

ASSET ALLOCATION STRATEGY ACQUISITION METHOD AND APPARATUS, COMPUTER DEVICE, AND STORAGE MEDIUM

This application claims priority to the Chinese Patent Application submitted to the National
5 Intellectual Property Administration, PRC on July 25, 2017, Application No. 2017106144289, and
entitled “Asset Allocation Strategy Acquisition Method and Apparatus, Computer Device, and
Storage Medium”, which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

10 This application relates to the field of computer technologies, and particularly relates to an asset
allocation strategy acquisition method and apparatus, a computer device, and a storage medium.

BACKGROUND

In the field of financial management and investment, it is necessary for the sake of a good return
of financial products to make a judgment on ups and downs of the financial products such as stocks,
15 and then the financial products are bought or sold on the basis of the judgment. At present, users
typically make a judgment on future ups and downs of the financial products based on previous
financial experience by checking the information of these financial products.

Through research and practice on the prior art, the inventors of this application realize that the
prior art has the following problems: the limited financial management experience of the users leads
20 to low accuracy of the judgment on ups and downs of financial products; and due to the presence of a
large number of financial products, it takes a lot of time for the users to check so much information of
the financial product piece by piece on a terminal, and computer network resources are wasted.

SUMMARY

The embodiments of this application provide an asset allocation strategy acquisition method and

apparatus, a computer device, and a storage medium.

An asset allocation strategy acquisition method comprises:

Acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

Acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

Acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

An asset allocation strategy acquisition apparatus comprises:

A grade acquisition unit used for acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

A trend acquisition unit used for acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

A strategy acquisition unit used for acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

A computer device comprises a memory and a processor, wherein a computer readable instruction is stored in the memory and is executed by the processor to implement the following steps:

5 Acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

10 Acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

15 Acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

One or more nonvolatile readable storage media have a computer readable instruction stored therein, wherein the computer readable instruction is executed by one or more processors to implement the following steps:

20 Acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

25 Acquiring a trend of the target financial product according to a current indicator state of the

target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

- 5 Acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

The details of one or more embodiments of this application are provided in the following accompanying drawings and description. With reference to the specification, accompanying drawings and claims, other characteristics, objectives and advantages of this application can be better
10 understood.

BRIEF DESCRIPTION OF DRAWINGS

To illustrate the technical solutions according to the embodiments of the present invention or in the prior art more clearly, the drawings used for describing the embodiments are briefly introduced below. Clearly, the drawings in the following description are only used for illustrating some
15 embodiments of this application. Those ordinarily skilled in the art can obtain other drawings according to the following ones without creative labor.

FIG. 1 is an implementation environment diagram of an asset allocation strategy acquisition method in one embodiment;

FIG. 2 is an internal structural diagram of a computer device in one embodiment;

20 FIG. 3 is a flow diagram of the asset allocation strategy acquisition method in one embodiment;

FIG. 4 is a flow diagram of the asset allocation strategy acquisition method in one embodiment.

FIG. 5 is a flow diagram of the asset allocation strategy acquisition method in one embodiment;

FIG. 6 is a structural diagram of an asset allocation strategy acquisition apparatus in one embodiment;

FIG. 7 is a structural diagram of the asset allocation strategy acquisition apparatus in one embodiment;

FIG. 8 is a structural diagram of the asset allocation strategy acquisition apparatus in one embodiment.

DESCRIPTION OF EMBODIMENTS

For the sake of a clearer understanding of the objectives, technical solutions and advantages of this application, this application is further expounded below in combination with the accompanying drawings and embodiments. It should be understood that the embodiments in the following description are only used for explaining this application, and are not intended to limit this application.

It can be understood that unless otherwise specified, elements described by the terms "first" , "second" and the like in this application are not limited by these terms. These terms are only for the purpose of distinguishing one element from another. For example, without deviating from the scope of this application, a first preset threshold can be referred to as a second threshold; and similarly, a second preset threshold can be referred to as a first preset threshold. However, it is an exception in the case where it is clearly stated that the terms "first" and "second" define the sequence in this application. For example, "first" , "nth" , and "tth" impose a limitation on the sequence.

FIG. 1 is an implementation environment diagram of an asset allocation strategy acquisition method in one embodiment. As shown in FIG. 1, an implementation environment shown includes a market characteristic acquisition device 110, a computer device 120, and a transaction device 130.

As shown in FIG. 1, the market characteristic acquisition device 110 acquires current financial product market information of a target financial product and inputs the current financial product market information of the target financial product into the computer device 120. The computer device 120 acquires a financial product grade of the target financial product according to current attribute information, in the input financial product market information, of the target financial product and a financial product grade model, acquires a trend of the target financial product according to a current indicator state of the target financial product and a financial product trend model, and acquires an

asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product. After acquiring the asset allocation strategy, the computer device 120 outputs the asset allocation strategy to a client to be checked by users. Or, a transaction request is directly sent to the transaction device 130 according to the asset allocation strategy to
5 conduct a transaction.

For example, when an asset allocation strategy of buying a financial product A01 is acquired, a suggestion on buying the financial product is output to a user, a transaction request for buying the financial product is sent to the transaction device, and the transaction volume is preset by the user or is determined according to the grade and trend intensity of the financial product.

10 The computer device 120 is an independent physical server or a terminal, or is a server cluster consisting of multiple physical servers, or is a cloud server capable of providing basic cloud computing services such as cloud servers, cloud databases, cloud storage and CDNs. The financial product is a precious metal such as silver or gold, or is petroleum, stocks, futures and the like.

FIG. 2 is an internal structural diagram of the computer device in one embodiment. The
15 computer device is connected with a processor, a nonvolatile storage medium, an internal memory and a network interface through a system bus. Wherein, an operating system and a computer readable instruction are stored in the nonvolatile storage medium of the computer device, and when the computer readable instruction is executed, the processor implements an asset allocation strategy acquisition method. The processor of the computer device is used for providing calculation and
20 control to support the operation of the whole computer device. A computer readable instruction is stored in the internal memory, and the computer readable instruction is executed by the processor to implement the asset allocation strategy acquisition method. The network interface of the computer device is used for carrying out network communication such as sending an asset allocation strategy. Those skilled in the art would appreciate that structural diagram shown in FIG. 2 only involves
25 structural parts relating to this application and is not intended to limit the computer device to which this application is applied. Particularly, the computer device may comprise more or less components than the structure shown in FIG. 2, or certain components are combined, or these components are

configured in different manners.

As shown in FIG. 3, an asset allocation strategy acquisition method is provided in one embodiment. The asset allocation strategy acquisition method is applied to the computer device 120 and particularly comprises the following steps:

- 5 S302: a financial product grade of a target financial product is acquired according to current attribute information of the target financial product and a preset financial product grade model.

Attribute information of financial products refers to essential features or characteristics of the financial products, such as the price-earnings ratio, the price-cash flow ratio, the current ratio and the information ratio of the financial products. Current attribute information refers to attribute
10 information of the target financial product at a current moment, and history attribute information refers to attribute information of a first financial product at a history moment before the current moment. The quantity of the attribute information of the financial products at the current moment and the history moment can be set as actually needed. For example, the attribute information of the financial products at the current moment and the history moment includes the price-earnings ratio and
15 the price-cash ratio. Or, the attribute information of the financial products at the current moment and the history moment includes the price-earnings ratio, the price-cash flow ratio, the current ratio and the information ratio. Clearly, other attribute information of the financial products may also be added to the attribute information to fulfill more accurate prediction. It can be understood that the moment refers to a time point or a time period.

20 A financial product grade corresponding to the history attribute information is the grade of the first financial product under the history attribute information. The grade of the financial products is quantified as a high grade, a medium grade or a low grade which is preset, or is quantified by a specific fraction as long as the financial products can be classified. The preset financial product grade model is obtained by performing model pre-training in advance according to the history attribute
25 information of the first financial product and the financial product grade corresponding to the history attribute information. After the model is trained, the current attribute information of the target

financial product is input to the trained financial product grade model to obtain the corresponding financial product grade of the target financial product.

S304: a trend of the target financial product is acquired according to a current indicator state of the target financial product and a preset financial product trend model.

5 The indicator state includes one or both of the state of all indicators of the financial products and the relationship among these indicators. For example, the indicator state includes the relationship among moving averages of the financial products, whether the difference exponential average (DEA) being a positive value or a negative value, the relationship between the difference (DIF) and the difference exponential average (DEA), the relationship between stock prices and moving averages,
10 and the relationship among the stock price resistance line, the support line and the stock price average line. These indicators may have multiple relationships thereamong. For example, indicator 1 is greater than indicator 2, or is equal to indicator 2, or is smaller than indicator 2; or indicator 1 is equal to indicator 2 and has a decreased value. For example, the moving average in 5 days is greater than that in 10 days, DIF exceeds DEA from bottom up, and the distance between any two of the stock
15 price resistance line, the support line and the stock price average line becomes smaller.

 The current indicator state refers to the indicator state of the target financial product at the current moment. A history indicator state refers to the indicator state of a second financial product at a history moment before the current moment. It can be understood that the moment is a time point or a time period. The quantity of the indicator state at the current moment and the indicator state at the
20 history moment can be set as actually needed. A history trend corresponding to the history moment refers to an up-down trend, with respect to the history moment, of the second financial product within a period of time after the history moment. For example, if the history moment is December 15, 2016, the history trend corresponding to the history moment can be the up-down condition 3 days later, that is to say, whether the price of the financial product rises, falls, or fluctuates on December 18, 2016
25 with respect to December 15.

 The trend refers to an up-down trend of the financial products such as rising, falling or

fluctuation. Or, the trend refers to a probability of the up-down trend such as a rising probability of 80%. The fluctuation means that the price of the financial products is instable and rises or falls irregularly. The preset financial product trend model is obtained by performing model pre-training according to the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment. After the model is trained, the current indicator state of the target financial product is input to the trained financial product trend model to obtain the trend of the target financial product.

S306: an asset allocation strategy is acquired according to the financial product grade of the target financial product and the trend of the target financial product.

The asset allocation strategy refers to a suggestion on buying or selling one or more financial products. For example, if it is determined that a financial product held by the user has a low grade and a trend to fall, the user may be suggested to sell the financial product. As for a financial product which is not held by the user, an asset allocation strategy of suggesting on buying this financial product may be sent to the user if the financial product conforms to stock selection conditions of the user and has a high grade and a trend to rise. Clearly, as for a financial product which has been held by the user and has a high grade and a trend to rise, the user may be suggested to continue to buy this financial product.

In certain embodiments, the asset allocation strategy further includes a financial product transaction volume. The financial product transaction volume is determined according to the trend and/or the financial product grade of the target financial product, for example, by setting a corresponding relationship between the trend and the transaction volume or by setting a corresponding relationship between the financial product grade and the financial product transaction volume. With the increase of the rising probability of the trend, the buying volume increases; and with the increase of the grade of the financial product, the buying volume also increases. When the trend and the financial product grade of the target financial product are acquired, a corresponding financial product transaction volume can be acquired according to the corresponding relationship between the trend and the financial product transaction volume and/or the corresponding relationship

between the financial product grade and the financial product transaction volume.

It should be noted that there can be one or more first financial products, one or more second financial products, and one or more target financial products, and the first financial products, the second financial products and the target financial products are completely different, or completely identical, or partially identical. For example, information of thousands of stocks is acquired for training a model, and then the model is used for predicting stock A and stock B. Or, only the information of stock A is acquired for training a model, and then the model is used for predicting stock A.

The embodiments of the application have no limitation on the way of acquiring the target financial product. For example, the target financial product is acquired according to the type of risks acceptable for the user or is acquired randomly. Or, a certain financial product in a certain industry is selected by the user to serve as the target financial product.

S302 and S304 can be executed synchronously or sequentially. The execution sequence of S302 and S304 is set as actually needed, and the asset allocation strategy acquisition apparatus receives the execution sequence and implements S302 and S304 according to the execution sequence. For example, in order to reduce the calculation amount of the target financial product, the trend of the target financial product is acquired first, and the grade of the target financial product is acquired when the trend of the target financial product is rising. Or, the grade of the target financial product is acquired first, and the trend of the target financial product is acquired when the grade is higher than a preset grade, namely when the grade is high.

In one embodiment, the step S304 of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises: when the financial product grade of the target financial product is higher than or equal to a preset grade, a trend of the target financial product is acquired according to the current indicator state of the target financial product and the preset financial product trend model. The step S306 of acquiring an asset allocation strategy according to the financial product grade of the target financial

product and the trend of the target financial product comprises: when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising, an asset allocation strategy of buying the target financial product is acquired.

5 For example, in the case where a high grade, a medium grade and a low grade are set for the financial products, if the preset grade is medium, the current indicator state of the target financial product is input to the preset financial product trend model when the financial product grade acquired according to the financial product grade model is medium or high, so as to obtain the trend of the target financial product; and if the trend is rising, an asset allocation strategy of buying the target
10 financial product is acquired; or, if the acquired financial product grade of the target financial product is low, the trend of the financial product will not be predicted.

 According to the asset allocation strategy acquisition method, the financial product grade model is obtained by performing model pre-training according to the history attribute information of the first financial product and the financial product grade corresponding to the history attribute information,
15 and the financial product trend model is obtained by performing model pre-training according to the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment; because the attribute information and the indicator state of the financial products typically imply the grade and a subsequent up-down trend of the financial products, a rule of these data can be accurately found out by performing model training according to the history
20 attribute information and history indicator state of the financial products. On this basis, when an asset allocation strategy needs to be acquired, a financial product grade of a target financial product can be predicted according to current attribute information of the target financial product and the preset financial product grade model, a trend of the target financial product can be predicted according to a current indicator state of the target financial product and the preset financial product trend model, and
25 then a corresponding asset allocation strategy is acquired according to the financial product grade of the target financial product and the trend of the target financial product. In this way, the time spent in checking a large quantity of information is saved for users, and the accuracy of the acquired asset

allocation strategy is high.

In one embodiment, as shown in FIG. 4, the asset allocation strategy acquisition method further comprises the following steps:

5 S402: a history price time series of the second financial product within a preset time after the history moment is acquired, wherein the history price time series includes (n+1) prices.

The history price time series is a series of chronologically-ranked prices at the history moment and within a preset time after the history moment. The preset time is set as actually needed. The preset time after the history moment includes the history moment. Time intervals between the history prices are identical. For example, the history prices are daily closing prices in consecutive 7 days. For 10 another example, if the history moment is May 1, 2016 and the preset time is 7 days, the history price time series is a series of prices per day from May 1 to May 8, and there are totally 8 prices in this history price time series. If the price at the history moment is set as P_0 (namely the initial price is P_0) and the final price is set as P_n , the history price time series is expressed as $\{P_0, P_1, P_2, \dots, \text{and } P_n\}$.

15 S404: a trend judgment parameter is obtained by calculation according to the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient.

Wherein, the price standard fraction is obtained by dividing the difference between the $(n+1)^{\text{th}}$ price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, and the variation action coefficient is obtained by dividing 20 an absolute value of the difference between the t^{th} price and the first price in the history price time series by the sum of absolute values of the differences between the adjacent prices from the first price to the t^{th} price, wherein t is equal to n or $(n+1)$, and n is a positive integer. It can be understood that the $(n+1)^{\text{th}}$ price is a final price in the history price time series, and the first price is an initial price in the history price time series; and the price standard fraction A is formulated by formula (1), and if n is 25 equal to n , the variation action coefficient B is formulated by formula (2).

$$A = \frac{P_n - E(P)}{\sigma(P)} \quad \text{Formula (1)}$$

$$B = \frac{|P_{n-1} - P_0|}{\sum_{i=0}^{n-1} |P_{i+1} - P_i|} \quad \text{Formula (2)}$$

Wherein, P refers to the history price time series, P_n refers to the $(n+1)^{\text{th}}$ price (namely, the final price within the preset time), P_0 refers to the first price (namely, the price at the history moment, also the initial price), P_{i+1} refers to the $(i+2)^{\text{th}}$ price in the history price time series, and P_i refers to the $(i+1)^{\text{th}}$ price in the history price time series, wherein i is greater than or equal to 0 and is smaller than $(n-1)$. $E(P)$ is the average of the history price time series, and $\sigma(P)$ is the standard deviation of the history price time series.

As can be seen from formula (1), the location of the final price in the history price time series can be obtained by performing such conversion on the $(n+1)^{\text{th}}$ price; if A is greater than 0, it indicates that the final price is greater than the average of the history price time series; and if A is smaller than 0, it indicates that the final price is smaller than the average of the history price time series.

For example, in the case of $n=4$, formula (2) is explained as follows: suppose c_1 , c_2 and c_3 are respectively the difference between P_1 and P_0 , the difference between P_2 and P_1 , and the difference between P_3 and P_2 , P_1 , P_2 , and P_3 are respectively expressed as P_0+c_1 , $P_0+c_1+c_2$ and $P_0+c_1+c_2+c_3$, and formula (2) can be converted into formula (3); as can be seen from formula (3), B is smaller than or equal to 1 and is greater than or equal to 0; if B is equal to 1, it indicates that the price of the financial product is rising or falling all the time within this period of time; or if B is equal to other values, it indicates that the price of the financial product fluctuates. Therefore, the price fluctuation of the financial product can be determined according to the value of B.

$$B = \frac{|c_1 + c_2 + c_3|}{|c_1| + |c_2| + |c_3|} \quad \text{Formula (3)}$$

S406: a history trend corresponding to the history moment is acquired according to the trend

judgment parameter.

The history trend corresponding to the history moment refers to an up-down trend, with respect to the history moment, of the second financial product within a period of time after the history moment. In the case where the trend judgment parameter includes the price standard fraction, the history trend corresponding to the history moment is set as rising when the price standard fraction is greater than a preset threshold, and the history trend corresponding to the history moment is set as falling when the price standard fraction is smaller than the preset threshold. Or, in the case where the trend judgment parameter includes both the price standard fraction and the variation action coefficient, the history trend is determined according to the price standard fraction and the variation action coefficient.

In one embodiment, for the sake of a better prediction of the trend of the financial product by means of the obtained financial product trend model, it is necessary to select history data capable of obviously reflecting the trend to perform model training, and in this case, the step of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises: when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold, the acquired history trend corresponding to the history moment is rising; and when the absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold, the acquired history trend corresponding to the history moment fluctuates; and when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold, the acquired trend corresponding to the history moment is falling; wherein, the first preset threshold and the second preset threshold are greater than 0 and small than or equal to 1.

For example, when the first preset threshold is 0.1 and the second preset threshold is 0.4, if the price standard fraction of a second financial product is 0.5 and the variation action coefficient of the second financial product is 0.6, a rising trend is acquired.

In certain embodiments, when the second preset threshold is 0.5, the acquired trend sample model has a good prediction effect.

S408: the history indicate state of the second financial product at the history moment and the history trend corresponding to the history moment constitute training data, and model training is performed according to the training data to obtain a financial product trend model.

There may be one or more second financial products, and the quantity of the training data is set as actually needed, for instance, hundreds or tens of thousands of pieces of training data are acquired. Each piece of training data includes a history indicator state of one second financial product at a history moment and a corresponding history trend. There may be one or more history indicator states. For example, at a history moment of 12:55, June 16, 2016, the history indicator states may include the moving average in 5 days being greater than that in 10 days and DEA being greater than 0 and gradually exceeding DIF from bottom up, and the corresponding history trend is rising. After the training data is acquired, machine learning is performed according to the training data to obtain model parameters, and then the financial product trend model is obtained according to the model parameters.

The model obtained by means of machine learning is a support vector machine (SVM) classifier model, an artificial neural network (ANN) classifier model, a logistic regression (LR) classifier model, a hidden Markov model (HMM), or other classifier models. A kernel function adopted can be set as actually needed. For example, in one embodiment, a support vector machine is used to monitor machining learning, and the kernel function is a polynomial function.

In one embodiment, as shown in FIG. 5, the asset allocation strategy acquisition method further comprises the following steps:

S502: a first training sample set consisting of multiple first training samples is acquired, wherein each first training sample includes multiple pieces of history attribute information of the first financial product at the history moment and a financial product grade corresponding to a history attribute.

There may be one or more first financial products. The number of the first training samples in

the first training sample set is specifically set as actually needed, for example, there are hundreds or tens of thousands of first training samples in the first training sample set. Each first training sample includes multiple pieces of history attribute information and the corresponding financial product grade. For example, the history attribute information includes a price-earnings ratio of 5%, a price-cash flow ratio of 10%, a turnover rate of 20%, and the like, and the corresponding financial product grade is high. The grade of the financial products is manually marked or is obtained according to acquired financial product data on the basis of a related quantification formula.

In certain embodiments, the grade of the first financial product is determined according to a Sortino ratio, wherein the Sortino ratio refers to unit earnings obtained corresponding to per unit of downward fluctuation; and large unit earnings indicate more excess earnings or reference-based returns under the same falling risk. For example, the grade of is set to be high when the Sortino ratio is greater than a third preset threshold; and the grade is set to be not high when the Sortino ratio is smaller than a fourth preset threshold. The third preset threshold and the fourth preset threshold are set as particularly needed.

S504: model training is performed according to the first training sample set to obtain a financial product grade model.

After the first training sample set is acquired, machine learning is performed according to the first training sample set to obtain model parameters, and then the financial product grade model is obtained according to the model parameters.

The model obtained by means of machine learning is a support vector machine (SVM) classifier model, an artificial neural network (ANN) classifier model, a logistic regression (LR) classifier model, a hidden Markov model (HMM), or other classifier models. A kernel function adopted can be set as actually needed. For example, in one embodiment, a support vector machine is used to monitor machine learning, and the kernel function is a polynomial function.

As shown in FIG. 6, an asset allocation strategy acquisition apparatus is provided in one embodiment. The asset allocation strategy acquisition apparatus is integrated in the computer device

120 and particularly comprises a grade acquisition unit 602, a trend acquisition unit 604, and a strategy acquisition unit 606.

The grade acquisition unit 602 is used for acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset
5 financial product grade model.

The preset financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information.

The trend acquisition unit 604 is used for acquiring a trend of the target financial product
10 according to a current indicator state of the target financial product and a preset financial product trend model.

The preset financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment.

15 The strategy acquisition unit 606 is used for acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

In one embodiment, the trend acquisition unit 604 is used for acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is
20 higher than or equal to a preset grade. The strategy acquisition unit 606 is used for acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

According to the asset allocation strategy acquisition apparatus, the financial product grade
25 model is obtained by performing model pre-training according to the history attribute information of

the first financial product and the financial product grade corresponding to the history attribute information, and the financial product trend model is obtained by performing model pre-training according to the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment; because the attribute information and the indicator state of the financial products typically imply the grade and a subsequent up-down trend of the financial products, a rule of these data can be accurately found out by performing model training according to the history attribute information and history indicator state of the financial products. On this basis, when an asset allocation strategy needs to be acquired, a financial product grade of a target financial product can be predicted according to current attribute information of the target financial product and the preset financial product grade model, a trend of the target financial product can be predicted according to a current indicator state of the target financial product and the preset financial product trend model, and then a corresponding asset allocation strategy is acquired according to the financial product grade of the target financial product and the trend of the target financial product. In this way, the time spent in checking a large quantity of information is saved for users, and the accuracy of the acquired asset allocation strategy is high.

In one embodiment, as shown in FIG. 7, the asset allocation strategy acquisition apparatus further comprises a price time series acquisition unit 702, a trend judgment parameter calculation unit 704, a history trend acquisition unit 706, and a second model training unit 708.

The price time series acquisition unit 702 is used for acquiring a history price time series of the second financial product within a preset time after the history moment, wherein the history price time series includes $(n+1)$ prices.

The trend judgment parameter calculation unit 704 is used for acquiring a trend judgment parameter of the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient.

The history trend acquisition unit 706 is used for acquiring a history trend according to the trend

judgment parameter and a preset judgment rule.

The second model training unit 708 is used for forming training data by means of the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment and performing model training according to the training data to
5 obtain the financial product trend model.

In one embodiment, as shown in FIG. 8, the asset allocation strategy acquisition apparatus further comprises a first sample set acquisition unit 802 and a first model training unit 804.

The first sample set acquisition unit 802 is used for acquiring a first training sample set consisting of multiple first training samples, wherein each first training sample includes multiple
10 pieces of history attribute information of the first financial product at the history moment and a financial product grade corresponding to a history attribute.

The first model training unit 804 is used for performing model training according to the first training sample set to obtain a financial product grade model.

Part of all of the modules of the asset allocation strategy acquisition apparatus are implemented
15 by means of software, hardware, and the combination of software and hardware. Wherein, the network interface is an Ethernet card or a wireless network card. The aforesaid modules are embedded in the processor of the server in a hardware form, or are independent of the processor of the server, or are stored in the memory of the server in a software form, so as to be called by the processor to implement operations corresponding to these modules. The processor is a central processing unit
20 (CPU), a microprocessor, a single-chip microcomputer, or the like.

In one embodiment, the asset allocation strategy acquisition apparatus in this application is implemented in the form of a computer readable instruction which is able to run on the computer device shown in FIG. 2. The nonvolatile storage medium of the computer device is used for storing all the program modules of the asset allocation strategy acquisition apparatus, such as the grade
25 acquisition unit 602, the trend acquisition unit 604 and the strategy acquisition unit 606 in FIG. 6. Each program module includes a computer readable instruction used for instructing the computer

device to implement the corresponding steps of the asset allocation strategy acquisition method in the embodiments described in this specification. For example, the computer device acquires the financial product grade of the target financial product by means of the grade acquisition unit 602 shown in FIG. 6 according to the current attribute information of the target financial product and the preset financial product grade model, acquires the trend of the target financial product by means of the trend acquisition unit 604 according to the current indicator state of the target financial product and the preset financial product trend model, and acquires the asset allocation strategy by means of the strategy acquisition unit 606 according to the financial product grade of the target financial product and the trend of the target financial product.

In one embodiment, a computer device is provided. The internal structure of the computer device corresponds to the structure shown in FIG. 2. The computer device is a server or a terminal and comprises a memory, a processor, and a computer readable instruction which is stored in the memory and is able to run on the processor, and the processor executes the computer readable instruction to implement the following steps: acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information; acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

In one embodiment, the processor executes the computer readable instruction to further implement the following steps: acquiring a history price time series of the second financial product within a preset time after the history moment, wherein the history price time series includes $(n+1)$ prices; obtaining a trend judgment parameter by calculation according to the history price time series,

wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient; acquiring a history trend corresponding to the history moment according to the trend judgment parameter; and forming training data by means of the history indicator state of the second financial product at the history moment and the history trend
5 corresponding to the history moment and performing model training according to the training data to obtain the financial product trend model; wherein, the price standard fraction is obtained by dividing the difference between the $(n+1)^{\text{th}}$ price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an absolute value of the difference between the t^{th} price and the
10 first price in the history price time series by the sum of absolute values of the differences between the adjacent prices from the first price to the t^{th} price, t is equal to n or $(n+1)$, and n is a positive integer.

In one embodiment, the step of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises: obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the
15 variation action coefficient is greater than a second preset threshold; obtaining a fluctuating history trend corresponding to the history moment when the absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold; or obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is
20 greater than the second preset threshold; wherein, the first preset threshold and the second preset threshold are greater than 0 and small than or equal to 1.

In one embodiment, the step of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises: acquiring the trend of the target financial product according to the current indicator state
25 of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade. The step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and

the trend of the target financial product comprises: acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

In one embodiment, the step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product further comprises: determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.

In one embodiment, a storage medium having a computer readable instruction stored therein is provided. The computer readable instruction is executed by one or more processors to implement the following steps: acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information; acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

In one embodiment, the processor executes the computer readable instruction to further implement the following steps: acquiring a history price time series of the second financial product within a preset time after the history moment, wherein the history price time series includes $(n+1)$ prices; obtaining a trend judgment parameter by calculation according to the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient; acquiring a history trend corresponding to the history moment according to the trend judgment parameter; and forming training data by means of the

history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment and performing model training according to the training data to obtain the financial product trend model; wherein, the price standard fraction is obtained by dividing the difference between the $(n+1)^{\text{th}}$ price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an absolute value of the difference between the t^{th} price and the first price in the history price time series by the sum of absolute values of the differences between the adjacent prices from the first price to the t^{th} price, t is equal to n or $(n+1)$, and n is a positive integer.

In one embodiment, the step of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises: obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold; obtaining a fluctuating history trend corresponding to the history moment when the absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold; or obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold; wherein, the first preset threshold and the second preset threshold are greater than 0 and small than or equal to 1.

In one embodiment, the step of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises: acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade. The step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product comprises: acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

In one embodiment, the step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product further comprises: determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.

Those ordinarily skilled in the art would appreciate that part or all of the procedures of the method in above embodiments can be implemented by means of related hardware instructed by the computer readable instruction which is stored in a computer readable storage medium. When the computer program is executed, the procedures of the method in all the above embodiments can be implemented. Wherein, the storage medium is a nonvolatile storage medium such as a disk, a CD, or a read-only memory (ROM).

The technical characteristics of the above-mentioned embodiments can be randomly combined. For the sake of a brief description, not all possible combinations of the technical characteristics of the above-mentioned embodiments are illustrated. Clearly, all possible combinations of these technical characteristics achieved without causing contradictions should fall within the scope of this specification.

The above-mentioned embodiments which are specifically described in detail are only several illustrative ones and should not be regarded as limitations of the patent scope of this application. It should be noted that various transformations and improvements can be made by those ordinarily skilled in the art without deviating from the concept of this application, and all these transformations and improvements should also fall within the protection scope of this application. Therefore, the patent protection scope of this application should be subject to the appended claims.

CLAIMS

1. An asset allocation strategy acquisition method, comprising:

acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

2. The method according to Claim 1, wherein the method further comprises:

acquiring a history price time series of the second financial product within a preset time after the history moment, wherein the history price time series includes $(n+1)$ prices;

obtaining a trend judgment parameter by calculation according to the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient;

acquiring the history trend corresponding to the history moment according to the trend judgment parameter; and

forming training data by means of the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment and performing model training according to the training data to obtain the financial product trend model;

wherein, the price standard fraction is obtained by dividing the difference between a $(n+1)$ th price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an absolute value of the difference between a t th price and a first price in the history price time series by the sum of absolute values of the differences between adjacent prices from the first price to the t th price, t is equal to n or $(n+1)$, and n is a positive integer.

3. The method according to Claim 2, wherein the step of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises:

obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold;

obtaining a fluctuating history trend corresponding to the history moment when an absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold; or

obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold;

wherein, the first preset threshold and the second preset threshold are greater than 0 and small than or equal to 1.

4. The method according to Claim 1, wherein the step of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises:

acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade;

the step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product comprises:

acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

5 5. The method according to Claim 4, wherein the step of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product further comprises:

10 determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.

6. An asset allocation strategy acquisition apparatus, comprising:

15 a grade acquisition unit used for acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

20 a trend acquisition unit used for acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

a strategy acquisition unit used for acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

7. The apparatus according to Claim 6, wherein the apparatus further comprises:

25 a price time series acquisition unit used for acquiring a history price time series of the second

financial product within a preset time after the history moment, wherein the history price time series includes $(n+1)$ prices;

a trend judgment parameter calculation unit used for obtaining a trend judgment parameter by calculation according to the history price time series, wherein the trend judgment parameter includes
5 a price standard fraction or includes a price standard fraction and a variation action coefficient;

a history trend acquisition unit used for acquiring the history trend corresponding to the history moment according to the trend judgment parameter; and

a second model training unit used for forming training data by means of the history indicator state of the second financial product at the history moment and the history trend corresponding to the
10 history moment and performing model training according to the training data to obtain the financial product trend model;

wherein, the price standard fraction is obtained by dividing the difference between a $(n+1)$ th price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an
15 absolute value of the difference between a t th price and a first price in the history price time series by the sum of absolute values of the differences between adjacent prices from the first price to the t th price, t is equal to n or $(n+1)$, and n is a positive integer.

8. The apparatus according to Claim 7, wherein the history trend acquisition unit is particularly used for:

20 obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold;

obtaining a fluctuating history trend corresponding to the history moment when an absolute value the price standard fraction is smaller than the first preset threshold and the variation action
25 coefficient is smaller than the second preset threshold; or

obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold;

wherein, the first preset threshold and the second preset threshold are greater than 0 and small
5 than or equal to 1.

9. The apparatus according to Claim 6, wherein trend acquisition unit is particularly used for:

acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade;

10 strategy acquisition unit is particularly used for:

acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

10. The apparatus according to Claim 9, wherein strategy acquisition unit is also used for:

15 determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.

11. A computer device, comprising a memory and a processor, wherein a computer readable instruction is stored in the memory, and the processor executes the computer readable instruction to implement the following steps:

20 acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

5 acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

12. The computer device according to Claim 11, wherein the processor further implements the following steps:

acquiring a history price time series of the second financial product within a preset time after the
10 history moment, wherein the history price time series includes (n+1) prices;

obtaining a trend judgment parameter by calculation according to the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard fraction and a variation action coefficient;

acquiring the history trend corresponding to the history moment according to the trend judgment
15 parameter; and

forming training data by means of the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment and performing model training according to the training data to obtain the financial product trend model;

wherein, the price standard fraction is obtained by dividing the difference between a (n+1)th
20 price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an absolute value of the difference between a tth price and a first price in the history price time series by the sum of absolute values of the differences between adjacent prices from the first price to the tth price, t is equal to n or (n+1), and n is a positive integer.

25 13. The computer device according to Claim 12, wherein the step, implemented by the

processor, of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises:

obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold;

obtaining a fluctuating history trend corresponding to the history moment when an absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold; or

obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold;

wherein, the first preset threshold and the second preset threshold are greater than 0 and small than or equal to 1.

14. The computer device according to Claim 11, wherein the step, implemented by the processor, of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises:

acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade;

the step, implemented by the processor, of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product comprises:

acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

15. The computer device according to Claim 14, wherein the step, implemented by the processor, of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product further comprises:

5 determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.

16. One or more nonvolatile readable storage media, having a computer readable instruction stored therein, wherein the computer readable instruction is executed by one or more processors to implement the following steps:

10 acquiring a financial product grade of a target financial product according to current attribute information of the target financial product and a preset financial product grade model, wherein the financial product grade model is obtained by performing model pre-training according to history attribute information of a first financial product and a financial product grade corresponding to the history attribute information;

15 acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model, wherein the financial product trend model is obtained by performing model pre-training according to a history indicator state of a second financial product at a history moment and a history trend corresponding to the history moment; and

acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product.

20 17. The storage medium according to Claim 16, wherein the processor also implements the following steps:

acquiring a history price time series of the second financial product within a preset time after the history moment, wherein the history price time series includes (n+1) prices;

25 obtaining a trend judgment parameter by calculation according to the history price time series, wherein the trend judgment parameter includes a price standard fraction or includes a price standard

fraction and a variation action coefficient;

acquiring the history trend corresponding to the history moment according to the trend judgment parameter; and

forming training data by means of the history indicator state of the second financial product at the history moment and the history trend corresponding to the history moment and performing model training according to the training data to obtain the financial product trend model;

wherein, the price standard fraction is obtained by dividing the difference between a $(n+1)$ th price in the history price time series and an average of the history price time series by a standard deviation of the history price time series, the variation action coefficient is obtained by dividing an absolute value of the difference between a t th price and a first price in the history price time series by the sum of absolute values of the differences between adjacent prices from the first price to the t th price, t is equal to n or $(n+1)$, and n is a positive integer.

18. The storage medium according to Claim 17, wherein the step, implemented by the processor, of acquiring a history trend corresponding to the history moment according to the trend judgment parameter comprises:

obtaining a rising history trend corresponding to the history moment when the price standard fraction is greater than a first preset threshold and the variation action coefficient is greater than a second preset threshold;

obtaining a fluctuating history trend corresponding to the history moment when an absolute value the price standard fraction is smaller than the first preset threshold and the variation action coefficient is smaller than the second preset threshold; or

obtaining a falling history trend corresponding to the history moment when the price standard fraction is smaller than the first preset threshold and the variation action coefficient is greater than the second preset threshold;

wherein, the first preset threshold and the second preset threshold are greater than 0 and small

than or equal to 1.

19. The storage medium according to Claim 16, wherein the step, implemented by the processor, of acquiring a trend of the target financial product according to a current indicator state of the target financial product and a preset financial product trend model comprises:

5 acquiring the trend of the target financial product according to the current indicator state of the target financial product and the preset financial product trend model when the financial product grade of the target financial product is higher than or equal to a preset grade;

10 the step, implemented by the processor, of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product comprises:

acquiring an asset allocation strategy of buying the target financial product when the financial product grade of the target financial product is higher than or equal to a preset grade and the trend of the target financial product is rising.

15 20. The storage medium according to Claim 19, wherein the step, implemented by the processor, of acquiring an asset allocation strategy according to the financial product grade of the target financial product and the trend of the target financial product further comprises:

determining a transaction volume corresponding to the target financial product according to the trend of the target financial product and/or the financial product grade of the target financial product.