



Property Virtual Objects within the Scope of Regulation of Property Crimes

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Abstract

In online games, the legal attributes of virtual objects such as equipment, skins, pets, etc., have always been a controversial focus in judicial practice. Regarding the fundamental attributes of these virtual objects, there are two different paths of identification: "property" and "data", leading to disagreements between property crimes and data crimes such as illegally obtaining computer information system data. On the one hand, the traditional concept of property focuses on physical property, making it difficult for virtual objects to fall within the narrow scope of property in criminal law. On the other hand, some scholars and judicial practices believe that although virtual objects in online games do not have a physical existence in the traditional sense, they possess certain market value and disposability, and their status as virtual property should be acknowledged. Based on this, this paper argues that although online game virtual objects cannot fully conform to the definition of traditional "property", they have usage interests for players. The economic value and transactional attributes they display are consistent with the characteristics of property interests. By incorporating property interests, virtual objects on the internet can receive appropriate protection under the framework of criminal law. This expanded interpretation can effectively regulate and combat criminal acts involving virtual objects on the internet.

Keywords: Property Crime; Property Interests; Game Virtual Object

Introduction

With the continuous development of the Chinese gaming industry in the first half of 2024, virtual objects have become increasingly important as a core component of the game economy. According to data from the "China Game Industry Report for January-June 2024," the actual sales revenue of the Chinese game market reached 147.267 billion yuan, a year-on-year increase of 2.08%, and the number of game users exceeded 674 million, a year-on-year increase of 0.88% [1]. In this context, virtual objects (such as in-game currency, equipment, skins, etc.) have not only become important media for transactions between players but also constitute

a key link in the profitability of game companies. However, as the scale of virtual object transactions expands, related criminal acts, such as theft, fraud, and illegal trading, have also increased. These acts not only harm the legitimate rights and interests of players but also disrupt the fair competition order in the game market. Therefore, the criminal law regulation of virtual objects is particularly important.

It demonstrates different protection tendencies between property legal interests and data legal interests. With the continuous advancement of technology and innovation in the gaming industry, the forms and transaction methods of virtual objects are constantly changing, requiring criminal



law regulations to keep pace with the times and continuously adapt to new situations and demands. Therefore, the research in this paper not only has immediate urgency but also long-term foresight, which is of certain significance for protecting the legitimate rights and interests of players and operators as well as the clarity of the gaming industry.

Asking Questions

There are different views on the legal attributes of game virtual objects such as “equipment” and “game currency” in judicial practice, which are reflected in the determination of charges in different judgments, especially in the choice of theft and illegal access to computer information system data. The root of these differences is that the legal attributes of online virtual objects have not yet formed a unified understanding, including whether they have property value and whether they belong to “property” in the traditional sense. There have also been long-standing disputes over the legal nature of online virtual objects in the academic field, mainly focusing on the following points of view:

In the early years, some courts held that the stolen virtual property had value and use value, and embodied its economic value in the transaction process according to the supply and demand relationship of the real society. Although the game equipment is only an electromagnetic record, the achievements of the player’s labor can also be linked to currency, with the general attributes of commodities, and fall within the scope of adjustment of the Criminal Law. And think that virtual property also belongs to private property, which can be controlled and occupied by people..... Virtual property belongs to the private property of the player. Theft infringes upon the ownership of citizens [2]. The court also held that the game equipment traded belongs to online virtual property, and the so-called online virtual property refers to the property existing in online game space, including the level of game accounts, game characters and various game equipment, which can be converted into real property under certain conditions, and has the characteristics of objective non-materiality, controllability and transaction [3].

Another court has identified the act of selling the account number and retrieving it as stealing other people’s property in secret [4]. No matter whether the nature of the final landing is virtual property or property, it undoubtedly affirms the actual connection with the real society and the economic value of the game virtual property. Some scholars also affirm the economic value of virtual objects, and believe that electromagnetic data with property value or electromagnetic data with exclusive control should be regarded as the protection interests of property crimes in the Criminal Law [5]. Furthermore, some scholars believe that virtual property such as game currency and virtual

props should be regarded as “property” in the legal sense [6], and such virtual property should not be excluded from the protection of traditional property crimes due to its electronic form.

Secondly, some scholars have also put forward specific explanations for the definition of virtual property, believing that virtual property exists on the basis of network third-party platforms, takes digital form as the carrier, differs from intellectual property rights, personal information, network services and electronic objects, has certain value attributes, and can be controlled and possessed by electromagnetic data [7]. And, Professor Fairfield defines virtual property as software code designed to behave like and have the qualities of a physical, real-world chattel or piece of realty [8]. Game virtual objects such as game props and game coins fully conform to the characteristics of virtual property, so they should be included in the protection of property crimes.

However, some scholars have questioned the above-mentioned “property theory”, arguing that the nature of virtual objects in online games is data in computer systems, not property in the traditional sense. In the view of these scholars, virtual objects are only digital data presented through computer systems. Although they have certain exchange value, they do not have the physical existence and exclusive possession of traditional property, so they should not be the object of property crimes. This view advocates treating online game virtual objects as data in computer systems, not property [9].

Some cases also show the side of data protection. Case of Obtaining Game Currency of Gamers by Using Trojans: The actor obtained the account name and login password of the game player’s account through the trojans background terminal program, and hid the game currency won by the game player in the safe of the player’s account. After that, the hidden game currency was sold through the account used by the logged in player, and a total of 678000 yuan was illegally made. The court ultimately characterized it as the crime of illegally controlling computer information systems [10]. In another case, the mode of conduct is the same (that is, obtaining the password of the player’s account through the trojans virus program and selling the virtual objects of the player’s game for profit), and the court also finds that it illegally obtains the data of the computer information system by technical means, and the circumstances are especially serious, which constitutes the crime of illegally obtaining the data of the computer information system [11]. There is also a crime against the game operator: that is, the perpetrator obtained the account of the game administrator through the trojans program and sold the articles to the player account, making an illegal profit of more than 40000 yuan. The court considers that the act constitutes an offence of illegal control

of computer information systems and that the circumstances are particularly serious [12]. Under the behavior mode of using the technical means of trojans to target the crime of game virtual objects, the court has the tendency to protect the legal interests of data security when determining what constitutes a crime, and relatively reduces the consideration of the property attributes of virtual objects.

However, some courts still have an obvious purpose of protecting the legal rights and interests of property. The act of selling stolen goods after obtaining virtual objects from the operator by repeatedly sending technical means after grabbing game data packets to the server is recognized as a property crime: the act of defendant Zhu A illegally obtaining data in the computer information system is a means act, which violates the crime of illegally obtaining computer information system data, and the act of stealing game gold coins and selling stolen goods by using game loopholes is a purpose (result) act, which violates the crime of theft. The two parties are involved. According to the general principle of the punishment of alternative felony for the implicated crime in the Criminal Law, the case shall be convicted and punished as theft [13].

By comparing the different assertions of the courts, we can find that there are different value tendencies and legal interest protection considerations for data protection and property protection, as well as differences in the definition of the legal attributes of game virtual objects: (1) It is an electromagnetic record with economic value and is owned by the player; (2) It is a disposable and tradable virtual property; (3) Obtaining the password of another person's account and selling the game currency in the account is an infringement on the data of the computer information system.

To sum up, although there are different views on the legal attributes of online virtual objects in academic circles and judicial practice, most of them believe that game virtual objects such as "game currency" and "equipment" have certain property value, and have characteristics such as being controlled and traded, which can be identified as property. Some scholars have also pointed out that the inclusion of theft of virtual property in computer crimes has limitations and the inclusion of property crimes is justified [14].

Based on the analysis of cases in judicial practice, this paper considers that network virtual objects should be recognized as property interests under the broad concept of property, and should be within the scope of property crimes in the criminal law. Specifically, network virtual objects should not be excluded from the scope of traditional "property" simply because of the form of their electromagnetic data. The market value, tradability and transferability of virtual objects make them economically similar to traditional tangible

property. If "property interests" are taken as the analysis standard, network virtual objects should undoubtedly be included in the category of property crimes protected by criminal law, so as to better safeguard the property rights and interests of players and prevent criminal acts from infringing upon virtual property. Therefore, the legal nature of network virtual objects should be recognized as property interests and regulated by the relevant provisions of property crimes in the Criminal Law.

Legal Nature of Game Virtual Objects

Among the existing cases on the legal nature of game virtual objects, there are views that game virtual objects are property owned by players, or a kind of virtual property (intangible property). However, it is difficult to give a full explanation from the perspective of property rights if it is simply recognized as property. This article holds a reservation on this view, and considers that game virtual objects should not be regarded as property in a narrow sense, and that players do not enjoy ownership of them. Although the positioning of virtual property is reasonable, the relevant discussions often fail to clearly explain its legal basis. Although the economic value of game virtual objects is undeniable, it should be recognized that these virtual objects are essentially paid services provided by operators to players. For players, their economic attributes are more reflected in the use interests of virtual objects, including the use value and exchange value of services (continuity, controllability and paid transaction of services).

The Player has No Ownership of the Virtual Object

As an important part of the civil law system, the object of real right mainly focuses on the tangible, that is, the material entity that is traditionally perceivable and tangible. Article 115 of the Civil Code of the People's Republic of China clearly stipulates: "Property includes immovable property and movable property. Where the law stipulates that a right is the object of real right, such provisions shall prevail." Although with the development of modern legal practice, certain specific types of intangible property (such as certain rights in intellectual property rights) are also included in the scope of real right protection under specific conditions, this expansion has not changed the traditional structure of real right with tangible property as the core. Online game virtual objects based on electromagnetic records can exist only through the Internet and computers. Against this background, as a non-material form that relies entirely on electronic data and exists only in the Internet and computer environment, it obviously does not fall within the category of tangible objects in the traditional sense of property law [15].

Secondly, from the nature of ownership, it is an exclusive right of control, which means that the owner can directly realize the possession, use, income and disposal of the property without the assistance of others. Article 240 of the Civil Code further emphasizes this absolute right of the owner: "The owner has the right to possess, use, benefit from and dispose of his real or movable property according to law." Some scholars believe that the key difference between virtual property and traditional movable property is that the creation and operation of virtual property must rely on the services of the provider. The code and data for creating the virtual property are entirely dependent on the provider's services [16]. If an online game virtual object is regarded as something owned by the player, there will be an unexplained situation. The existence and operation of network virtual objects are highly dependent on the technical support and service provision of game operators. For example, game version updating, server maintenance and other operational acts may temporarily or permanently affect the access and use of virtual objects by players, which is obviously contrary to the characteristics that ownership can be realized without the cooperation of obligors. Moreover, the legal relationship between the player and the game operator often presents an atypical subordination based on the service contract. For example, the prohibited acts of players include but are not limited to: transfer, lease, borrowing and other means of providing to others; Scan, explore and test the game software to detect, discover and find possible bugs or weaknesses; Use of various private services, plug-in behavior, etc. Players need to abide by the rules of the game, or they may face penalties such as account closure, which further weakens the claims of players on the ownership of online virtual objects. If a more serious cancellation penalty is imposed on the operator, all virtual objects in the account will no longer exist. Under this scenario, the player's control over the virtual object is not only not absolute, but also restricted by the game operator to a certain extent, which conflicts with the basic jurisprudence of ownership. "Extension of independent property rights in virtual property to players would give them a Midas touch: a gift gratifying in the short term, but, in the long term, extremely detrimental" [17].

Nature of Virtual Objects Services Provided to Game Operators

The Supreme Court of the Russian Federation held that providing players with the opportunity to use additional game functionality for a fee (to facilitate the game process and develop characters more quickly) constitutes an independent service [18]. But, many scholars criticize EULAs for shifting from real-world property rights to non-transferable licenses and granting developers absolute discretion, thereby contradicting player expectations and undermining the goal of property law, which is to allocate

resources to higher-value users, ultimately reducing overall societal welfare [19]. While granting players transferability or other rights would be more beneficial to their interests, this is not the focus of the present discussion. Moreover, under the current legal framework, virtual property can still be protected by being considered service.

Take the Tencent game license and service agreement as an example, 1.8 Game virtual props: refer to a service provided by Tencent that is stored in the server running the game program in the form of electromagnetic recording, which can realize the specific functions set by the game program or reflect the specific results of the operation of the game program, and can be expressed in text, graphics or other digital forms. Game virtual props are part of the game service [20]. Its nature is the game service provided by Tencent. However, there are views that the nature of game virtual objects is based on documents stored in electromagnetic data, and operators still retain ownership of virtual objects. From a legal point of view, if the game virtual object is regarded as electromagnetic data and is always kept in the operator's server, then even if the actor transfers or loses the virtual object by means of theft or other means, the electromagnetic data of the virtual object still exists in the operator's server and is under the actual control of the operator.

If virtual objects are excluded from the scope of property crime evaluation only from the physical characteristics of electromagnetic data, the following problems will be faced:

If only the characteristics of its electromagnetic data are considered, the evaluation of its economic attributes will be lost. From the perspective of the protection of legal interests in data security, although it is possible to make negative evaluations on data security such as stealing other people's account passwords and obtaining virtual objects through trojans, this evaluation perspective greatly neglects the economic value of virtual objects provided to players as service objects, and the use benefits of virtual objects to players are self-evident. We cannot turn a blind eye to the legal nature of virtual objects as services.

Taking the physical nature of its electromagnetic data as the evaluation benchmark will also be frustrated at the theoretical level: virtual objects have economic value, and the actor's subjective intention to steal virtual objects is usually to make illegal profits, not to control the electromagnetic data itself - which is also where his criminal motive lies. However, if only the physical characteristics of its electromagnetic data are considered, it will be excluded from the evaluation scope of property crimes, so that the perpetrator can not be completely criticized, which violates the principle of consistency of guilt and responsibility; At the same time, after stealing the virtual object, the actor often has the act of selling and other acts of

selling stolen goods, which can prove that the actor's goal is the virtual object itself with disposable, transferable and economic value rather than directly referring to its physical nature. There is a risk of mechanism in the way in which game virtual objects are treated as electromagnetic data, without taking into account the criminal nature of such acts. It ignores the importance of virtual goods in economic and social life, especially the actual value it produces in exchanges and exchanges between players. Such a simple definition is not only divorced from the economic value of virtual objects, but also deviates from the social significance of game virtual objects, so it cannot meet the evaluation standards of property crimes in criminal law.

To sum up, if the game virtual object is only regarded as the property of the operator, or simply recognized as electromagnetic data, it cannot fully reflect the importance of the virtual object in the real economy and society. As a new form of property, game virtual objects have both use value and exchange value, and their legal status and economic attributes should exceed the technical physical nature framework. Simply classifying it as the property of the operator, or only processing it as electromagnetic data, fails to fully reflect the importance of virtual objects in economic and social life. In order to accurately define the status of game virtual objects in the law, it is necessary to conduct multi-dimensional consideration of them and in-depth analysis of their role in society and economy as property interests. This process needs to break through the restrictions of the traditional concept of property in criminal law and provide a more accurate legal framework for the positioning of game virtual objects in criminal law.

The Service can be Defined as a Property Interest

In judicial practice, a large number of crimes against game virtual objects are defined as crimes of property infringement, fully affirming the economic value of game virtual objects, which is desirable. However, there are still differences on whether the game virtual object belongs to property or virtual property or other property interests. In this article, it is desirable to define game virtual objects as property interests.

Property interests refer to all interests with property attributes other than property in the traditional narrow sense, usually referring to the rights and interests that can bring economic value and can be exchanged. Although the above has denied the status of game virtual objects as property in the traditional sense in the criminal law, the property attributes of game virtual objects can be further demonstrated through the use benefits generated by game virtual objects, and therefore their status of property

interests can be conferred.

Game virtual objects have clear use value, which has been recognized by many scholars. The value of use lies in the satisfaction of certain needs of people. Users may acquire game avatars for several common overlapping reasons. For example, these objects may assist users in their progress in the virtual world. In World of Warcraft, acquiring a new weapon may allow the user to defeat a new enemy, and acquiring a new Marco can lead to new areas. In Second Life, the purchase of quality property for a new store may allow the avatar to earn considerable income in the real world. Or, the object may provide a unique appearance, allowing the user to customise the appearance of the avatar, or even serve as an identity symbol [21]. Although some scholars believe that game virtual objects have use value only in the virtual world and have no practical use in real life, this view does not fully reflect the multiple functions of virtual objects. As the objects obtained by players in the game services provided by operators, game virtual objects often directly affect the quality of game experience. For example, some virtual objects can enhance the ability of a player's role in the game, or provide a specific function in the course of the game, such as props, equipment, pets, etc. These directly enhance the player's game experience and sense of achievement, and show their subjective value. The game virtual object is closely related to the mental pleasure felt by the player, and the stronger the expression of the virtual object in the game, the stronger the mental pleasure usually brought to the player. This is no different from the increased sporting effectiveness of a better racket and the psychological appreciation of a more trendy suit.

However, the value of virtual objects is not limited to their role in the virtual world. Some papers have pointed out, Amongst the motivations players might have for buying and selling virtual goods are investment, group-play (to stay on par with their online friends), inflated status or because the object is otherwise unavailable. And, its scarcity also drives players to scramble for it [22]. Its objective value is formed by the time, energy and labor on virtual property in the production process of game developers and the process of players playing games, and is transformed into exchange value [23]. Some scholars maintain that virtual objects have value only in the game environment and cannot meet the needs of production and life, so they cannot be compared with material property in real life [24]. This view has certain limitations because it neglects the circulation of virtual goods in the market and their relationship with real social and economic activities. With the development of the game industry, many virtual articles enter the circulation market of the real society through transactions between players or through third-party platforms, which makes it possible for the use value of virtual articles to cross the boundary

between virtual and real. Many users treat them by buying and selling in real world currencies. Since the advent of the virtual world, there has been an active market for these assets known as “real currency transactions” (“RMT”). Recent estimates suggest that the annual turnover of this virtual property market may exceed \$1 billion. Entire third-party companies have sprung up to facilitate these transactions. Second Life’s land tycoon has become a millionaire [25]. Players can trade, exchange or reuse virtual objects, and this expansion of use value gives more economic significance to the use benefits of virtual objects. Even though game virtual objects mainly exist on software platforms, they directly or indirectly affect the real economy through the purchase and exchange behavior of players in the real society, so they have certain practical significance. Therefore, although the use interest of virtual articles is different from that of material property, its status as a “property” interest cannot be denied accordingly.

Exchange value refers to the monetary value that can be obtained in the course of exchange. Generally speaking, the exchange value is embodied through market transactions, and the exchange value of virtual goods is often determined by the supply and demand relationship between players, scarcity and the design of game operators. Although some scholars believe that game virtual objects are only part of a service and cannot have the exchange value in the traditional sense [26], this view neglects the exchange function of virtual objects in the real economy. As Sai said: “A doctor comes to see a patient, examines the patient’s symptoms, prescribes a dose of medicine, leaving nothing that can be transferred by the patient or his family to a third party or kept for future consumption by himself... Can this product not be regarded as an object of exchange? Absolutely not.” Under this theoretical framework, although the doctor provides a service, the service still has exchange value. In this sense, the services provided by game virtual objects as operators also have exchange value, although they do not exist in physical form [27]. The reason why the exchange value of people cannot be determined is that people cannot be regarded as commodities, which cannot be analogy to game virtual objects with service nature, and services have exchange value.

If virtual objects only occur in virtual space, they cannot become virtual property in the legal sense. Only when there is a certain connection with the real society can it be defined as a virtual property in law [28].

For example, Habbo Hotel is a popular social networking site for young Dutch people. Habbo Hotel users can use credit cards to purchase virtual “furniture”. It was in this virtual world that Dutch police arrested for the first time a network thief, a 17-year-old boy, who was charged with stealing virtual furniture from the rooms of the Habbo Hotel.

A spokesman for the Amsterdam Police said: “We are trying to bring charges of theft.” “The furniture may not be physical, but because it represents a certain value, we think theft is involved.” Even if the police’s decision is from a criminal law perspective, the premise of this decision is to recognize that the virtual objects in Habbo enrich the economic value and should be classified as the user’s personal property [29].

The exchange value of virtual goods ultimately depends on its connection with the real society. If virtual articles are limited to circulation in the virtual world, then there is no “use interest” and their value cannot be recognized as “property interest” in law. However, when virtual articles enter the real society through trading markets, third-party platforms outside games and other channels, virtual articles are no longer pure “virtual” objects, but have a certain degree of exchange function of real currency or property. For example, the exchange mechanism between virtual goods and real currency has gradually formed a huge market, and even in some cases, virtual goods are equivalent to a certain amount of financial goods. The existence of such a market proves the real status of game virtual objects in economic activities, which are no longer just entertainment tools in the virtual world, but have exchange value linked to real economic activities.

From an economic perspective, game equipment, pets and other game virtual objects are service-oriented commodities, which are the use benefits indirectly formed by game operators through the provision of specific services. Although these virtual objects do not have the form of traditional physical commodities, their exchange value can be reflected through the transaction between players and their exchange mechanism with real currencies, although such transfer does not necessarily conform to the agreement on prohibition of transfer reached between players and operators. The connection between game virtual objects and real society makes them have exchange value and become a kind of “property” that can be exchanged economically.

To sum up, game virtual objects themselves have use interests, which are embodied in use value and exchange value (continuity, controllability and paid transaction of services), and have formed an exchange mechanism similar to property interests such as currency and commodities in real society. Therefore, game virtual objects should be regarded as legal objects with property interests, although they do not conform to the definition of “things” in traditional theory. This kind of property interest does not originate from physical form or traditional ownership, but from the value role and exchange function of virtual goods in the game environment and real economy. With the further development of the virtual economy, the status of the use interests of game virtual objects as property interests may

be more clearly recognized by law, and thus provide more perfect legal protection for them.

Game Virtual Objects are within the Scope of Property Crime in Criminal Law

Game Virtual Objects Belong to the Category of “Property” in Property Crimes

As discussed above, game virtual objects have the status of property interests due to their use interests to players. If the property interests conform to the concept of “property” in property crimes, then it can be considered that game virtual objects can be included in the scope of property crime regulation in the criminal law framework.

In the criminal law system of our country, the framework of property crime mainly takes “property” as the object of crime. However, the Criminal Law does not clearly stipulate whether “property interests” belong to the category of “property”, resulting in widespread disputes among academics on this issue. In particular, scholars have different opinions on how to define “property” and whether it can contain property interests. However, Chinese scholars generally believe that “property” can be expanded to include property interests.

Unlike the German criminal law, which explicitly restricts the object of theft to tangible goods, the term “property” in the Chinese criminal law is a broad concept and may even include some property rights and interests. Claims that exist between two specific parties and are relatively strong are indeed difficult to “steal” because they are abstract legal relations and usually do not change their state of existence due to the interference of external physical acts. However, if the relative nature of such claims is greatly weakened and can be flexibly transferred, claims may become the object of property crimes. For example, deposit claims fall into this category [30].

Professor FU Liqing considers that property in criminal law usually refers to articles or interests of economic value that can be valued in monetary terms and protected by law. The “property” and “property” in criminal law should be understood in the same way, that is, they both cover articles or interests of economic value. This includes, but is not limited to, tangible or intangible assets such as cash, goods, equipment, real estate and intellectual property rights [31]. From the standpoint of the (amended) economic property theory, an article of economic value is property, and then China has affirmed that property interests belong to property in the substantive law.

In addition, Article 92 of the Criminal Law of China stipulates the scope of citizens’ private property, and the fourth paragraph stipulates that “shares, stocks and bonds

owned by individuals” also belong to citizens’ private property. According to the interpretation of economics and civil law, “shares, stocks and bonds” here refer to the financial contract concluded between the purchaser and the issuer, which is in essence the proof of creditor’s rights and debts, belongs to property interests with objective economic value, and can certainly become the object of property crimes as personal private property. Professor Fu Liqing also emphasized the understanding of the extension of “property” or “property”, and thought that property interests should also belong to the category of property.

At the same time, Professor Zhang Mingkai also believes that property interests are the objects of protection of property crimes, because property interests have the possibility of management, transfer and value [32]. This article agrees with the above views and considers that property interests belong to the category of “property” in property crimes. As for the three property interests proposed by Professor Zhang Mingkai, game virtual objects also meet the following requirements: specifically, as a continuous service provided by game operators, game virtual objects allow players to use them freely in games and have the possibility of management; Moreover, with the exception of some virtual articles bound by accounts set up by operators, most virtual articles can be transferred from one account to another, and this transfer process often carries economic value, as has been demonstrated in the preceding paragraph. Therefore, game virtual objects have characteristics similar to other traditional property, which conform to the legal definition of “property” in property crimes.

The inclusion of property interests in the scope of property does not violate the principle of legality. The criminal law systems of Germany and Japan clearly distinguish between “property” and “property interests” and use them as parallel concepts. However, given that there is no similar distinction in the Criminal Law of China, a single concept of “property” can include all kinds of interests, including property interests [33]. Therefore, we cannot simply take the fact that “property” in foreign criminal law does not include property interests as the basis, and think that the concept of property in our criminal law excludes property interests.

In addition, the application of criminal law in judicial practice should not only consider the scope of the meaning of the concept, but also pay attention to the necessity of punishment for acts and the coordination between the provisions of criminal law and the spirit of law. In practice, if the perpetrator infringes upon the player’s game virtual object by means of theft or other means, and refuses to adjudicate because he considers the property interest as “non-property”, it obviously runs counter to the original intention of the legislation on the protection of citizens’

private property by criminal law. With the increasing number of cases of infringement of property interests such as rights and virtual articles in modern society, if these interests are not protected as property, it will lead to a blank in criminal law and a huge legal loophole. Therefore, bringing property interests into the scope of property and taking them as the objects of criminal law protection is a correct reflection of the principle of legality, not a deviation from it.

To sum up, game virtual objects, as property interests, can be fully included in the scope of regulation of property crimes. Under the framework of China's criminal law, game virtual objects, as intangible assets with economic value, should be regarded as part of "property" and thus become the object of criminal law protection. Based on its use value, exchange value and transfer possibility, game virtual objects conform to the characteristics of "property" in property crimes. Therefore, according to the reasonable interpretation of the current legal system, taking game virtual objects as the objects of property crimes such as theft fully conforms to the connotation and legal spirit of the Criminal Law, and there is nothing inappropriate.

Determination of the Amount of Crimes Involving Property Interests

When discussing game virtual objects as objects of property crimes, determining the amount of crimes is a crucial issue. However, when determining that the act constitutes a property crime, there is a phenomenon that the judgment lacks part of the amount of crime, which may be because the economic value of the game virtual object is really not easy to determine, and it is necessary to consider not only the price at which the victim obtains it but also the price at which the actor sells the stolen goods, and if necessary, the time and energy invested by the victim. However, in practice, the amount of stolen goods sold and the official price of virtual objects are also used to determine the amount of crimes committed by game virtual objects. For example, the court found that, in view of the fact that the existing evidence cannot prove the actual loss of the murdered unit, in combination with the rules for obtaining game gold coins, the sale and use of game gold coins... The case should determine the amount of theft crime on the basis of the profit from the sale of stolen goods by the defendant Zhu [34]. The People's Court of Jiading District, Shanghai Municipality holds that online game accounts reflect the time and money costs invested by game players, and at present there is no special appraisal institution that can determine the property value of online game accounts. The determination of the amount of crime by transaction value has obvious subjective color of consultation, cannot reflect the objective value of stolen goods, lacks the support of relevant laws and regulations, and violates the principle

of "putting doubt in favor of the defendant". Generally, the amount of stolen goods sold is lower than the actual value of the stolen goods, and the determination of the amount of crime by the amount of stolen goods sold is more in line with the general understanding that the crime is only minor. If the value cannot be clearly defined, it is more reasonable to determine the amount of crime by the amount of stolen goods sold.

At the same time, scholars have also put forward a variety of feasible plans and discussed them to a certain extent. There are mainly the following existing quota schemes: (1) the price at the time of obtaining the virtual object (2) the official price of the game operator for the virtual object (3) the price determined by the actor when selling stolen goods (4) the price of the player's trading market (5) calculated according to the cost invested by the player.

Price at the time of obtaining the virtual object: The method determines the amount based on the price paid by the actor when obtaining the game virtual object. The advantage of this method is that it is simple, visual, and accurate, especially in the case of relatively tight judicial resources, with strong operability. However, the disadvantage is that indirect costs such as time, energy input and market fluctuations are neglected, which may lead to the determination of the amount deviating from substantive justice.

Official price of virtual objects by game operators: The scheme determines the amount of crime on the basis of the official price of virtual objects publicly set by game operators. Similar to the preceding method, official prices provide a standardized reference value to a certain extent for easy determination. However, as the pricing of operators is often affected by factors such as market supply and demand fluctuations and changes in the economic system in the game, it may not accurately reflect the actual cost invested by players and the real market value of virtual objects.

Price Determined by the Actor when Selling Stolen Goods: This method determines the amount of crime based on the actual price of the virtual object sold by the actor in the process of selling stolen goods. Its advantage is that it more accurately reflects the actual transaction of criminal acts and conforms to the standard of "exchange value" in economics. However, there may be malicious underestimation of the price of stolen goods sold, especially when the actor sells the virtual object at a low price in order to evade accountability, which may lead to the failure to fairly assess the actual loss of the victim.

Price of the Player Trading Market: This method determines the amount by referring to the price of the game virtual object in the trading market between players. Because the player community usually knows more about the actual

value of the virtual object, and the market price can better reflect the comprehensive cost of the game virtual object, this method gives consideration to convenience, accuracy and substantive justice in theory. However, as the market price of virtual objects fluctuates greatly, the transaction price may change greatly in a short time, so the determination of the amount of crime shall be based on the market price at a certain time point to avoid the instability of the amount calculation caused by market changes.

Calculation According to the Cost Invested by the Player: This method attempts to determine the amount by calculating the real cost (such as time, money, energy, etc.) invested by the player in obtaining the virtual object. Although this method can fully reflect the actual effort of the player, in actual operation, due to the difficulty in quantifying the cost invested by the player and the large individual difference, the applicability and operability of this scheme in reality are poor and difficult to implement.

Taking into account the advantages and disadvantages of the above-mentioned schemes, this paper considers that, in most cases, the reasonable method to determine the amount of crime should be to combine the price of the player's trading market with the price at the time of selling stolen goods. Specifically, first of all, we should refer to the transaction price of the player market at the time of the crime, determine a reasonable range of low and high prices, and take it as the basic range of the amount of crime; If there is any act of selling stolen goods, the final amount can be further refined and determined according to the actual price at the time of selling stolen goods. If there is no act of selling stolen goods, it can be judged comprehensively by combining the price at the time of acquisition and other relevant conditions. This method can not only take into account the actual situation of market prices, but also reflect the true trading situation of criminal acts, so as to avoid deviation from substantive justice to the greatest extent.

Under certain circumstances, although it is difficult to accurately calculate the amount of crimes committed by game virtual objects, the relevant provisions on property crimes can still continue to apply. For example, theft does not rely solely on the amount as the only standard for conviction and sentencing, and the Criminal Law also clearly stipulates the circumstances of "serious circumstances" and "especially serious circumstances". Therefore, even if the amount of crime cannot be accurately calculated, the conviction and sentencing can still be carried out according to the specific circumstances of the case.

For the crime of stealing property interests, especially if the amount is relatively large, the judicial organ may deal with it directly according to the seriousness of the circumstances according to the specific circumstances of the case, without

being bound by the accurate amount calculation. This provision reflects the protection of the substance of criminal acts and the protection of the interests of victims in criminal law, ensures that the changing criminal situation can be flexibly dealt with in practice, and maintains the effective punishment of criminal acts.

In a word, although it is difficult to accurately calculate the amount of game virtual objects in each case, through reasonable amount determination methods and criminal law provisions based on circumstances, we can ensure the effective strike and fair judgment of property crimes.

Conclusion

Although virtual articles lack the physical form of traditional property, their use value, exchange value and economic benefits have made them important use interests of players and have the status of property interests. However, theories from the perspective of data protection often neglect the economic value of game virtual goods. Therefore, it should be recognized that the use interest of virtual objects has the status of property interests, and by expanding the definition of the concept of "property", game virtual objects can be included in the scope of property crimes in criminal law, so as to ensure that they receive due legal protection under the framework of criminal law.

Secondly, the transaction amount and market value of virtual goods are often difficult to define accurately, especially in the context of cross-platform transactions and fluctuations in the value of different currencies, the value of virtual goods may be more complex and ambiguous. Therefore, we should draw lessons from the existing standards for determining the amount of property crimes and establish a special evaluation system in light of the market trading situation of virtual goods. Through this system, the judgment and sentencing of crimes related to virtual articles can be effectively regulated to ensure that the legal status of virtual articles can be accurately and fairly reflected in practice.

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