de Jieshi yu Shiyong
(《关于办理贪污贿赂刑事案件适用法律若干问题的解释》的理解与适用) [Understanding and Application of
the Interpretation of the Supreme People’s Court and the Supreme People’s Procuratorate on Several Issues
concerning the Application of Law in the Handling of Criminal Cases of Embezzlement and Bribery], 17 RENMIN
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circumstance in sentencing, which is strict but not severe.\(^5\) However, there are also some questioning about the *Judicial Interpretation*. The public doubts whether this relaxation of sentencing standards will condone the crime of embezzlement and bribery. Compared to robbery, theft and other crimes of illegal possession of the property, the embezzlement and bribery sentencing would have been more lenient, and if the law continues to relax the standards, does this mean that ‘We hang the petty thieves and appoint the great ones to public office’ ("窃钩者诛，窃国者诸侯")?\(^6\)

Although numerous studies have discussed the aforementioned disputes from various viewpoints, the evidence provided based on empirical methods, especially causal inference, remains extremely sparse, which leads to the fact that the net effect of the *Judicial Interpretation* has not yet been precisely identified. This paper does not intend to discuss the the *Judicial Interpretation* from the view of juristische dogmatic (strafrechtsdogmatik), but instead focuses on the empirical examination of the following two questions:

First, in order to discuss whether the *Judicial Interpretation* has facilitated the shift from light crime but severe penalty to crime equaling penalty, the core is to verify whether the *Judicial Interpretation* significantly reduces the penalties for embezzlement and bribery offenders relying on judicial data. If it does reduce the average penalty, what are the mechanisms and reasons for its effect? Second, has the *Judicial Interpretation* led to more cases of embezzlement and bribery and a greater negative impact on society? This issue is of great concern to the public and is directly related to the evaluation of the *Judicial Interpretation* and whether similar reforms can be implemented in the future.

In order to study the above two critical issues, this paper obtained the full texts of 67,691 judgments on the crime of embezzlement, bribery and misappropriation of public funds from 2001 to 2020 from the Chinese Judgement Online website. By matching with data from the *China City Statistical Yearbook*, this paper constructs panel data of embezzlement and bribery cases (including three specific crimes of embezzlement, bribery and misappropriation of public funds) for 296 cities across China. Using the generalized difference in differences model, the paper finds that:


\(^6\) Id.
First, the Judicial Interpretation does reduce the average penalty of embezzlement and bribery crime significantly, which means that the efforts made by this Judicial Interpretation to shift from light crime but severe penalty to crime equaling penalty are effective. In this paper, a series of robustness tests are conducted to ensure that the results are accurate, and in the analysis of the mechanism, it is found that this reduction is not only because crimes of the same level are sentenced lower under the new standard, but also because the adjustment of crime equaling penalty has the function of reducing potential offenders’ intentions to commit serious crimes. Further, this paper also finds that although the Judicial Interpretation significantly increases the number of embezzlement and bribery crimes, this does not mean that the balance of crime and penalty condones corruption. While the number of cases did rise as a result of Judicial Interpretation, the key variable measuring the social impact of crime—the total sentence in each city was significantly lower, and the majority of the additional cases are minor cases, suggesting that in fact the social impact of these crimes is mitigated.

The marginal contribution of this paper is to provide evidence for the long debate from an empirical perspective, to point out the contribution of the Judicial Interpretation to the balance of crime and penalty, and to provide empirical responses to some challenges and questioning. Currently, China’s efforts to crime equaling penalty are still in their infancy, and many property crimes are bound to face similar legislative adjustments, so this paper is not only valid for the Judicial Interpretation, but will also provide experience and support for similar changes in the law.

Next, Chapter II will elaborate on the process of Judicial Interpretation, review the previous literature, and propose the paper’s research hypotheses; Chapter III will discuss the core problem: Did the Judicial Interpretation reduce the average penalty? Starting from data acquisition and model construction, empirical results will be given and robustness tests will be conducted, and finally the mechanism of its effect will be investigated; Chapter IV will focus on a further discussion: Did the Judicial Interpretation exacerbate the crime? The discussion will start from the question, provide an answer using an empirical approach, and draw a short summary. Chapter V is the conclusion of the whole paper.

II. BACKGROUND AND HYPOTHESES

A. Legislative Process
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Prior to the Judicial Interpretation, the penalties for embezzlement and bribery were mainly stipulated in the 1997 version of the Criminal Law of the People’s Republic of China (《中华人民共和国刑法(1997 年版)》), hereinafter referred to as the 1997 Criminal Law), which made detailed provisions for specific crimes within the broad category of embezzlement and bribery crime. For example, for the embezzlement crime and the bribery crime, individuals who have engaged in graft with an amount of more than 100,000 yuan are to be sentenced to more than 10 years of fixed-term imprisonment or life imprisonment, 50,000 to 100,000 yuan corresponds to more than 5 years, and 5,000 to 50,000 yuan corresponds to more than 1 year but less than 7 years.\(^7\)

For the crime of embezzlement and bribery, the amount standard is an important basis for conviction and sentencing. However, along with the continuous development of China’s economy and society, the amount standard for the crime remained unchanged until 2016, which means that in 2015, when the per capita GDP was already 7.7 times higher than in 1997 (about 49,922 yuan) and the per capita consumption was already 6.3 times higher than in 1997 (about 18,857 yuan), the sentencing threshold for embezzlement crime and bribery crime remained at 5,000 yuan. As a result, many people realize that if this set of standards is still adhered to without change, the punishment for embezzlement and bribery may be too harsh and fall under the category of light crime but severe penalty.

Therefore, the 2015 Amendment (IX) to the Criminal Law of the People’s Republic of China (《刑法修正案(九)》), hereinafter referred to as the Amendment(IX) made a significant amendment to this issue, eliminating the provision of specific amounts in the law and replacing it with relatively vague standards such as ‘relatively large’, ‘huge’, ‘especially huge’, and so on.\(^8\) After the Amendment (IX) came into effect, in order to further clarify the application of the law, the Judicial Interpretation issued in 2016 further clarified the amounts corresponding to the above-mentioned vague standards. Here, the paper presents a comparison of the changes in the sentencing standards for the three crimes of embezzlement, bribery and misappropriation of public funds in Table 1-2.\(^9\)


\(^9\) Only these three crimes are presented because the empirical study below relies on these three crimes to carry out. Because the division of sentences before and after the introduction of the Judicial Interpretation is inconsistent, the
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TABLE 1. CHANGES OF THE SENTENCING AMOUNT STANDARDS FOR EMBEZZLEMENT AND BRIBERY BEFORE AND AFTER THE JUDICIAL INTERPRETATION

<table>
<thead>
<tr>
<th>Severity</th>
<th>Before</th>
<th>After</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>… Individuals who have engaged in graft with an amount of less than 5,000 yuan, with the situation being serious, are to be sentenced to less than two years of fixed-term imprisonment or criminal detention…</td>
<td>… Whoever accepts bribes of not less than 10,000 yuan but less than 30,000 yuan and has any of the circumstances as prescribed … shall be sentenced to fixed-term imprisonment of not more than three years …</td>
<td>Upward adjustment of about 4 times</td>
</tr>
<tr>
<td></td>
<td>… Individuals who have engaged in graft with an amount of more than 5,000 yuan but less than 50,000 yuan are to be sentenced to more than one year but less than seven years of fixed-term imprisonment …</td>
<td>… Whoever embezzles or accepts bribes of not less than 30,000 yuan but less than 200,000 yuan … shall be sentenced to fixed-term imprisonment of not more than three years or criminal detention …</td>
<td>Upward adjustment of about 9.2 times</td>
</tr>
<tr>
<td>Medium</td>
<td>… Individuals who have engaged in graft with an amount of more than 50,000 yuan but less than 100,000 yuan are to be sentenced to more than 5 years of fixed-term imprisonment …</td>
<td>… Whoever embezzles or accepts bribes of not less than 200,000 yuan but less than 3 million yuan … shall be sentenced to fixed-term imprisonment of not less than three years but not more than ten years …</td>
<td>Upward adjustment of about 24.61 times</td>
</tr>
<tr>
<td>Severe</td>
<td>… Individuals who have engaged in graft with an amount of more than 100,000 yuan are to be sentenced to more than 10 years of fixed-term imprisonment or life</td>
<td>… Whoever embezzles or accepts bribes of not less than 3 million yuan … shall be sentenced to fixed-term imprisonment of not less than ten years, life</td>
<td>Upward adjustment of about 30 times</td>
</tr>
</tbody>
</table>

Change multipliers given in the table are linearly discounted, and robustness test of this operation will be given later.

10 Supra note 7.
11 Zuigao Renmin Fayuan Zuigao Renmin Jianchayuan Guanyu Banli Tanwu Huilu Xingshi Anjian Shiyou Falü Ruogan Wenti de Jieshi ([Interpretation of the Supreme People’s Court and the Supreme People’s Procuratorate on Several Issues concerning the Application of Law in the Handling of Criminal Cases of Embezzlement and Bribery] (promulgated by the Supreme People’s Court and Supreme People’s Procuratorate, Mar. 28, 2016, effective Apr. 18, 2016), para. 1 (Chinalawinfo).
12 Supra note 7.
13 Supra note 11.
14 Supra note 7.
15 Supra note 11, para. 2.
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<table>
<thead>
<tr>
<th>Imprisonment ...</th>
<th>Imprisonment, or death ...</th>
</tr>
</thead>
</table>

Average Change of the Sentencing Amount Standards for Embezzlement and Bribery Before and After the Judicial Interpretation (weighted by 60% for lighter, 30% for medium and 10% for heavier)

| TABLE 2. CHANGES OF THE SENTENCING AMOUNT STANDARDS FOR MISAPPROPRIATION OF PUBLIC FUNDS BEFORE AND AFTER THE JUDICIAL INTERPRETATION |
|------------------|------------------|------------------|------------------|
| Severity | Before | After | Changes |
| Light | Where a person misappropriates public funds for personal use and for conducting profit-making activities... 10,000 to 30,000 yuan shall be the starting point of ‘relatively large’... | Where a person misappropriates public funds for personal use and for conducting profit-making activities ... if the amount involved is not less than 50,000 yuan, it shall be determined that ‘the amount is relatively large’... | Upward adjustment of about 14.34 times |
| Medium | Whoever misappropriates public funds for personal use and for conducting illegal activities, 5,000 to 10,000 yuan shall be the starting point of ‘relatively large’... | Whoever misappropriates public funds for personal use and for conducting illegal activities ... shall be subject to criminal liability ... if the amount involved is not less than 30,000 yuan ... | Upward adjustment of about 2.5 times |
|                          | Any of the following circumstances shall be determined as ‘serious circumstance’: ... (1) The amount of misappropriated public funds is not less than 10,000 to 30,000 yuan... | | Upward adjustment of about 13.33 times |

16 Supra note 7.
17 Supra note 11, para. 3.
18 Since the sentencing norms for the misappropriation of public funds in the 1997 Criminal Law and the Amendment (IX) remain consistent, they are omitted and only the changes in the sentencing amount standards in the Judicial Interpretations are shown.
19 Guanyu Shenli Nuoyong Gongkuan Anjian Juti Yingyong Falü Ruogan Wenti de Jieshi ([关于审理挪用公款案件具体应用法律若干问题的解释] [Interpretation of the Supreme People’s Court on Several Issues Concerning the Specific Application of Law in the Trial of Cases of Misappropriation of Public Funds] [promulgated by the Supreme People’s Court, Apr. 6, 1998, effective May 9, 1998], para. 3) (Chinalawinfo).
20 Supra note 11, para. 6.
21 Supra note 19.
22 Supra note 11, para. 5.
23 Supra note 19.
The starting point for ‘the amount is large’ is 150,000 to 200,000 yuan …

… If the amount involved is not less than 5 million yuan, it shall be determined that ‘the amount is large’ …

Average Change of the Sentencing Amount Standards for Misappropriation of Public Funds Before and After the Judicial Interpretation (weighted by 60% for lighter, 30% for medium and 10% for heavier)

<table>
<thead>
<tr>
<th>Severity</th>
<th>Change Before</th>
<th>Change After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td>... The starting point for ‘the amount is large’ is 150,000 to 200,000 yuan …</td>
<td>... If the amount involved is not less than 5 million yuan, it shall be determined that ‘the amount is large’ …</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upward adjustment of about 28.57 times</td>
</tr>
</tbody>
</table>

Average adjustment of about 8.81 times

Through the comparison of Table 1-2, it is clear that the sentencing amount standard for the crime of embezzlement and bribery has significantly increased after the introduction of the 2016 Judicial Interpretation. In terms of its subdivision, the increase in the crime of embezzlement and bribery is much higher than that of public funds misappropriation, which will be the cornerstone of the later empirical study.

B. Literature Review

After clearly sorting out the significant leniency changes made by the 2016 Judicial Interpretation, the next question is how to evaluate the leniency. At present, a lot of research has been conducted on this issue, mainly at two levels: one is theoretical research based on the juristische dogmatic of criminal law, which tries to find out ‘what the best legislative choice should be’; the other path is the empirical study of ‘what is the current impact of the Judicial Interpretation and what are the consequences of the actual legislative choices’. However, while the former accounts for the vast majority, the latter is not only less studied, but the completeness, scientificity, and robustness of empirical studies need to be improved. Certainly, the two are not entirely opposed to each other, but complement each other. Therefore, although this paper belongs to the latter, that is, empirical research about ‘to be’ (‘de facto’), it is still necessary to properly review the theoretical discussion about ‘ought to be’ (‘de jure’).

Most scholars have expressed approval and praise of the Judicial Interpretation, whose views are: First, the Judicial Interpretation is not the first relaxation of the embezzlement and bribery crime and there are precedents before, which is to ensure

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24 Supra note 22.
25 Supra note 19.
26 Supra note 20.
27 See PEI et al., supra note 4.
that the penalties are always equal to the social harm of crimes.\textsuperscript{28} Since GDP per capita has increased more than 6 or 7 times over these years, raising the sentencing standards too little would not be effective.\textsuperscript{29} Second, lenient sentences have their justification as an instrument of criminal policy.\textsuperscript{30} The combination of leniency and severity is in line with the requirements of Marxist philosophy, and is a concrete expression of both the opposition and unity of retribution and utilitarianism, rationalism and modesty, and punishment and prevention.\textsuperscript{31} China has gone through a period of ‘tough crackdown’ ("严打") to deal with crime in a serious and speedy manner, but it has proved to be less effective than desired.\textsuperscript{32} The combination of leniency and severity is formulated according to the different circumstances of the criminal offenders, and is of great significance to educate and rehabilitate of most offenders, isolate and combat the minority, and divide and disintegrate the enemy.\textsuperscript{33} At the same time, it also serves to protect human rights and reflects the principle of equity.\textsuperscript{34} Finally, many studies based on judicial cases and media reports point out that the sentencing amount standard in the \textit{1997 Criminal Law} was not fully implemented before 2016.\textsuperscript{35} For example, some law enforcement

\textsuperscript{28} See LU QINZHONG (卢勤忠), \textit{Woguo Shouhuizui Xingfa de Lifa Wanshan} (我国受贿罪刑罚的立法完善) [On Legislative Amelioration of the Penalty of Bribery Crime], \textit{3 GUOJIA JIANCHAGUAN XUEYUAN XUEBAO} (国家检察官学院学报) [J. OF NATIONAL PRESECUTORS COLLEGE] \textbf{83} (2008).

\textsuperscript{29} ZHAO BINGZHI (赵秉志), \textit{Lüe tan Zuixin Sifa Jieshi zhong Tanwu Shouhui Fanzui de Dingzui Liangxing Biaozhun} (略谈最新司法解释中贪污受贿犯罪的定罪量刑标准) [A Brief Discussion of the Latest Judicial Interpretation of the Crime of Embezzlement and Bribery Conviction and Sentencing Standards], China Court Website, April 18, 2016, https://www.chinacourt.org/article/detail/2016/04/id/1841810.shtml.

\textsuperscript{30} See SUN GUOXIANG (孙国祥), \textit{Tanwu Shouhui Fanzui Xingfa Xiuzheng de De yu Shi} (贪污贿赂犯罪刑法修正的得与失) [Gains and Losses of Amendment to Criminal Law on Embezzlement and Bribery Crimes], \textit{3 DONGNAN DAXUE XUEBAO} (ZHEXUE SHEHUI KEXUE BAN) [J. OF SOUTHEAST UNIVERSITY (PHILOSOPHY AND SOC. SCI.)] \textbf{73} (2016).

\textsuperscript{31} JIANG WEI (姜伟) \& LU YURONG (卢宇蓉), \textit{Kuanyan Xiangji Xingshi Zhengce de Bianzheng Guanxi} (宽严相济刑事政策的辩证关系) [The Dialectical Relationship Between Leniency and Severity in Criminal Policy], \textit{6 ZHONGGUO XINGSHIFA ZAZHI} (中国刑事法杂志) [CRIMINAL SCI.] \textbf{11} (2007).

\textsuperscript{32} See CHEN XINGLIANG (陈兴良), \textit{Kuanyan Xiangji Xingshi Zhengce Yanjiu} (宽严相济刑事政策研究) [Study on the Criminal Policy of Combining Punishment with Leniency], \textit{1 FAXUE ZAZHI} (法学杂志) [L. SCI. MAGAZINE] \textbf{18} (2006).


\textsuperscript{34} See JIANGWEI \& LU YURONG, supra note 31, at 16.

\textsuperscript{35} See ZHANG MINGKAI (张明楷), \textit{Tanwu Huilu Zui de Sifa yu Lifa Fazhan Fangxiang} (贪污贿赂罪的立法与司法发展方向) [Judicial and Legislative Development Direction of the Crime of Embezzlement and Bribery], \textit{1
agencies have substantially raised the standard of filing cases internally, from generally not pursuing embezzlement and bribery crimes below 10,000 yuan to the current rule of 50,000 yuan.\textsuperscript{36} A large number of suspended sentences, and minor sentences are also being applied by the judiciary.\textsuperscript{37} Therefore, the \textit{Judicial Interpretation} is an adjustment in line with the reality.

At the same time, there is some opposition to the \textit{Judicial Interpretation} from the academic community, but it is not mainly about whether the sentencing standards should be revised, but about the magnitude of the revision since it is believed that the current revision is too large and may condone the crime. Some scholars have pointed out that breaking through the dilemma of rule of law practice does not lie in the frequent formulation of judicial interpretation, but in the practical improvement of legislative techniques.\textsuperscript{38} It is argued that the introduction of the new \textit{Judicial Interpretation} will bring about an increase in the number of corruption crimes occurring, and that although the sentence is nominally strict, it actually relaxes the penalties for the perpetrators.\textsuperscript{39} Also, the \textit{Judicial Interpretation} may trigger the contradiction of unbalanced conviction and sentencing standards within the property crime system.\textsuperscript{40} Some scholars have also questioned whether there is any inherent scientific support for keeping the multiples of the increase in sentencing standards in line with the multiples of GDP growth.\textsuperscript{41} Some other scholars raised doubts in response to the specific amount of the division of the standard change, such as that the standard of 100,000 yuan corresponding to more than

\textbf{ZHENGFALUNTAN (政法论坛) [TRIBUNE OF POLITICAL SCI. AND L.] 5 (2017).}
\textsuperscript{37} See XIONG XUANGUO (熊选国), \textit{XINGSHI SHENPAN CANKAO (DI 57 JUAN)} (刑事审判参考(第57卷)) [REFERENCE OF CRIMINAL TRIAL (EP. 57)] 116 (2007).
\textsuperscript{38} See LIU XIANQUAN, \textit{supra} note 5, at 79.
\textsuperscript{39} See SUN GUOXIANG, \textit{supra} note 30, at 72.
\textsuperscript{40} See LIU XIANQUAN, \textit{supra} note 5, at 84.
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In general, although the opponents’ challenges vary, rather than opposing the *Judicial Interpretation*, they are proposing amendments to the specific provisions of the *Judicial Interpretation*.

By reviewing the different views of the two major schools of thought mentioned above, a core of the discussion comes to the fore: whether praising the *Judicial Interpretation* or disapproving of its specific provisions, the focus of their attention is the effect and utility of the *Judicial Interpretation*, specifically its utility of promoting the balance of crime and penalty, reducing the occurrence of crime, and combining the leniency and severity. Thus, did the *Judicial Interpretation* actually reduce the average sentence? Furthermore, did it increase the number of cases? What are the reasons and mechanisms by which they work? If these questions are not well answered, the evaluation of the *Judicial Interpretation* will lose its basis, and the meaning and value of the discussion will be greatly reduced. Unfortunately, the few existing empirical studies mainly focus on the impact of various factors and circumstances within the crime on sentencing, or descriptively present the distribution and proportion of sentencing, but fail to provide an answer to the above cause and effect.

**C. Research Hypotheses**

Therefore, this paper will take the above several issues as the research objectives and develop the discussion through empirical methods to fill the academic gap. Here, this paper will propose several research hypotheses to be empirically verified later.

Did the *Judicial Interpretation* reduce the average penalty? Many people may think that the answer to this question is undeniable: since the sentencing amount standards have been significantly increased, the perpetrators of the same amount of embezzlement and

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bribery crime will receive far lower penalties after the introduction of the Judicial Interpretation, and therefore the Judicial Interpretation should have lowered the average penalty. However, as reviewed in the literature above, such a conclusion may be hasty: First, there were many precedents of lenient sentencing in practice even before the Judicial Interpretation was introduced, and the provisions in the 1997 Criminal Law have been factually broken. Therefore, if the Judicial Interpretation is merely an ex post facto retrospective recognition of changes in adjudicative norms, it may not serve to reduce sentences. Second, without empirical research to identify the net impact of the introduction of the Judicial Interpretation, it is difficult to say whether the change in average sentence length is the result of the Judicial Interpretation, because many factors such as economic development, industrial structure, population, transportation, and fiscal revenue may influence the occurrence of embezzlement and bribery crime. Finally, as also mentioned above, some scholars questioned the adjustment of sentencing amount standards under the new Judicial Interpretation, and it is not entirely unlikely that the sentence will rise rather than fall due to unreasonable adjustments. Therefore, the paper proposes a set of hypotheses which are opposite to each other:

Hypothesis 1a: The Judicial Interpretation did reduce the average penalty.
Hypothesis 1b: The Judicial Interpretation did not reduce the average penalty.

At the same time, as many scholars and people fear, if the above question is confirmed, that is, the introduction of the Judicial Interpretation has indeed lowered the average sentence, then this means that the overall crackdown on embezzlement and bribery crime has decreased, will this lead to a rise in the number of crimes? If so, how is this increase viewed and how can we respond to it? This question will likewise serve as a further research question for this paper. Therefore, the paper goes on to propose two opposing hypotheses, which are the second set of hypotheses:

Hypothesis 2a: The Judicial Interpretation did exacerbate the crime.
Hypothesis 2b: The Judicial Interpretation did not exacerbate the crime.

III. CORE ISSUE: DID THE JUDICIAL INTERPRETATION REDUCE THE AVERAGE PENALTY?

A. Methodology and Data

As the beginning of the empirical section, this subsection focuses on the empirical models and data applied throughout the paper. With the ‘credibility revolution’ in
FROM LIGHT CRIME BUT SEVERE PENALTY TO CRIME EQUALING PENALTY

empirical research, the traditional econometric methods represented by simple OLS regression have fallen behind because they can only study correlation but not causation. A series of methods based on the potential outcome model, such as matching, instrumental variable, difference-in-differences, and regression discontinuity, have become the latest research paradigm in empirical research.\(^{45}\) Among them, the difference-in-differences method (hereinafter referred to as DiD) is the research method that will be used in this paper.

The DiD model is an excellent tool for measuring the impact of a policy change and is based on the following simple idea: assume a policy whose occurrence divides the continuous time into two periods: before and after the occurrence of the policy. Before the policy occurs, all individuals are unaffected, while after the policy occurs, a portion of individuals, that is, the treatment group, are affected by the policy, while the rest of individuals, that is, the control group, are not affected by it. In this way, if individuals in the treatment and control groups have extremely similar trends before the occurrence of the policy, but show a gap immediately after the occurrence of the policy, it is reasonable to assume that the occurrence of the policy causes the gap. If the above process is expressed mathematically, there will be the following equation:

\[ Y_u = \alpha + \beta \times D_i + \gamma \times T_i + \delta \times (D_i \times T_i) + \epsilon_{it} \]

in which \( Y_u \) is the result variable, \( D_i \) means whether the individual \( i \) is affected by the policy (if the individual \( i \) is affected, then \( D_i = 1 \), else \( D_i = 0 \)), \( T_i \) represents whether the policy has occurred at time \( t \) (if the policy has occurred, \( T_i = 1 \), else \( T_i = 0 \)), and \( D_i \times T_i \) is the product of \( D_i \) and \( T_i \). \( \alpha \), \( \beta \), and \( \gamma \) is the coefficient of \( D_i \), \( T_i \), and \( D_i \times T_i \). So the coefficient \( \delta \) represents the policy’s impact, which is because:

**TABLE 3. THE REASON WHY THE COEFFICIENT \( \delta \) REPRESENTS THE POLICY’S IMPACT**

| \( E(Y_u|D_i, T_i) \) | \( T_i = 0 \) | \( T_i = 1 \) | Difference |
|-----------------------|--------------|--------------|------------|
| \( D_i = 0 \)        | \( \alpha \)  | \( \alpha + \gamma \) | \( \gamma \) |
| \( D_i = 1 \)        | \( \alpha + \beta \) | \( \alpha + \beta + \gamma + \delta \) | \( \gamma + \delta \) |
| Difference            | \( \beta \)   | \( \beta + \delta \) | \( \delta \) |

However, in the specific practice of this paper, the standard DiD described above is

\(^{45}\) See HUANGWEI (黄炜) et al., *Cong Shuangchong Chafenfa dao Shijian Yanjiufa* (从双重差分法到事件研究法) [From Difference-in-Differences to Event Study], 2 CHANYE JINGJI PINGLUN (产业经济评论) [INDUSTRIAL ECONOMICS REVIEW] 17 (2022).
FROM LIGHT CRIME BUT SEVERE PENALTY TO CRIME EQUALING PENALTY
difficult to apply, which is because the Judicial Interpretation introduced in 2016 impacts almost all the crimes in the crime of embezzlement and bribery, and almost all the crimes in the category, the research object of this paper, are included in the treatment group, in which case the control group is missing. Fortunately, the 2016 Judicial Interpretation raises the sentencing standard differently for different crimes (just as shown in Table 1-2), allowing us the flexibility to use the DiD method to construct the following equation:
\[ Y_u = \alpha + \beta \times I_i + \gamma \times T_t + \delta \times (I_i \times T_t) + \varepsilon_u \]
this method, known as the generalized DiD, was first applied by Nunn and Qian to study the effect of the spread of potato cultivation on population growth in Europe.\(^{46}\) Here, \( D_i \) is replaced by \( I_i \), which means the intensity of the impact of the policy on individual \( i \). In Table 1-2, the paper obtained different sentencing multiplier increases by comparing the legal texts for embezzlement crime and bribery crime, as compared to the crime of misappropriation of public funds, which is exactly the value corresponding to \( I_i \) here. What remains constant is that the coefficient \( \delta \) of the cross-product term remains the policy effect we are interested in.

The data for this paper was obtained from the China Judgement Online website, which is the official Chinese website for publicizing the vast majority of judgments. In this paper, we compiled the nationwide verdicts on embezzlement crime, bribery crime and the crime of misappropriation of public funds from 2001 to 2020, and obtained 67,691 full-text verdicts after removing duplicate samples, eliminating irrelevant verdicts, and sifting out non-public cases. Since this paper focuses not on individual cases but on crimes within the society as a whole, this paper also matches these 67,691 data with data from the China City Statistical Yearbook according to the cities where the judgment courts are located, and obtains panel data in 296 cities (292 prefecture-level cities and four municipalities directly under the central government of Beijing, Tianjin, Shanghai and Chongqing) from 2001 to 2020, including average sentence, number of cases, total sentence, and control variables such as population, GDP, GDP growth rate, share of secondary industry, share of tertiary industry, fiscal revenue, social consumer goods, road area, and road passenger volume. Descriptive statistics of the data are shown in the following table:

**TABLE 4. DESCRIPTIVE STATISTICS**

FROM LIGHT CRIME BUT SEVERE PENALTY TO CRIME EQUALING PENALTY

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average sentence</td>
<td>7,159.00</td>
<td>35.14</td>
<td>27.60</td>
<td>29.98</td>
<td>0.00</td>
<td>350.00</td>
</tr>
<tr>
<td>Number of cases</td>
<td>7,159.00</td>
<td>9.46</td>
<td>6.00</td>
<td>11.77</td>
<td>1.00</td>
<td>179.00</td>
</tr>
<tr>
<td>Total sentence</td>
<td>7,159.00</td>
<td>309.91</td>
<td>160.01</td>
<td>506.05</td>
<td>0.00</td>
<td>10,168.19</td>
</tr>
<tr>
<td>$T_i$</td>
<td>7,159.00</td>
<td>0.55</td>
<td>1.00</td>
<td>0.50</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>$I_i$</td>
<td>7,159.00</td>
<td>12.72</td>
<td>14.34</td>
<td>2.52</td>
<td>8.81</td>
<td>14.34</td>
</tr>
<tr>
<td>$I_i \times T_i$</td>
<td>7,159.00</td>
<td>7.02</td>
<td>8.81</td>
<td>6.57</td>
<td>0.00</td>
<td>14.34</td>
</tr>
<tr>
<td>Log of population</td>
<td>7,159.00</td>
<td>5.96</td>
<td>6.00</td>
<td>0.70</td>
<td>2.94</td>
<td>8.14</td>
</tr>
<tr>
<td>Log of GDP</td>
<td>7,159.00</td>
<td>7.35</td>
<td>7.29</td>
<td>1.02</td>
<td>3.46</td>
<td>10.56</td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>7,159.00</td>
<td>7.84</td>
<td>8.00</td>
<td>3.93</td>
<td>-20.63</td>
<td>28.60</td>
</tr>
<tr>
<td>Share of secondary industry</td>
<td>7,159.00</td>
<td>45.17</td>
<td>45.75</td>
<td>10.62</td>
<td>10.60</td>
<td>81.82</td>
</tr>
<tr>
<td>Share of tertiary industry</td>
<td>7,159.00</td>
<td>43.39</td>
<td>42.68</td>
<td>10.39</td>
<td>15.16</td>
<td>83.87</td>
</tr>
<tr>
<td>Log of fiscal revenue</td>
<td>7,159.00</td>
<td>14.04</td>
<td>13.93</td>
<td>1.11</td>
<td>9.40</td>
<td>18.09</td>
</tr>
<tr>
<td>Log of social consumer goods</td>
<td>7,159.00</td>
<td>15.68</td>
<td>15.64</td>
<td>1.05</td>
<td>11.56</td>
<td>18.89</td>
</tr>
<tr>
<td>Log of road area</td>
<td>7,159.00</td>
<td>7.19</td>
<td>7.09</td>
<td>1.00</td>
<td>3.95</td>
<td>10.34</td>
</tr>
<tr>
<td>Log of road passenger volume</td>
<td>7,159.00</td>
<td>8.29</td>
<td>8.30</td>
<td>1.12</td>
<td>2.20</td>
<td>12.18</td>
</tr>
</tbody>
</table>

A few points to note about the data are: First, all sentence length data are in months, and in processing the data, this paper follows the established literature by discounting suspended sentences and setting life sentences at 300 months and death sentences at 350 months. Secondly, to better fit the linear trend, this paper takes logarithms for variables such as population and GDP. Finally, because there are missing data in the data source, for these missing values, linear interpolation is performed in this paper. The amount of interpolated data is minimal compared to the total so it will not affect the empirical results.

B. Empirical Result

Having presented the methodology and data, the first question to be examined is whether the Judicial Interpretation has reduced the average sentence for embezzlement and bribery crime. Therefore, with the average sentence as the dependent variable and $T_i$, $I_i$, and their cross product term $I_i \times T_i$ as the independent variable, a generalized DiD regression can be constructed as follows:

$$\text{Average sentence}_{it} = \alpha + \beta \times I_i + \gamma \times T_i + \delta \times (I_i \times T_i) + \varepsilon_{it}$$

this most basic regression is shown in the first column of results in Table 5. On this basis,

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47 See DENG JINTING, supra note 42, at 105.
the paper add the two-way fixed effects commonly used for panel data, controlling for city and year variables, and started using clustering standard error:

\[ \text{Average sentence}_u = \alpha + u_i + \mu_i + \delta \times (I_i \times T_i) + \varepsilon_u \]

whose results are shown in the second column of Table 5. On this basis, all control variables are then added to the regression:

\[ \text{Average sentence}_u = \alpha + u_i + \mu_i + \delta \times (I_i \times T_i) + \mu \times \text{Control variables}_u + \varepsilon_u \]

to obtain the results in the third column.

### TABLE 5. EMPIRICAL RESULT

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Average sentence</th>
<th>(2) Average sentence</th>
<th>(3) Average sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>( I_i \times T_i )</td>
<td>-1.282*** (-5.02)</td>
<td>-1.251*** (-4.14)</td>
<td>-1.220*** (-4.11)</td>
</tr>
<tr>
<td>Control variables</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>City FE</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>7,159.00</td>
<td>7,159.00</td>
<td>7,159.00</td>
</tr>
<tr>
<td>Number of cities</td>
<td>296.00</td>
<td>296.00</td>
<td>296.00</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.103</td>
<td>0.148</td>
<td>0.154</td>
</tr>
</tbody>
</table>

It can be found that the coefficients \( \delta \) we focus on, representing the impact of the policy, are always significant and their values do not change much, whose values are negative, implying that if the sentencing amount standard is further increased from the original \( n \) times to \( n + 1 \) times, the average sentence length is reduced by 1.22 months. Reviewing the first set of hypotheses of the study, hypothesis 1a was confirmed to be valid. The \textit{Judicial Interpretation} did significantly reduce the average sentence of offenders, which is one of the purposes of its introduction—to promote the balance of crime and penalty.

Such a conclusion is helpful in answering the many queries mentioned above. The significance of the empirical results implies that, although there was a tendency to leniently apply penalties in judicial practice before the introduction of the \textit{Judicial Interpretation}, the effect of \textit{Judicial Interpretation} was never ‘retroactive’, but had the effect of significantly promoting the crime equaling penalty and further reducing penalties. In addition, the empirical results presented in this paper are net, excluding the influence of economic development, industrial changes, population and other factors. Finally, the decrease in average penalties also partially proves that there is no major failure in the

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48 ***, **, and * indicate significance at the 1, 5, 10 percent levels, respectively.
formulation of Judicial Interpretation that increases penalties instead.

C. Robustness Test

The above regressions are simple and clear, but a series of robustness tests are also done in this paper to prove the reliability of the conclusions. The first is the parallel trend test. As presented above, in the DiD model, the treatment and control groups should follow some common trends before the policy occurs to study the impact of the policy. This assumption implies the idea of a ‘quasi-natural experiment’. The parallel trend test can be performed by plotting a line graph of the mean changes over time for the treatment and control groups, or the event study method can be used to obtain more precise results.

FIGURE 1. PARALLEL TREND TEST

The left side of Figure 1 presents the line graphs of the treatment and control groups. Before 2006, the mean values of the two fluctuated due to the small number of samples, but afterwards the trend of the two was very similar and they showed a significant decrease in 2016. The graphical representation of the event study method on the right side of Figure 1 is a more precise illustration. As can be seen in the figure, using the policy occurrence in 2016 as the boundary (‘Current’ on the horizontal axis of the figure), the confidence intervals of the coefficients for all previous years contain zeros and the coefficients are not significant, but since 2016, the situation immediately shifts and the zeros are outside the confidence intervals and the coefficients begin to be significant, indicating that a parallel trend is satisfied and that the treatment effect of Judicial Interpretation does exist.

On this basis, we also need to revisit the above empirical results, as many areas

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49 Due to space limitations, the principles of the event study method are not described in detail here.
remain questionable. First, the changes in sentencing amount standards before and after the introduction of the *Judicial Interpretation* shown in Table 1-2 are not completely accurate calculations, and the laws before and after cannot correspond exactly so there may be errors. This paper finds that no matter how to divide the categories and calculate the multipliers, the increases in standards for embezzlement crime and bribery crime are always higher than that for misappropriation, so it is worth considering the sample of embezzlement crime and bribery crime corresponds to 1 and misappropriation crime corresponds to 0, to use the standard DiD to test the robustness. As shown in the first column of Table 6, the results are still significant, indicating that the calculation of this partial multiplier does not affect the correctness of the results.

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Average sentence</th>
<th>(2) Average sentence</th>
<th>(3) Average sentence</th>
<th>(4) Average sentence</th>
<th>(5) Average sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-6.747***</td>
<td>-1.213***</td>
<td>-1.225***</td>
<td>-1.146***</td>
<td>-2.822***</td>
</tr>
<tr>
<td></td>
<td>(-4.11)</td>
<td>(-4.21)</td>
<td>(-4.10)</td>
<td>(-3.84)</td>
<td>(-0.83)</td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>City FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>7,159.00</td>
<td>7,159.00</td>
<td>7,159.00</td>
<td>7,013.00</td>
<td>7,159.00</td>
</tr>
<tr>
<td>Number of cities</td>
<td>296.00</td>
<td>296.00</td>
<td>296.00</td>
<td>292.00</td>
<td>296.00</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.154</td>
<td>0.152</td>
<td>0.152</td>
<td>0.159</td>
<td>0.151</td>
</tr>
</tbody>
</table>

Second, in the data treatment, this paper sets the life sentence and death sentence reprieve to 300 and 350 months, and although the literature supports such an operation, it cannot be completely accurate. Therefore, this paper tries again to remove these variables for regression, and the results are shown in the second column of Table 6, which are still significant. Similarly, in the face of possible challenges regarding control variables, the paper randomly excludes half of the control variables and the regression results remain significant, which is shown in the third column. Also, municipalities directly under the central government are on the same level as provinces in China, will the inclusion of the four cities of Beijing, Tianjin, Shanghai and Chongqing in the regression cause bias? To verify this, the fourth column of the table presents the results with the four cities removed,

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***, **, and * indicate significance at the 1, 5, 10 percent levels, respectively.
and the coefficients are still significant.

Finally, there is an important question: could the change in the average sentence for embezzlement and bribery crime be the result of policy factors rather than legal ones? As the public knows, since the 18th CPC National Congress in 2013, anti-corruption efforts have been higher, could it be that this high-pressure stance has deterred crime and thus led to a decline in sentences? The political fight against corruption has been carried out on a large scale since 2013, and if the change in average sentence length is responsible for it, the results should also be significant using 2013 as the year of policy occurrence for the DiD model in this paper. To verify this, this paper again moves the policy occurrence time point from 2016 to 2013, and the results are shown in the fifth column of the table, where the coefficients are not only insignificant but also very far from significant results, indicating that the impact comes precisely from the Judicial Interpretation in 2016. In addition, the policy role of the anti-corruption fight is consistent for embezzlement crime and bribery crime, as well as misappropriation crime, and is part of the stochastic disturbance term $\varepsilon_{it}$ in the model above, which has been subtracted after difference-in-differences.

D. Mechanism Analysis

After the robustness test above, the findings in the empirical results subsection are proven: research hypothesis 1a is valid, and the Judicial Interpretation does reduce the average sentence. On this basis, what causes this effect?

One explanation is quite obvious: the introduction of Judicial Interpretation allows the same level of crimes to be sentenced lower than before under the new standards, thus lowering the average sentence. One of the goals of the Judicial Interpretation is to promote the shift from light crime but severe penalty to a crime equaling penalty, so such an explanation is consistent with the purpose of it. However, it may be disappointing if only such an impact mechanism exists. Such an explanation implicitly assumes the Judicial Interpretation does not in any way change the occurrence of crimes before and after its introduction, but merely confers different penalties for the same level of crimes. Although a lot of established literature explores the rationality of this Judicial Interpretation from such an assumption, this paper argues that both theoretically and empirically, it can confirm that there is room for improvement of the above theory: There is by no means just one mechanism for the Judicial Interpretation to work.
Theoretically, this issue essentially comes back to the question of the function of criminal law. The mainstream view is that the functions of China’s criminal law should include crime preventive function, order protective function and right safeguard function. This means that criminal law not only needs to prevent and deter the occurrence of crime, but also needs to punish crime, while protecting the basic rights and interests of the offender. From the perspective of the function of criminal law, the balance of crime and penalty is essentially the unity of order protection function and right safeguard function.51 The order protection function of criminal law requires the punishment of crime, so it inevitably has the tendency to severely punish crime, while the right safeguard function requires that the criminal law should not be imposed on the offender too heavy, in order to ensure the fairness and justice of criminal law. Therefore, the balance of order protection function and right safeguard function leads to the crime equaling penalty. However, the crime preventive function has been not added to the doctrine: it is equally important to prevent the occurrence of crime while balancing crime and penalty. Such prevention does not mean the deterrence of potential offenders through extremely harsh penalties, which would lead to the absence of the right safeguard function, but rather the suppression of the criminal intentions of potential offenders through a scientific and reasonable design of criminal law.

The crime economics provides a good perspective on this issue. In its view, crime arises because the benefits that can be gained from crime are higher than the costs that it entails. For a potential offender, if the probability of his crime being exposed is $p$, then the probability of committing a crime but not being punished is $1 - p$. If the benefit of a successful crime is $B$ and the penalty for failure is $P$, then the utility function of a potential offender can be expressed as: 52

$$U = (1 - p) \times B - p \times P$$

which can be further refined for the crime of embezzlement and bribery: The proceeds of embezzlement and bribery are primarily reflected in the stolen money received, and while other factors such as psychological pleasure are included, they are not primary. Similarly, the costs of embezzlement and bribery are the criminal penalties imposed by the court, which in turn are based on the amount of corruption as the main sentencing criteria. Thus,

51 See MA KECHANG (马克昌), Xingfa de Jineng Xinlun (刑法的功能新论) [A New Theory of the Function of Criminal Law], 8 RENMIN JIANCHA (人民检察) [PEOPLE’S PROCURATORIAL SEMIMONTHLY] 10 (2009).
52 See RICHARD B. FREEMAN, HANDBOOK OF LABOR ECONOMICS 3538 (1999).
if we write down the amount involved as \( m \), then the proceeds of crime and the costs of crime, mentioned above, can be further expressed as functions of \( m \). \( B(e) \) is a nonlinear function because the marginal utility of money to people is decreasing, so here we retain this function as a whole. \( P(e) \) is a function determined primarily by the amount of the crime, mixed with other circumstantial factors, and as shown in Table 1-2, the sentencing amount standard provides a correspondence from the amount to the length of the sentence, so that there is: \( P(e) = k \times e + \phi \), in which \( k \) means the sentencing amount criteria in Table 1-2. On this basis, the aim of the potential offender is to maximize the utility function to give himself the maximum net benefit:

\[
\max \{ U \} = \max \{ (1 - p) \times B(e) - p \times P(e) \}
\]

\[
\Rightarrow \frac{\partial U}{\partial e} = (1 - p) \times \frac{\partial B(e)}{\partial e} - p \times \frac{\partial P(e)}{\partial e} = 0
\]

\[
\Rightarrow (1 - p) \times \frac{\partial B(e)}{\partial e} = p \times \frac{\partial P(e)}{\partial e} = p \times k
\]

Through the above derivation, we can find that a potential perpetrator of embezzlement and bribery will always stop continuing to crime when his marginal benefit (left side) equals his marginal cost (right side). This is because once the marginal benefit is greater, he has an incentive to continue to corrupt, while once the marginal cost is greater, it means he stops too late and has already suffered a loss. The theory of the crime economics suggests that a potentially rational offender should ‘arrange his greed’ according to the sentencing amount standard, and once the marginal benefit is greater than the marginal cost, he should do whatever he can to embezzle and corrupt, but once the sentencing amount standard is severe and greater than the marginal benefit, he should immediately stop.

In this way, the problems with the legislation prior to the 2016 Judicial Interpretation are exposed. The original law divided the sentencing amount standards very unevenly, with the severity increasing very quickly for light and medium crimes, but leveling off immediately at serious crimes. This means that someone who embezzles 5,000 yuan may be sentenced to 1 year in prison, while someone who embezzles 100,000 yuan will be sentenced to about 10 years, but for those who embezzle 20 million yuan, their sentence will probably not exceed 15 years.\(^{53}\) For a corrupt official who has already embezzled

\(^{53}\) See Zhumoumou Tanwu Zui, Shouhui Zui, Xukai Fapiao Zui, Shouhui Zui Xingshi Yishen Panjueshu (祝某某贪污罪、受贿罪、虚开发票罪、受贿罪刑事一审判决书) [Criminal Judgment for ZHU on embezzlement, bribery, and
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100,000 yuan, the cost to him or her of obtaining that 100,000 yuan would be an average of 10,000 yuan corresponding to a one-year sentence, but since then, the cost of obtaining another 10,000 yuan would be far less than a one-year sentence, not even one-month. In this case, the sudden reduction in marginal cost will greatly stimulate his or her desire to commit serious crimes and thus keep on embezzling and bribing.

However, this situation is improved with the introduction of the 2016 *Judicial Interpretation*—the increased sentencing amount standard is accompanied by a more reasonable sentencing division, and there is no longer a particularly flat sentencing range to encourage potential embezzlers to commit more serious crimes. In addition, the new *Judicial Interpretation* puts further emphasis on the death penalty, which enhances the deterrent effect even more. Offenders must now carefully consider their corrupt decisions, which is the result of the more scientific and reasonable formulation of the *Judicial Interpretation*.

The above theory will lead to the fact that the incidence of severe corruption crimes will decline after the 2016 *Judicial Interpretation*, not only because the penalties are adjusted downward, but also because a more reasonable division of the sentencing range does not leave the soil for the perpetrators of embezzlement and bribery to grab benefits at low cost. This reasoning is similar to the criminal leniency policy that does not easily impose the death penalty, because once stealing 100,000 yuan will be sentenced to death, killing another person will likewise be a death sentence, and with a marginal cost of zero, this offender will continue to commit vicious crimes indefinitely.

To test whether this mechanism really exists, this paper also conducts an empirical study using a mediating effects approach. Based on the data used above, the proportion of cases with sentences greater than 120 months and greater than 150 months is further calculated as a measure of serious cases. Table 7 shows that the interaction term $I_i \times T_i$ does have a significant effect on the serious case ratio, and when the serious case ratio is added to the overall regression model, the coefficients of both it and the interaction term $I_i \times T_i$ are significant, and the coefficient of the interaction term $I_i \times T_i$ is increased, indicating that the addition of the serious case ratio does reduce the effect of the original interaction term $I_i \times T_i$ in the model and the mediating effect exists. In order to ensure the robustness, the regressions of ‘more than 120 months’ and ‘more than 150 months’ are done respectively, whose results are both significant. In addition, the Sobel test was

false invoicing], (People’s Ct. of Boli County, Heilongjiang Province, 2021) (China) and so on.
conducted to prove that the effect does exist significantly.

### TABLE 7. MECHANISM ANALYSIS\(^{54}\)

<table>
<thead>
<tr>
<th>Variables</th>
<th>(1) Average sentence</th>
<th>(2) Serious case ratio (more than 120 month)</th>
<th>(3) Average sentence</th>
<th>(4) Serious case ratio (more than 150 month)</th>
<th>(5) Average sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>( I_i \times T_t )</td>
<td>-1.220*** (-4.11)</td>
<td>-0.004*** (-9.41)</td>
<td>-0.837*** (-13.71)</td>
<td>-0.001*** (-3.90)</td>
<td>-1.215*** (-16.42)</td>
</tr>
<tr>
<td>Serious case ratio</td>
<td></td>
<td>118.965*** (49.72)</td>
<td></td>
<td>150.219*** (27.85)</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>City FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>7,159.00</td>
<td>7,159.00</td>
<td>7,159.00</td>
<td>7,013.00</td>
<td>7,159.00</td>
</tr>
<tr>
<td>Number of cities</td>
<td>296.00</td>
<td>296.00</td>
<td>296.00</td>
<td>292.00</td>
<td>296.00</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.154</td>
<td>0.060</td>
<td>0.579</td>
<td>0.030</td>
<td>0.363</td>
</tr>
<tr>
<td>Sobel Z</td>
<td></td>
<td>-0.595*** (-12.57)</td>
<td></td>
<td>-0.260*** (-7.89)</td>
<td></td>
</tr>
</tbody>
</table>

### IV. FURTHER EXPLORATION: DID THE JUDICIAL INTERPRETATION EXACERBATE THE CRIME?

#### A. Questions and concerns

Although the above core section has presented a relatively complete empirical study of the crime of embezzlement and bribery, there is still a need for further discussion because the above discussion of whether Judicial Interpretation significantly reduces the average penalty is only one aspect of the question; the other aspect is: does Judicial Interpretation condone the occurrence of embezzlement and bribery crimes? This question is on the opposite side of the discussion of the average penalty, because the two are precisely the result of the order protection function and the right safeguard function of criminal law, respectively, and the significant reduction of the average penalty should be worried about whether it is so low that it exacerbates crime and prevents the powerless of the order protection function caused by the overemphasis on the right safeguard function.

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54 ***, **, and * indicate significance at the 1, 5, 10 percent levels, respectively.
In fact, some members of the public have doubts about the introduction of *Judicial Interpretation*. They believe that the decline in average penalties will inevitably lead to the deterrent effect of criminal penalties for embezzlement and bribery being undermined, and that potential offenders will be more likely to go into the abyss of crime under such circumstances, causing more serious damage to society. Moreover, China has a tradition of opposing and severely punishing corrupt officials since ancient times, and some people do not feel that the right safeguard function of criminal law is more important than the punitive and deterrent functions, and there has been a high demand from the public for severe punishment for corruption crimes. Therefore, many members of the public believe that the introduction of *Judicial Interpretation* will only promote the occurrence of corruption crimes, and similar adjustments are inappropriate, and some even argue that similar efforts to ‘crime equaling penalty’ are merely excuses for officials to shield themselves. So, what to make of these questions and concerns?

**B. Empirical Result**

It is necessary to give evidence to the above arguments from an empirical perspective based on data from judicial decisions. First, this article will discuss the question of whether, and then come to the question of why.

According to the theory described above, the introduction of *Judicial Interpretation* that lower penalties will lead to a decrease in the deterrent effect of criminal law, which naturally means that more crimes will be committed. Therefore, this paper first examines the relationship between the introduction of *Judicial Interpretation* and the number of embezzlement and bribery cases in each cities, and the results are shown in the first column of Table 8. From the coefficients of our interaction terms \( I \times T \), the introduction of *Judicial Interpretation* does significantly contribute to the increase in the number of cases, which seems to confirm the public’s concern that *Judicial Interpretation* condones crime—but is this really the case?

**TABLE 8. EMPIRICAL RESULT**

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56 ***, **, and * indicate significance at the 1, 5, 10 percent levels, respectively.
This paper argues that it is inappropriate to use the number of cases to directly correspond to the social severity of the crime, because such a treatment throws out the important factor of the length of sentence in each case and treats all cases as equivalent, which is very unscientific. In fact, embezzlement and bribery cases show an obvious long-tail distribution, with most cases being relatively minor in severity and a very small number of extremely egregious cases. If the number of cases is used to represent the social harm of the crime, the serious impact of these very few but very bad cases on society is underestimated. Therefore, considering both the number of cases and the severity of the cases, the sum sentences verdicted in each region is a more appropriate measure of the social impact of corruption crimes on a city. The results of this paper are shown in the second column of Table 8, and the results are significantly negative, indicating that the introduction of the Judicial Interpretation did not have the effect of amplifying corruption crime in society. To say the least, the argument that the Judicial Interpretation condones corruption crime lacks the necessary support.

On this basis, this paper also provides an illustration of the mechanism. As mentioned above, most cases of embezzlement and bribery are minor, and heavy cases are, after all, a minority. If the introduction of the Judicial Interpretation has lowered penalties and deterrence, thus encouraging some people to commit crimes, it is unlikely that the crimes and penalties committed by these people will be extremely serious, because the Judicial Interpretation features an upward adjustment of the sentencing amount standard, which is more favorable for minor crimes, while the punishment for
major crimes is equally severe. Not only that, as mentioned in the design of the mechanism in the previous chapter, the Judicial Interpretation introduced a more reasonable division of the sentencing tier, which has the function of reducing serious crimes more. Therefore, this paper argues that although the number of embezzlement and bribery cases has increased to a certain extent because of the introduction of the Judicial Interpretation, this increase is mainly caused by the proliferation of minor cases, and the degree of social harm is not particularly high. To address this, this paper constructs the variable of the proportion of sentences less than 36 months as the light case ratio. Using this variable for mediating effect analysis, as shown in the third and fourth columns of Table 8, not only does the introduction of Judicial Interpretation significantly increase the proportion of minor cases, the addition of minor cases to the regression does reduce the effect of the interaction term, indicating that this explanatory path does work. As Johann Graf Lambsdorff says, ‘restraints and crackdowns are ineffective if they do not provide an emergency exit for those who make minor mistakes.’

Although the number of cases has increased, it is mainly concentrated in minor cases, and this result can ease the public’s concern.

C. Discussion and Short Summary

Finally, this subsection hopes to make a simple abstraction of the above process for better understanding. From the theoretical analysis and empirical results of this paper, the average length of sentence is negatively related to the number of cases, if the penalty is relaxed, the average length of sentence, that is, the punishment for the offender will fall, but affected by the decreasing deterrent effect, more cases will occur; if the penalty rises further, although the deterrent effect of crime rises, the number of cases will fall, but the average length of sentence rises. Once a reasonable limit is exceeded, the fairness to the offender will be lost. This paper proposes that the sum sentence for embezzlement and bribery in a place should be used as a variable to measure the social impact of crime, while the sum sentence is precisely the product of the average sentence length and the number of cases. In this sense, the total sentence can reflect the outcome of the game between the two.

As shown in Figure 2, if the average sentence and the number of cases are strictly

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inversely related \((y = \frac{k}{x})\), then the total sentence, that is, the rectangle shaded in the figure, should always remain constant as the product of the two. And from the empirical results of this paper, the introduction of the Judicial Interpretation lowers the average sentence and raises the number of cases, but ultimately lowers the total sum sentence length, which means that the average sentence and the number of cases are not strictly inversely proportional, but as shown by the dashed line in the figure. This means that an appropriately lenient sentence for such a crime, although it may lead to a certain degree of increase in the number of crimes, may have a better overall social effect.

FIGURE 2. DIAGRAM OF THE SOCIAL IMPACT OF CRIME

Now, we can already conclude that research hypothesis 2b is valid, and although Judicial Interpretation significantly boosts the number of cases, this does not mean that Judicial Interpretation greatly increases the social harm of crime. The above analysis shows that the introduction of Judicial Interpretation mainly increased minor crimes, but it also had the effect of reducing the occurrence of vicious crimes, and therefore did not produce particularly serious social consequences.

At this point, the empirical part of this paper has been fully concluded. Research hypotheses 1a and 2b hold true, and the Judicial Interpretation not only achieves its goal of balancing crime and penalty and promotes the reduction of unreasonable penalties, but also does not seriously condone the occurrence of corruption crimes, and should be given a relatively high evaluation. In response to the question of how to further fine-tune the specific sentencing amount standard, similar theoretical derivations and empirical tests are necessary to further advance in order to develop a deeper understanding.

V. CONCLUSION

At present, the mitigation of penalties has become the basic guiding principle of
criminal legislation and the rational choice of criminal justice in all countries, and has become an important yardstick to measure the degree of social civilization, economic development and human values of a country. The majority of developing countries, including China, are necessary to practice the balance between crime and penalty and the combination of leniency and severity, and realize the unity of order protection function and rights safeguard function of the criminal law, in the process of promoting the construction of the rule of law in their countries.

The change in sentencing standards for embezzlement and bribery crime in the new 2016 Judicial Interpretation is a representative example of the above topic. This paper confirms through empirical research that the introduction of the Judicial Interpretation has indeed lowered the average sentence and played a role in promoting the balance of crime and penalty, which reveals that even though judicial practice can avoid excessive penalties through flexible discretion in the context of light crime but severe penalty, lowering the sentencing standards through legislative forms can still play a role in lowering penalties and promoting the crime equaling penalty. In addition, in the process of adjusting the original overly strict sentencing standards, the scientific and reasonable establishment of a sentencing standard ladder can help reduce the intentions of potential offenders and prevent them from committing more serious crimes because the cost of crime is too low.

On this basis, this paper also responds to the public’s question: although the relaxation of sentencing standards has led to an increase in the number of crimes occurring, the overall social harm is decreasing and most of the increase is for minor crimes, which suggests to us that efforts to crime equaling penalty do not necessarily condone the crime and increase the social harm. With the goal of reducing the overall social harm and protecting the human rights of the offenders, the balance between the order protection function and the right safeguard function can be scientifically grasped, and the loss suffered by the society due to crime will not be increased. In conclusion, the above conclusions and revelations can serve as a good model for promoting the balance of crime and penalty for similar crimes, in order to further promote the scientificization of China’s criminal legislation and advance the construction of the rule of law.

58 ZHAO BINGZHI (赵秉志) & JIN YIXIANG (金翼翔), *Lun Xingfa Qinghuanhua de Shijie Beijing yu Zhongguo Shijian* (论刑罚轻缓化的世界背景与中国实践) [On the World Background and Chinese Practice of Penal Mitigation], 7 ZHONGGUO XINGSHIFA ZAZHI (中国刑事法杂志) [CRIMINAL SCI.] 7 (2012).