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*chunyang.zhao0314@foxmail.com***AN EMPIRICAL STUDY OF GEOGRAPHICAL DIFFERENCES IN CRIMES OF
AIDING INFORMATION NETWORK CRIMINAL ACTIVITIES****— SAMPLE OF 1,081 JUDGMENTS****Abstract**

The crime of aiding information network criminal activities is a new crime added by the "Criminal Law Amendment (IX)", which shows significant geographical differences in practice. In the Chinalawinfo database of Peking University, a total of 1,081 judgments and 2,131 defendants were obtained by searching with this crime as the keyword. Taking the seven regions of North China, Northeast China, East China, Central China, South China, Southwest China, and Northwest China as the empirical research, it is concluded that this crime mainly presents the characteristics of progressively severe crime situation from North to South and progressively diverse types of criminal acts. There is a problem that the sentencing around the crime situation does not match the problem, and put forward four suggestions: the three northern regions should moderately relax the application of probation for this crime; Central China should focus on combating the "two cards" type of help; East, Southwest and South China should focus on the prevention of technical support type of help, combat; Southwest China should moderately increase the punishment for this crime.

Keywords: Crime of aiding information network criminal activities, Network complicity, Geographical differences, Empirical study

Introduction

According to the "Characteristics and Trends of Cybercrime in Judicial Data Special Report" released by the Supreme People's Court on November 19, 2019, the volume of cybercrime cases has been increasing year by year in recent years, and they are mostly found in the southeastern coastal areas, followed by the eastern non-coastal areas and the northeastern coastal areas and central areas, with significant geographical differences¹. Among the increasingly frequent cybercrimes, the crime of helping information network criminal activities, as a new crime added

¹ See China Judicial Big Data Service network (<http://data.court.gov.cn>)

by the Criminal Law Amendment (IX) enacted in 2015, belongs to the predicate crimes of many cybercrimes in terms of crime positioning. The three main forms of "technical support", "advertising promotion" and "payment settlement" regulated by its elements are all necessary links of network fraud, online gambling, and other mainstream network crimes.

Therefore, an analysis of the characteristics of the geographical differences of the crime of aiding information network criminal activities can demonstrate the overall geographical differences of the current Chinese cybercrime to a degree, and provide a practical basis for each region to formulate the corresponding criminal policy in response to the specific crime situation in its region.

I. Research Methodology

1.1. Sample Selection

The sample selected for this paper was taken from the Peking University Chinalawinfo Database (<http://www.lawinfochina.com/search/SearchCase.aspx>). The reason why the Peking University Chinalawinfo Database is chosen as the source of the research object instead of the official Magistrate's Document website is mainly because the former has certain advantages in terms of the number of cases. Moreover, its cases can include the cases provided by the Magistrate Document Network completely. At the same time, to maximize the sample size and improve the credibility of the research results, all the judgments obtained from Peking University Chinalawinfo Database were selected in this paper, and no sampling method was used.

A search using the keyword "Crime of aiding information network criminal activities" showed that as of January 4, 2021, the database contained a total of 1,124 verdicts. After eliminating the duplicate content, a total of 1081 judgments were obtained, with a total of 2131 defendants, including units and natural persons. The reason for counting the number of defendants is that, in terms of the definition of the specific sample, there are a large number of accomplices in the "crime of aiding information network criminal activities", the subject of the study. At the same time, compared with the statistical method of using cases or judgments as samples, the statistical method of using specific defendants as samples can more clearly show the application of this crime in practice, and also help to analyze the regional differences in the specific conviction and sentence of this crime.

1.2. Variable Design

After determining the statistical criteria for the sample of defendants, the paper further designed the variables. Specifically, this paper designed the research variables in the following dimensions:

Firstly, Basic information, including a total of seven variables: case title, trial level, time, geographic area, name of the perpetrator, nature of the perpetrator, and the perpetrator's complicity status. ①Case name refers to the name of the case explicitly stated in the judgment, which is used to identify the specific case so that it can be easily compared with the perpetrator as a sample in the subsequent study, and to facilitate finding the specific case and checking the accuracy of data entry. ②Trial level refers to whether the case is a criminal case of first or second instance, and is a record of the specific trial procedure to which the actor belongs. ③Time refers to the specific time of the verdict, in years. ④Geography refers to the specific geographical area where the perpetrator was sentenced. For the sake of statistics, this paper takes seven geographical regions, namely, North China, Northeast China, East China, Central China, South China, Southwest China, and Northwest China, instead of all provincial administrative regions, as the statistical standard for the geographical area. (The regions are referred to in following as N, NE, E, C, S, SW, NW. ⑤The name of the actor is the name or designation of the perpetrator, which is similar to the name of the case. The main purpose of the statistics of this variable is to facilitate subsequent data processing.

Secondly, the variables related to the circumstances of the crime include seven variables: the number of objects to help, and the amount of payment and settlement, the number of funds provided, the amount of illegal income, the specific sentencing circumstances, the type of positive offense behavior and the type of helping behavior. Among them, the number of objects in order to help, the amount of payment and settlement, the number of funds provided, and the amount of illegal income are the "Interpretation of Several Issues Concerning the Application of Law in Handling Criminal Cases of Illegal Use of Information Network and Aiding Criminal Information Network Activities" published by the Supreme People's Court and the Supreme People's Procuratorate on October 21, 2019, which stipulates in Article 12 the determination of "serious circumstances" criteria². The specific sentencing circumstances include confession,

² This law also provides for three sentencing circumstances: those who have received administrative punishment within two years for illegal use of information network, aiding criminal information network activities, or endangering computer information system security and aiding criminal information network activities; those who have been helped to commit crimes with serious consequences; and other circumstances of seriousness. However, the above three are difficult to count purely from the perspective of the judgment, and thus are not included in the statistical variables.

surrender, merit, guilty plea, active refund, special subject, other mitigating circumstances, recidivism, other aggravating circumstances, a total of 10 statistical standards. The statistical criteria for the types of principal offender behaviors include failure to mention, network fraud, network gambling, infringement of citizen information, dissemination of obscene pornography, destruction of computer information systems, and other positive offense behaviors. In addition, since this crime explicitly specifies four types of specific behaviors to provide technical support, advertising promotion, payment settlement, or other helping behaviors for others, by designing the variable of specific behavioral types, the above four main behavioral types of this crime are counted, and the specific practical application of the four types can be derived.

Thirdly, the variables related to penalty disposition include only three variables: the type of free sentence, the length of free sentence, and the amount of fine sentence. Among them, the types of free sentences include free sentences, custodial sentences, fixed-term sentences, and suspended sentences. The duration of the free sentence is calculated in months of fixed-term imprisonment, and for the convenience of statistics, every two month is calculated as one month of fixed-term imprisonment, and one month of detention is calculated as one month of fixed-term imprisonment, that is, three years of probation is calculated as 18 months of the free sentence. The fine sentence is calculated in RMB.

2. Data Basic Overview and Geographical Variation Characteristics

Based on the above-mentioned sample selection and variable design, the data obtained can be processed by using SPSS software to paint a broad picture of the judicial application of this crime. In the following section, we intend to analyze the data in terms of the general application and the main differences in the application of the crime among the regions, to verify the conclusions of the above-mentioned official reports and find answers to the theoretical disputes in practice.

2.1. General Overview

Here, the overall temporal and spatial distribution of judicial practice is outlined based on three main scalars: time of trial completion, geographic area of trial completion, and the number of cases, to facilitate subsequent analysis of the status of geographic differences.

2.1.1. Time of trial completion

Figure 1 clearly shows that in 2020, a total of 1,797 defendants, 84.3% of the total, were tried for the crime of aiding information network criminal activities; in 2019, only 219, 10.28% of

the total, were tried; and only 115, 5.40% of the total, were tried in the previous three years. This trend is largely consistent with the aforementioned findings reported by the Supreme Court and the Supreme Prosecutor. This trend is not surprising considering that the "Criminal Law Amendment (IX)" Act has only been in force since November 1, 2015, a relatively short period of time, and that it was treated as an act of complicity under the heavier statutory penalty when it occurred.

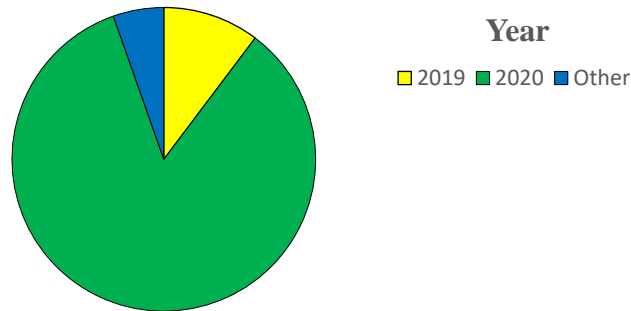


Figure 1 Statistical chart of the year of trial completion for each defendant

2.1.2. Geographic distribution of trial completion

It can be easily seen from Figure 2 that the 2,131 defendants counted in this paper were mainly tried in E and C, with a total of 1,584 defendants in both, accounting for 74.3% of all defendants. NW accounted for only 2.1% of the total number of cases, and was the region with the lowest number of cases; NE was the second, with 3.6%; followed by N with 4.8%. The total number of cases in S and SW is similar, accounting for 8.1% and 7.2% respectively. This proportional distribution is consistent with the data released by the Supreme People’s Court, once again proving that crimes of aiding criminal information network activities are mainly concentrated in E and C, with more significant geographical concentration characteristics.

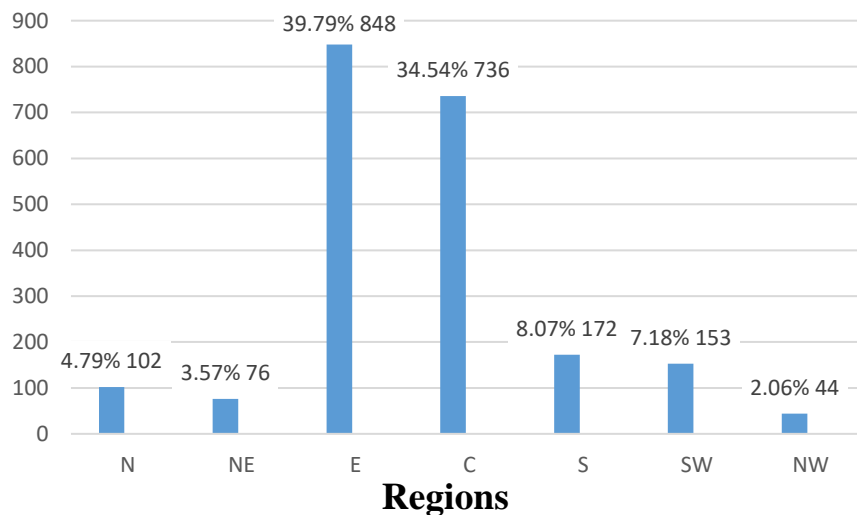


Figure 2 Statistical map of the geographical distribution of the defendants

2.2. The main characteristics in geographical differences

Several key differences in the application of this crime in practice are found through statistical analysis of the specific sentencing status, the application of sentencing circumstances, and the differences in the performance of the crime circumstances in each region.

2.2.1. Differences in sentencing situations between geographic regions

As can be seen from Table 1, in terms of the average value of free sentences, NW and N has the highest value of about 12.7 months, followed by NE with about 12.5 months, and SW has the lowest value of about 9.6 months, and the difference in its average value is more than three months, which shows that there is a large variability in free sentence disposition among regions. Similarly, the highest average value of fine sentences was in N at about RMB 21,971, followed by E, at about RMB 19,603, and the lowest in NW, at RMB 12,125, with a difference of nearly RMB 10,000. Even taking into account the fact that compared to the NW, N and E are more economically developed, and there is a tendency for their fine sentences to change according to the regional economic development, this difference is still too large. In particular, the average value of fines in the NE, which is also relatively underdeveloped, still reaches about 18,553 yuan, which is not only much higher than that in the NW but also higher than that in S and SW, which shows that there is also a large variation in the punishment of fines between regions.

Table 1 Statistics on the differences in sentencing mean values

Region	N	Minimal value	Maximum value	Average value	Standard deviation	
N	Sentence to freedom penalty	102	.0	24.0	10.480	6.2896
	Sentence to fine punishment	102	0	980000	21970.59	96687.560
NE	Sentence to freedom penalty	76	3.0	23.0	12.520	5.6707
	Sentence to fine punishment	76	1000	380000	18552.63	56037.462
E	Sentence to freedom penalty	848	.0	34.0	9.719	5.4519
	Sentence to fine punishment	848	0	650000	19602.59	42911.162
C	Sentence to freedom penalty	736	.0	36.0	9.781	5.1338
	Sentence to fine punishment	736	1000	600000	13043.81	31502.100
S	Sentence to freedom penalty	172	.0	33.0	10.680	5.0546
	Sentence to fine punishment	172	1000	60000	11566.86	11788.333
SW	Sentence to freedom penalty	153	3.0	24.0	9.552	4.2229
	Sentence to fine punishment	153	1000	200000	14728.76	25626.876
NW	Sentence to freedom penalty	44	5.0	30.0	12.659	5.1847
	Sentence to fine punishment	44	2000	150000	12125.00	22965.375

As for the differences between the types of liberal sentences applied between regions, as shown in Table 2, the highest proportion of probation was applied in SW, accounting for 37.7%, and the lowest in S, where only 9 defendants out of a total of 172 were applied to probation, accounting for 5.2%, with a difference of more than 20%, again significantly reflecting the large differences in the application of probation between regions.

Table 2 Statistical table of differences in the types of freedom penalty

Region			Frequency	Percentage
N	Effective	Not sentenced to freedom penalty	11	10.8
		Probation	15	14.7
		Detention	3	2.9
		Fixed-term imprisonment	73	71.6
		Total	102	100.0
NE	Effective	Probation	8	10.5
		Detention	7	9.2
		Fixed-term imprisonment	61	80.3
		Total	76	100.0
E	Effective	Not sentenced to freedom penalty	16	1.9
		Probation	245	28.9
		Detention	69	8.1
		Fixed-term imprisonment	518	61.1
		Total	848	100.0
C	Effective	Not sentenced to freedom penalty	17	2.3
		Probation	128	17.4
		Detention	33	4.5
		Fixed-term imprisonment	558	75.8
		Total	736	100.0
S	Effective	Probation	9	5.2
		Detention	10	5.8
		Fixed-term imprisonment	153	89.0
		Total	172	100.0
SW	Effective	Probation	57	37.3
		Detention	1	.7
		Fixed-term imprisonment	95	62.1
		Total	153	100.0
NW	Effective	Probation	6	13.6
		Detention	3	6.8
		Fixed-term imprisonment	35	79.5
		Total	44	100.0

2.2.2. Regional differences in sentencing circumstances and circumstances of the crime

Table 3 provides statistics on the application of the major sentencing circumstances of this crime in seven regions. It can be seen that in most regions, the three sentencing circumstances that account for the highest proportion are confession, guilty plea, and active return of stolen goods. This shows that these three mitigating circumstances are the high proportion of this crime in practice, the judicial authorities mainly consider the sentencing circumstances. In all regions, the highest percentage of confessions for the northwest region, accounting for 75.0%, followed by E, accounting for 74.6%; the lowest in SW, accounting for 15.7%; S second,

accounting for 30.8%. The highest percentage of guilty pleas was in NW, accounting for 88.6%, followed by SW, accounting for 84.3%; the lowest percentage was in NE, accounting for 61.8%, followed by S, accounting for 76.2%. In the positive return of stolen goods, the highest proportion of the region is C, accounting for 38.3%; followed by E, accounting for 33.7%; the least region is S, accounting for only 4.1%; NW is the second, accounting for 11.4%. Comprehensive three sentencing circumstances, the SW region in the confession and surrender of two sentencing circumstances on a more special performance, is the only surrender accounted for a higher proportion than probation, reaching 58.8% of the region. And the proportion of guilty pleas in this region is also higher, indicating that the attitude of the perpetrators in this region is more favorable than that in other regions, or the judicial authorities in this region are more lenient in determining the above-mentioned mitigating circumstances. In S, the proportion of confession, surrender, guilty plea, and active return of stolen goods is low, which indicates that the attitude of the perpetrators in this region is poorer, or the judicial organs in this region are harsher in determining the above mitigating circumstances.

Table 3 Statistical table of the differences in sentencing circumstances

Region	Types of sentencing circumstances	Frequency	Percentage
N	Confession	60	58.8
	Surrender	18	17.6
	Merit	2	2.0
	Plead guilty to a fine	80	78.4
	Actively return stolen goods	32	31.4
	Other leniencies	2	2.0
	Recidivism	5	4.9
	Other severe punishment	2	2.0
	Confession	38	50.0
NE	Surrender	14	18.4
	Merit	2	2.6
	Plead guilty to a fine	47	61.8
	Actively return stolen goods	24	31.6
	Other leniencies	3	3.9
	Recidivism	3	3.9
	Other severe punishment	3	3.9
E	Confession	633	74.6
	Surrender	134	15.8
	Merit	13	1.5
	Plead guilty to a fine	662	78.1
	Actively return stolen goods	286	33.7
	Other leniencies	18	2.1
	Recidivism	32	3.8
Other severe punishment	18	2.1	

	Confession	488	66.3
	Surrender	154	20.9
	Merit	12	1.6
C	Plead guilty to a fine	600	81.5
	Actively return stolen goods	282	38.3
	Other leniencies	3	.4
	Recidivism	18	2.4
	Other severe punishment	3	.4
	Confession	53	30.8
	Surrender	18	10.5
	Merit	3	1.7
S	Plead guilty to a fine	131	76.2
	Actively return stolen goods	7	4.1
	Other leniencies	9	5.2
	Recidivism	3	1.7
	Other severe punishment	9	5.2
	Confession	24	15.7
	Surrender	60	58.8
	Merit	7	4.6
SW	Plead guilty to a fine	129	84.3
	Actively return stolen goods	44	28.8
	Other leniencies	0	0
	Recidivism	7	4.6
	Other severe punishment	0	0
	Confession	33	75.0
	Surrender	4	9.1
	Merit	2	4.5
NW	Plead guilty to a fine	39	88.6
	Actively return stolen goods	5	11.4
	Other leniencies	0	0
	Recidivism	0	0
	Other severe punishment	0	0

Table 4 shows the regional differences in the mean values of the main crime circumstances of this crime, which can depict the differences in the severity of the crime situation between regions. First of all, from the viewpoint of the number of objects of help, the SW region has the highest mean value of the number of objects of help, which is 7.67; S region is the second-highest, which is 7.06; N region and NW region both have the lowest, which is 1.4. On the whole, the number of people helped by this crime varies greatly from region to region, among which the mean value of SW and S regions is significantly higher than other regions, while N and NW regions are significantly lower than other regions, which shows that the manifestation of the help of this crime is significantly different among regions.

Second, in terms of the payment settlement amount, the difference between regions is more obvious. Among them, the region with the largest average payment settlement amount is C with

RMB 339,301,963.62, followed by SW with RMB 173,809,661.7, while the lowest region, N has an average payment settlement amount of only RMB 627,145.08, with a difference of more than 300 million yuan. Even considering that a few cases with high payment settlement amounts raised the regional average, this difference is still too large.

Again, in the amount of illegal income, each region also showed a large variation. Among them, the E region is the highest average value of illegal income, the average value of more than 150,000 yuan; the SW region is the second, more than 148,000 yuan; the lowest average value of illegal income is NW region, the average value of only 9,500 yuan.

In general, Table 4 shows the differences in the circumstances of the crimes committed by the perpetrators in each region: SW region not only has the highest average value of the number of objects helped, but also has a higher amount of payment and settlement and the amount of illegal income, which is the most serious crime situation among all regions. In contrast, N and NW regions have lower average values of the number of targets helped and lower average values of payment and settlement amounts and illegal income amounts. In addition, the two regions are characterized by a low caseload, which means that this crime is less frequent and less serious.

Table 4 Statistical table of differences in crime circumstances

Region		Minimal value	Maximum value	Average value	Standard deviation
N	Number of people helped	1	6	1.40	1.194
	Payment settlement amount	0	13295904	627145.08	1716016.692
	Amount of illegal proceeds	0	987304	56294.50	176635.049
NE	Number of people helped	1	25	2.98	4.997
	Payment settlement amount	0	274781070	5535731.50	35470249.502
	Amount of illegal proceeds	0	3745350	102878.92	488099.253
E	Number of people helped	1	100	3.06	8.459
	Payment settlement amount	0	657256486	7239152.32	43877729.920
	Amount of illegal proceeds	0	7700000	153765.99	603007.076
C	Number of people helped	1	59	4.15	9.526
	Payment settlement amount	0	219535921972	339301963.62	8525853767.331
	Amount of illegal proceeds	0	13400000	109185.91	996834.562
S	Number of people helped	1	60	7.06	14.408
	Payment settlement amount	0	28876000000	173809661.70	2221016662.063
	Amount of illegal proceeds	200	2000000	60838.47	238854.201
SW	Number of people helped	1	300	7.67	28.710
	Payment settlement amount	0	90000000	4511258.95	15727780.811
	Amount of illegal proceeds	100	4764397	148443.96	630768.586
NW	Number of people helped	1	3	1.40	.737
	Payment settlement amount	0	4000000	714666.02	1366877.948
	Amount of illegal proceeds	600	42000	9526.19	11452.878

Table 5 shows the differences in the principal offender behavior facilitated by this crime across regions. Overall, Internet fraud is the most predominant type of principal offender behavior facilitated by this crime, with Internet gambling coming in second and other types of

principal offender behavior accounting for a lower percentage. Specifically, the highest percentage of Internet fraud was in NW and NE, both of which exceeded 80%, showing significant differences from other regions, especially in NW, where all of the principal offenders explicitly mentioned in the verdicts were Internet fraud; while E had the lowest percentage, 62.6%, but the difference is not significant compared to other regions.

Table 5 Statistical table of the differences in the types of principal offender behaviors

Region		Frequency	Percentage	Cumulative percentage	
N	Effective	Not mentioned	11	10.8	10.8
		Internet fraud	66	64.7	75.5
		Internet gambling	21	20.6	96.1
		Dissemination of obscene and pornographic information	1	1.0	97.1
		Damage to computer information system	3	2.9	100.0
		Total	102	100.0	
		Not mentioned	2	2.6	2.6
NE	Effective	Internet fraud	61	80.3	82.9
		Internet gambling	8	10.5	93.4
		Infringement of citizens' information	1	1.3	94.7
		Damage to computer information system	2	2.6	97.4
		Other crimes and violations using the network	2	2.6	100.0
		Total	76	100.0	
		Not mentioned	92	10.8	10.8
E	Effective	Internet fraud	531	62.6	73.5
		Internet gambling	109	12.9	86.3
		Infringement of citizens' information	17	2.0	88.3
		Dissemination of obscene and pornographic information	30	3.5	91.9
		Damage to computer information system	19	2.2	94.1
		Other crimes and violations using the network	50	5.9	100.0
		Total	848	100.0	
C	Effective	Not mentioned	102	13.9	13.9
		Internet fraud	500	67.9	81.8
		Internet gambling	89	12.1	93.9
		Dissemination of obscene and pornographic information	18	2.4	96.3
		Damage to computer information system	1	.1	96.5

		Other crimes and violations using the network	26	3.5	100.0
		Total	736	100.0	
		Not mentioned	12	7.0	7.0
		Internet fraud	111	64.5	71.5
		Internet gambling	30	17.4	89.0
		Infringement of citizens' information	2	1.2	90.1
S	Effective	Dissemination of obscene and pornographic information	13	7.6	97.7
		Other crimes and violations using the network	4	2.3	100.0
		Total	172	100.0	
		Not mentioned	16	10.5	10.5
		Internet fraud	101	66.0	76.5
		Internet gambling	24	15.7	92.2
		Dissemination of obscene and pornographic information	2	1.3	93.5
SW	Effective	Damage to computer information system	3	2.0	95.4
		Other crimes and violations using the network	7	4.6	100.0
		Total	153	100.0	
		Not mentioned	8	18.2	18.2
NW	Effective	Internet fraud	36	81.8	100.0
		Total	44	100.0	

Table 6 shows the differences in the types of conduct aided by this crime across regions. Similar to the aforementioned fraudulent acts, payment settlement acts also dominate all regions, followed by technical support acts, and advertising promotion is a lesser type of act. Specifically, the highest percentage of payment settlement type is in C, which is consistent with its high average value of payment settlement amount; the percentage of technical support acts exceeds that of payment settlement acts in S and SW regions, with SW region S and SW regions, have a higher share of technical support than payment settlement, with SW region having the highest share of technical support and the lowest share of payment settlement.

Table 6 Statistical table of differences in types of aiding behaviors

Region		Frequency	Percentage	Cumulative percentage
		Technical support	25	24.5
		Advertising promotion	8	7.8
N	Effective	Payment settlement	63	61.8
		Other aiding behaviors	6	5.9
				100.0

		Total	102	100.0	
		Technical support	19	25.0	25.0
		Advertising	5	6.6	31.6
NE	Effective	promotion			
		Payment settlement	52	68.4	100.0
		Total	76	100.0	
		Technical support	221	26.1	26.1
		Advertising	64	7.5	33.6
		promotion			
E	Effective	Payment settlement	509	60.0	93.6
		Other aiding	54	6.4	100.0
		behaviors			
		Total	848	100.0	
		Technical support	138	18.8	18.8
		Advertising	26	3.5	22.3
		promotion			
C	Effective	Payment settlement	542	73.6	95.9
		Other aiding	30	4.1	100.0
		behaviors			
		Total	736	100.0	
		Technical support	79	45.9	45.9
		Advertising	12	7.0	52.9
		promotion			
S	Effective	Payment settlement	73	42.4	95.3
		Other aiding	8	4.7	100.0
		behaviors			
		Total	172	100.0	
		Technical support	72	47.1	47.1
		Advertising	20	13.1	60.1
		promotion			
SW	Effective	Payment settlement	61	39.9	100.0
		Total	153	100.0	
		Technical support	6	13.6	13.6
		Advertising	6	13.6	27.3
		promotion			
NW	Effective	Payment settlement	27	61.4	88.6
		Other aiding	5	11.4	100.0
		behaviors			
		Total	44	100.0	

2.2.3 Analysis of the effect of geographic regions sentencing circumstances and crime circumstances on sentencing

Table 7 and Table 8 analyze the effects of sentencing and offense circumstances on the sentencing of the two types of penalties in each region by linear regression using the aforementioned sentencing and offence circumstances as independent variables and the freedom penalty and fine punishment as dependent variables, respectively (due to space

limitations, variables that are not significant, i.e., sig. > 0.05, are excluded from both tables, and only significant factors other than constants are retained). In addition, due to the small sample size in NW, the variables in this study are not statistically significant in this region, while in N the only significant factor is the number of illegal proceeds in Table 7 and Table 8 analyze the effects of sentencing and offense circumstances on the sentencing of the two types of penalties in each region by linear regression using the aforementioned sentencing and offense circumstances as independent variables and the freedom penalty and fine punishment as dependent variables, respectively (due to space limitations, variables that are not significant, i.e., sig. > 0.05, are excluded from both tables, and only significant factors other than constants are retained). In addition, due to the small sample size in NW, the variables in this study are not statistically significant in this region, while in N the only significant factor is the number of illegal proceeds in the fine punishment.

Table 7 shows that, among the five regions with significant factors, the E region has the most significant factors in imposing the freedom penalty. This includes payment settlement amount, amount of illegal proceeds, whether it constitutes surrender, and whether it constitutes recidivism, all of which have a significant effect on the imposition of freedom penalty; C follows, except for the number of illegal proceeds and whether it constitutes Recidivism, which also has a significant effect in this region. In C, except for the number of illegal proceeds and whether it constitutes recidivism, whether to actively return stolen goods also has a significant impact on the freedom penalty in this region. On the whole, the number of illegal proceeds and whether it constitutes surrender are the most influential factors in determining freedom penalty in most districts, while payment settlement amount and whether it constitutes plead guilty to a fine, actively return stolen goods, and recidivism are the most influential factors in determining freedom penalty in most districts. On the whole, the number of illegal proceeds and whether it constitutes Surrender are the most influential factors in determining liberty sentences in most districts, while payment settlement amount and whether it constitutes plead guilty to a fine, actively return stolen goods, and recidivism are the most influential factors in determining liberty sentences in most districts. The payment settlement amount and whether it constitutes plead guilty to a fine, actively return stolen goods, and recidivism are the elements that have a significant effect in a few areas, while the number of people helped, confession, and both elements do not have a significant effect in all areas. Although there is also no significant effect of merit, the conclusion is not representative because the sample size of the existence of merit circumstances is too small.

Table 7 Statistical table of the differences in sentencing and crime circumstances on the disposition of freedom penalty

Region	Model		Non-standardized coefficient		t	Sig.
			B	Standard Error		
N	1	No significant factors				
		Plead guilty to a fine	-4.189	1.642	-2.550	.016
NE	1	Actively return stolen goods	-8.365	1.451	-5.763	.000
		Payment settlement amount	3.204E-008	.000	6.343	.000
E	1	Amount of illegal proceeds	8.936E-007	.000	2.040	.042
		Surrender	-2.843	.930	-3.057	.002
		Recidivism	3.311	1.195	2.771	.006
		Amount of illegal proceeds	6.581E-006	.000	2.187	.029
C	1	Actively return stolen goods	-1.967	.530	-3.715	.000
		Recidivism	3.524	1.490	2.365	.019
S	1	Surrender	-3.793	1.569	-2.417	.019
		Amount of illegal proceeds	2.281E-006	.000	5.019	.000
SW	1	Surrender	-3.990	2.002	-1.993	.050
NW	1	No significant factors				

Table 8 shows that E and SW regions have the most significant factors in influencing fine punishment. Among them, the number of people helped, payment settlement amount, amount of illegal proceeds, and recidivism are the factors that have a significant influence on the imposition of fine punishment in E. While SW has the same number of people helped and amount of illegal proceeds as E. In the SW region, except for the number of people helped and the amount of illegal proceeds, whether the perpetrator constitutes plead guilty to a fine and actively return stolen goods are the factors that have a significant impact on the fine punishment in the region. The regression coefficients of amounts of illegal proceeds (i.e., B) are the same as those of E. The regression coefficient (i.e., B-value) of the number of illegal proceeds in each region shows that N is the region with the largest increase of amounts of illegal proceeds, while E is the region with the smallest increase of amounts of illegal proceeds, which shows that although amounts of illegal proceeds are considered in different regions, the effect of amounts of illegal proceeds is the same. It can be seen that although the amounts of illegal proceeds are considered in different regions, there are also some differences in their effects.

In addition, there are some problems with some of the data in Table 8, such as the negative correlation between recidivism and fine punishment in E and the negative correlation between the number of people helped and fine punishment in SW. If we exclude the possibility that there are problems in the construction of the model and the statistics of the variables in this study, there are some problems in the determination of sentencing circumstances and fine punishment in the above two regions.

Table 8 Statistical table of the differences in sentencing and crime circumstances on the imposition of fine punishment

Region	Model		Non-standardized coefficient		t	Sig.
			B	Standard Error		
N	1	Amount of illegal proceeds	.460	.092	5.024	.000
		Payment settlement amount	.000	.000	15.510	.000
NE	1	Amount of illegal proceeds	.303	.008	36.162	.000
		Plead guilty to a fine	-5475.631	2398.048	-2.283	.030
		Number of people helped	589.948	193.912	3.042	.002
E	1	Payment settlement amount	.000	.000	10.913	.000
		Amount of illegal proceeds	.038	.004	10.601	.000
		Recidivism	-20299.018	9724.932	-2.087	.037
C	1	Payment settlement amount	5.506E-005	.000	2.840	.005
		Amount of illegal proceeds	.103	.012	8.524	.000
S	1	Plead guilty to a fine	-8159.235	2733.387	-2.985	.003
		Recidivism	19822.881	8032.609	2.468	.017
SW	1	Number of people helped	-431.772	152.351	-2.834	.006
		Amount of illegal proceeds	.041	.001	31.641	.000
		Plead guilty to a fine	5556.983	2788.103	1.993	.050
NW	1	Actively return stolen goods	10424.422	2179.923	4.782	.000
		No significant factors				

3. The main problems of geographical differences and suggestions for improvement

The comprehensive data above shows that the geographical differences of this crime are mainly manifested in the following aspects:

Firstly, there are large differences in the judging amount of penalty between regions. In terms of the freedom penalty, the average value of the freedom penalty imposed in all three northern regions is above 10 months. Among them, especially NE and N regions, the average value of imposed freedom penalty is higher than 12 months, which is significantly higher than other regions and is the region with heavier freedom penalties. In terms of specific types of freedom penalty, the percentage of probation imposed in the S region is significantly lower than that of other regions, but the three northern regions are still the regions with the lowest percentage of probation imposed right behind them, with the percentage of all three being below 15%, which differs greatly from C, E, and SW regions. Thus, from the perspective of free sentences, the NW, NE, and N regions, in general, have heavier penalties, and the S region not only has a higher average value of freedom penalty than the N region, but also has the lowest proportion of probation, and is also a region with heavier penalties; while C, E, and SW are less punitive.

And from the perspective of fine punishment, the mean values in N E, and NE are significantly higher than other regions, and the mean value in S is the lowest, but the difference is not significant compared with other regions. In General, the imposition of fine punishment should be influenced by the differences in crime circumstances and economic development, and income levels in each region. However, except for the E region, the N and NE regions have relatively more moderate crime circumstances, but their mean values of fine punishment are still higher.

Secondly, the crime situation varies greatly from region to region; SW has the most severe crime situation, and S has the most severe penalties overall, with a higher number of people helped and a higher payment settlement amount. Although the average proceeds of crime are low, the overall crime situation is second only to SW in terms of severity. N and NW regions are more moderate, not only the number of cases is lower, the overall crime situation is lighter, and the positive offence behavior is mostly fraud, and the type of behavior is mostly payment settlement behavior, and the overall reflects the characteristics of single crime behavior. NE region number of people helped and the payment settlement amount is in the lower position, and the average value of illegal income is in the middle of the water, which shows that the crime situation in this region is generally lighter than in other regions. E and C regions, as the regions with the most concentrated case volume, also have certain characteristics of the crime situation they face: although the number of people helped and the average payment settlement amount in the E region are in the middle stage of each region, its average illegal E has the highest average illegal income. In addition to the higher level of economic development and higher

average income in this region, it may also be because the perpetrators in this region tend to show the characteristics of committing crimes in pursuit of economic benefits. At the same time, the region also shows the lowest proportion of fraud among the types of the principal offender, a higher degree of diversification of the types of the principal offender, and a relatively high proportion and the largest absolute number of technological support behaviors, indicating that the criminal behavior in this region is more variable. In C, the average value of payment settlement amount is significantly higher than other regions, and the proportion of payment settlement behavior is also significantly higher than other regions, which indicates that this region is the most serious in terms of the situation of "two-card"³ type help information network crime.

Thus, the overall crime situation in the northern region, including NW, N NE, is more moderate and less serious; E and C in the central region not only have a large number of cases but also have significant characteristics of the crime situation, which should be considered from the perspective of criminal policy. From the perspective of criminal policy should be targeted to consider; SW, S, two regions of the overall crime situation is more severe and reflects the characteristics of technological support behavior. In general, this crime in practice generally shows the characteristics of the crime from north to south, the crime is gradually serious, the type of criminal behavior is gradually diversified, and the proportion of technological support behavior is gradually increased.

Thirdly, there are some variabilities in the determination of sentencing circumstances and circumstances of the offence from region to region. As mentioned earlier, not only did the proportion of specific sentencing circumstances identified differ somewhat from region to region, but the effect of various sentencing circumstances on the imposition of freedom penalty and fine punishment also differed significantly from region to region. In general, the proportion of surrender was higher in SW, and this circumstance had a significant effect on the determination of freedom penalty in this region, which shows that this region is more lenient in the determination of freedom penalty. In S, not only was the overall sentencing circumstance more severe but also the only sentencing circumstance that had a significant effect on the

³ The so-called "two-card" type of aiding information network crime refers to the helping behavior of using one's information to handle on behalf of the perpetrator, or selling to him or her the telephone card, bank card, company account, etc. handled by himself or herself or others with real information. See, Huang Cheng and Kong Yao, "Personal Information Infringement and Regulation in the Chain of Telecommunication Network Fraud "Black Industry"--The Helpful Acts of "Two Cards" Crime", in Taiyuan City Vocational College Journal, 2021. *Journal of Taiyuan City Vocational College*, No. 7, 2021

freedom penalty was surrender. In addition, there were only 18 cases of surrender in this region, so it can be considered that this region is more stringent in terms of the leniency of sentencing.

The above geographical difference characteristics are not only the different performance of the crime of aiding information network criminal activities between the various regions but also from the side to reflect current China's network crime in the formation of significant differences between the regions. Its overall presents the Internet fraud crime and related crimes occupy the main position of network crime; the number of cases is concentrated in central E, C region; the crime situation presents the characteristics of lighter in the north and heavier in the south; the means of crime are more single in the north, more complex in the central and southern regions; the overall heavier sentences in the north and central and southern regions as a whole lighter, but S region exception of the significant features. This trend is consistent with the current trend that the development of China's overall network technology and environment in the north are more backward than that in the south, and also reflects the characteristics of the crime situation in the SW and S regions based on the prevalence of cross-border cybercrime, which leads to the crime of aiding information network criminal activities heavier than that in the north. However, this overall trend reflects an important issue: there is a contradiction between the current penalties imposed in each region and the crime situation they face. In general, from the perspective of criminal policy, regions with more severe crime situations should have harsher sentences. N NE, and NW regions face a more moderate crime situation, but their freedom penalties are the heaviest, and the average value of fine punishment in N and NE regions are also at the top, which shows that the above three regions are suspected of having heavier penalties.

The crime situation in E and C has its characteristics, among which the E region reflects the higher average value of fine punishment imposed according to the crime situation of the higher average value of illegal income in the region. It can be said that this is to some extent a combination of punishment and crime situation, while the C region does not show the correlation between its sentence and the crime situation of "two-card crimes" in the region. The SW and S regions, where the crime situation is most severe, show opposite characteristics in terms of sentencing. The SW region has the most lenient sentences overall, while the S region has the most severe sentences.

This problem may arise from the differences in the identification and application of specific sentencing circumstances by the judicial authorities in each region. Although sentencing sentences in each region are generally influenced by the more central element of the number of illegal proceeds in the circumstances of the crime. However, as the aforementioned

data show, except for surrender, other leniency sentencing circumstances, especially confession and plead guilty to a fine, which occupy the highest proportion overall, do not have a significant effect on the freedom penalty and fine punishment in practice. In addition, whether or not to actively return the stolen money is also an important factor in examining whether the perpetrator substantially confesses and repents, and should be a discretionary sentencing circumstance that plays an important role in the sentencing process of this crime. The fact that this circumstance only has a significant effect on the sentencing of the freedom penalty in C and fine punishment in SW indicates that there are problems in the application of this circumstance in each region. In addition, the data alone do not reveal the relationship between the sentencing circumstances and offence circumstances that have a significant impact on sentencing in each region and the specific crime situation in that region. For example, in the C region, which is characterized by a high concentration of "two-card" crimes, the payment settlement amount does not have a significant impact on the discretionary sentences; in the SW and S regions, where technological support behaviors are high, the number of people in the region does not have a significant impact on the sentences. In SW and S, where technological support behavior is high, the number of people helped only had an effective impact on the determination of fines in SW. Therefore, to solve this problem, each region must introduce appropriate criminal policies to regulate this crime according to its specific crime situation.

Specifically, this paper puts forward the following recommendations in response to the above issues:

First, the three northern regions should moderately relax the application of probation for this crime. Since the overall number of cases in the three northern regions is relatively small and the crime situation is not severe, but the penalties in the region are significantly heavier, moderately relaxing the application of probation to perpetrators in the region can help achieve balanced sentencing between regions.

Second, C should focus on combating the "two-cards" type of assistance, not only in the sentencing process to consider the payment settlement amount as a sentencing circumstance, but also strengthen the standardized management of bank cards, telephone cards, and other common tools of such crimes, to combat the high incidence of "two cards" crime in the region.

Third, E, SW, and S should focus on preventing and combating the technical support type of help. The number of people helped, which has a strong correlation with technical support behaviors⁴. Therefore, by strictly dealing with technical support behaviors that help a large

⁴ Most scholars believe that the harm of technical support is mainly reflected in the characteristic of "one-to-many" help, and the number of helpers is a visual indication of this characteristic. See Hu Yunteng, "Theoretical and

number of positive offenders, it is an effective way to suppress the crime situation in the above-mentioned regions where technical support-type help behaviors account for a high percentage.

Fourth, the SW region should increase the penalties for this crime moderately. As mentioned above, compared with S, where the crime situation is more serious, the penalty in the SW is too light to achieve the effect of preventing this crime utilizing punishment. Therefore, the region should moderately increase the punishment for this crime, such as reducing the proportion of probation and moderately increasing the amount of fine punishment, so that the average value of sentencing in the region is not significantly lighter, which will help to achieve balanced sentencing between regions and also help to control the more serious crime situation in the region.

4. Conclusions

Based on the above study, the crime of aiding information network criminal activities reflects the characteristics of significant regional differences, as well as the trend of progressively severe crime situations from north to south, and progressively diverse types of behavior. At the same time, it also shows the main problems in the application of sentencing circumstances and discretionary penalties in each region, i.e., the existence of incongruity between penalties and regional crime situations, and gives relevant criminal policy recommendations accordingly.

However, it should be noted that this paper is still slightly inadequate in the depth and breadth of data mining, especially in the specific application of sentencing circumstances. The relevance of the data and conclusions, and the rationality of the mathematical model used are worthy of deeper exploration. At the same time, issues such as the main influencing factors of sentencing probation around the world and the effect of the type of principal offender behavior on the penalty still need further research and discussion.

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