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Formation of the Relationship Between the Exchange Rate and the Investment Yield of Pension Assets in Kazakhstan: Causes and Consequences

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ABSTRACT

The efficiency of pension asset management, reflected in their performance, determines the stability of the funded pension system of Kazakhstan, and also has the potential to significantly affect the budget process, since the state guarantees recipients a positive real return on their pension savings and compensates from the budget for losses incurred during periods when inflation exceeds the nominal rate of return. The need to ensure a positive real return on pension assets managed by the National Bank of Kazakhstan determines not only the high **relevance** of the issue of investment management itself, but also other aspects that affect the return, including changes in the exchange rate of the Kazakhstani tenge. The **subject** of the article is the impact of the tenge exchange rate on the profitability of pension assets, which can be very significant, since it forms one of the main components of investment income — income from foreign currency revaluation. This influence can also act as a factor in the formation of the tenge exchange rate during periods when the real return of pension assets decreases due to the negative situation in the financial markets and high inflation, and this thesis reflects the **scientific novelty** of the article. The assessment of the hypothesis about the formation of the relationship between the exchange rate of the Kazakhstani currency and the investment yield of pension assets is the **aim** of this work, and the identification of the main causes and consequences of this phenomenon is its **task**. Comparative and correlation analysis of indicators of investment return of pension assets, changes in the exchange rate of the Kazakhstani currency, parameters of the external sector and others were used as research **methods**. The **results** of the analysis confirm the existence of a relationship between the indicators of profitability of pension assets and the tenge exchange rate, and allow us draw the **conclusion** that this profitability has an indirect impact on the formation of the Kazakhstani currency exchange rate over the past few years, which has been characterized by non-standard dynamics in the context of a significant improvement in the external economic environment.

Keywords: pension assets; return on pension assets; investment portfolio; inflation; currency market; tenge exchange rate; revaluation of foreign currency; payment balance

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INTRODUCTION

In recent years, Kazakhstan has experienced a decline in the relationship between external sector indicators such as exports, trade balance, current account balance, and the tenge's national currency exchange rate. The positive relationship between these factors and currency exchange rates has been extensively researched and supported by various theoretical studies [1–3]. In particular, R. Dornbusch and S. Fischer [4] are considering factors influencing the exchange rate, such as commodity prices, market participants' expectations and the price of financial assets, which justified the particular importance of the current balance of payments account in this process, while R. Baldwin and P. Krugman [5] identified the influence of cross-border investment flows on the rate of exchange. Empirical studies have additionally confirmed the importance of external sector indicators in the formation of the exchange rate [6, 7] (in particular, A. G. Schulgin et al. [8] revealed the effect of trade balance on exchange-rate adjustments in countries with intermediate currency regimes), including for different types of economies and currency market conditions, such as ASEAN countries [9], India [10], Germany [11], China [12], and Turkey [13]. In the countries with the transit economy, this relationship is also identified by a number of authors [14–16], as well as in the post-Soviet states [17, 18] — in particular, A. Yu. Kuzmin [19, p. 19] as "one of the most important factors of the behavior of the exchange rate of the ruble", which identifies capital movements that form the balance of the current account.

In Kazakhstan, there has been a relationship between external sector indicators and, to a significant part, oil prices, the country's main export commodity for a long time. However, this relationship has been gradually deforming since 2018, as shown by the stable fall in the exchange rate of the Kazakh currency despite changes in external sector variables, particularly during periods of significant improvement.

This new reality on the Kazakhstan foreign exchange market contributed to the conclusion that new and stronger variables influencing the development of the tenge exchange rate are growing. One of these issues, in our opinion, is need to maintain a positive real return on pension assets concentrated in Kazakhstan's Unified Accumulative Pension Fund (UAPF).

Assessment of the hypothesis of the formation of interdependence between Kazakhstan's exchange rate of currency and the return on investment of pension assets is the purpose of this paper, as is the identification of the causes and consequences of this phenomenon and its tasks.

ACCUMULATIVE PENSION SYSTEM OF KAZAKHSTAN: RETURN OF PENSION ASSETS AND MAIN FACTORS OF ITS FORMATION

Kazakhstan implemented pension reform in 1998, after which the country operates a three-level pension system, which includes pension payments from the state budget (solidarity and basic pensions), a compulsory accumulative system and a voluntary accumulative system. The main element of the accumulative system is the Unified Accumulative Pension Fund (further — UAPF), which operates in the form of a joint-stock company. The UAPF is a state-owned organization, and the National Bank of Kazakhstan manages almost all pension savings accumulated in it.[1] "UAPF" JSC was established on 22 August 2013 on the basis of the State Accumulative Pension Fund as part of the reform of the accumulative pension system, during which the compulsory pension savings of all previously existing accumulated pension funds were transferred

[1] In 2021, four non-governmental portfolio managers were admitted to the management of a portion of the UAPF pension assets, but they currently account for only about 0.1% of the portfolio.

to the UAPF. As a result, at present, "the only administrator of the cumulative pension system is the "UAPF" JSC,[2] and all pension savings resulting from the compulsory pension contributions paid by citizens are concentrated in this financial institution.

Thus, UAPF is a critical element of the social security system of Kazakhstan, in connection with which the efficiency of management of concentrated pension assets, which is reflected in the indicators of their returns, is of particular importance. The return on pension assets during the full eight years of operation of the UAPF ranged from 6.31% to 15.65%; the average for that period was 9.72%. This indicator reflects nominal yields, but in Kazakhstan, the real yield indicator, defined as the difference between nominal yield and inflation, is also important. This is due to the fact that in the country, at the legislative level,[3] UAPF depositors, whose assets are managed by the National Bank, are guaranteed the preservation of compulsory pension contributions with the level of inflation. In practice, this means that if the return on pension assets under the management of the National Bank[4] is less than the level of inflation, the State will compensate for this difference for the relevant years in the process of implementing pension payments.

During the UAPF's eight years of operation, the nominal return on pension assets generally exceeded inflation, resulting in a positive real return (*Fig. 1*). Except for 2014, in which fund formation processes continued (asset consolidation after transfer from other funds was completed at the end of the first quarter) and the National Bank managed its assets for a partial year, negative real return occurred only in 2016.

Negative real returns in 2014 and 2016 were low, but the State had an obligation to compensate for the difference between pension asset returns and inflation. Currently, the costs are moderate. Thus, in 2021, the budget cost of payment of obligations under the state guarantee of security of pension contributions to the UAPF amounted to 1 420 mln tenge, which is equivalent to 0.05% of the amount of pensions paid by the state. However, if you compare these costs not with state pension payments, but with payments from the UAPF within the framework of the accumulation system, the result will be more significant. In 2021, pension payments from the UAPF by age (payment of pensions as such) amounted to 101.4 bln tenge[5] and in comparison, with this indicator, the amount of compensation for maintenance of pension contributions is noticeable, amounting to 1.4%.

The scale of state compensation for negative real returns on pension assets depends on two main parameters: the amount of pension assets in the UAPF and the level of pension payments. In 2014 and 2016, when negative real returns were recorded, the amount of pension savings amounted to 4.5 and 6.7 trn tenge respectively. According to the results of 2021, this indicator reached 13.1 bln tenge. The potential state cost of compensation in the framework of guaranteeing their preservation grows in combination with the increase in savings. Another parameter on which these costs depend is the amount of pension payments, which also increases steadily as the number of pension recipients increases within the accumulative system. If in 2014 the amount of pension payments from UAPF amounted

[2] Corporate strategy of development of the joint stock company "Unified Accumulative Pension Fund" for 2022–2026. Website of "UAPF" JSC. URL: https://www.enpf.kz/upload/medialibrary/ d00/d00545312c8329e5dca249cd8498b31e.pdf (accessed on 19.07.2022).

[3] In accordance with paragraph 1 of article 5 of the Law of the Republic of Kazakhstan "On Pension Provision in the Republic of Kazakhstan".

[4] The State is not responsible for the security of pension savings transferred by depositors to the management of non-State management companies.

[5] UAPF summarized preliminary results for 2021. Key indicators of UAPF as at 1 January 2022. URL: https://www.gov.kz/memleket/entities/zhetysu-zhambyl/press/article/details/72656?lang=ru (accessed on 19.07.2022).

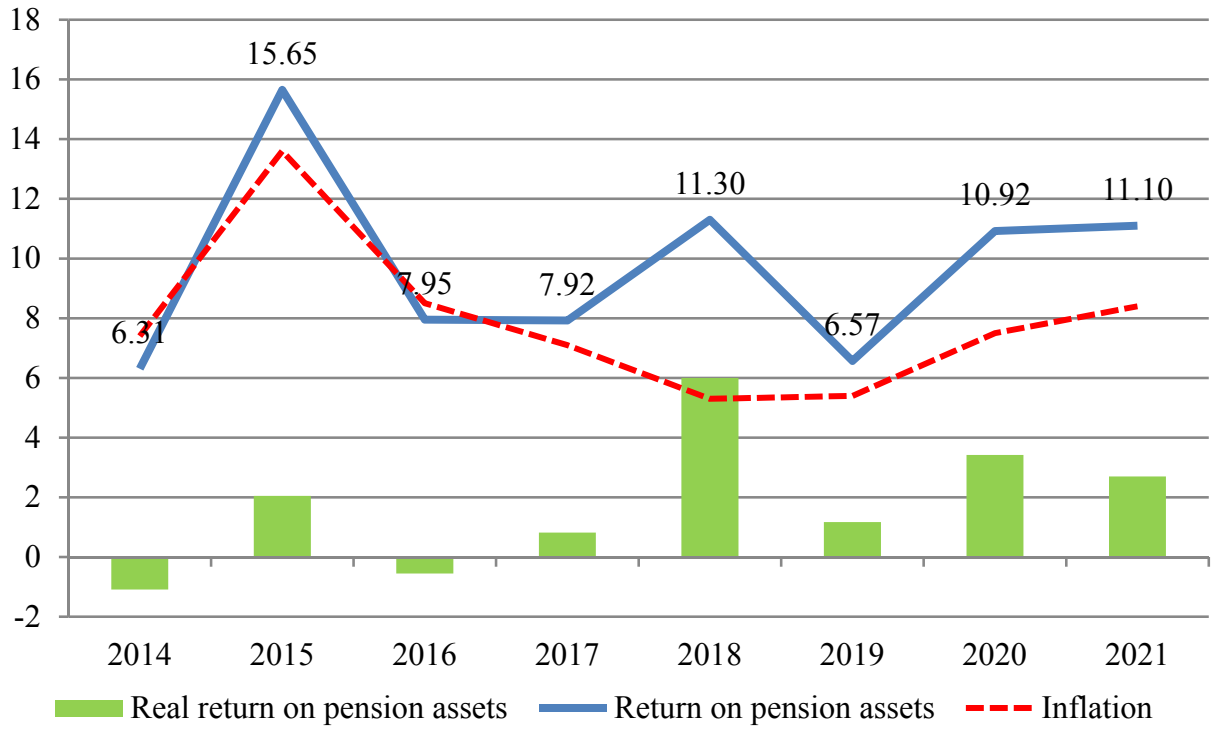

Fig. 1. **Return on UAPF Pension Assets Compared to Inflation, %**

Source: Compiled by the author from "UAPF" JSC data.

to 93 bln tenge, then in 2021 — already 2 883 bln.[6] The budget cost of compensation also grows proportionately. Given the increasing amount of pension savings and payments, the cost of errors in the management of pension assets is rising significantly, and achieving positive real returns on them is a critical task in the context of ensuring the long-term stability of the budget process.

Meanwhile, rising turbulence in global financial markets has made it increasingly difficult to get significant yields on pension assets, especially considering that pension funds have generally followed conservative investment strategies that do not include high yields. Both developed-country [20–24] and emerging-market [25–28] funds use the strategy of positioning pension assets in order to minimize investment risks. UAPF is also focused on investments in low-risk financial instruments (government securities, bonds, deposits), whose total share in the fund's portfolio is about 90%.

This practice makes it difficult to exceed inflation through returns on pension assets. In most developed economies and in a large part of developing economies, the real return on pension assets is low. A study by the World Bank for 2000–2005 showed that the average real return on pension assets during this period for the US was 1.5% per annum, for Canada— 3.5%, for the UK — 1.9%, for Western Europe — 2%, for Brazil — 2.7%, for Japan— 4.8%, that is, was fairly moderate. Although in some countries (Bolivia, Peru, Uruguay, Poland) the real yield was around 10% [27]. OECD data for 2020 demonstrate moderate real returns for pension funds from the Organization countries, most of which were below 5%, and some (Australia, the Czech Republic, Poland) were negative (OECD, 2021[7]).

[6] Indicators on pension assets in dynamics. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/pa/current.php (accessed on 21.07.2022).

[7] PENSION FUNDS IN FIGURES. OECD, JUNE 2021. URL: https://www.oecd.org/daf/fin/private-pensions/Pension-Funds-in-Figures-2021.pdf (accessed on 22.07.2022).

GROWTH IN THE SHARE OF FOREIGN FINANCIAL INSTRUMENTS IN THE UAPF PORTFOLIO AND FORMING THE RELATION BETWEEN ITS REVENUE AND TENGE EXCHANGE RATE

The limited opportunities for increasing returns, as well as the inadequate development of the domestic market of equity and debt securities in Kazakhstan, together with the rapid growth of the amount of pension assets, exceeding the capabilities of the local market, caused the rapid increase of UAPF investments in foreign financial instruments (*Fig. 2*). If at the beginning of 2015 (the first full year of operation of UAPF), the share of foreign exchange instruments in the portfolio of the fund was 11.86%, and their volume was 536 bln tenge,[8] then at 1 January 2022, these figures were measured, respectively, 32.7% and 4 277 bln tenge.[9]

The growth of the share of foreign exchange financial instruments in the investment portfolio of UAPF, which since 2018 has remained above 30% (the average for the last four years was 31.1%), has been accompanied by an increase in the real return on pension assets. From 2018 to 2021, this indicator was only positive, ranging from 1.2% to 6%, and the average for these four years was 3.3%. In the UAPF's first four years of operation, when the share of foreign exchange financial instruments in its portfolio was significantly lower, two years of positive real return on pension assets were followed by two years of negative return, with a four-year average of only 0.3% (*Fig. 3*).

The increase in the return on pension assets over the past four years could be explained in part by the fact that the expansion of the range of financial instruments through more active investments in foreign markets has enabled additional revenue to be generated. However, in our view, this factor of yield formation did not play a significant role in its increase. The UAPF portfolio contains a very small proportion of high-volatility securities (shares, depositary receipts) that provide a high rate of return. This is largely due to the low contribution of market revaluation earnings to the UAPF's total investment earnings. The share of this component in investment income during 2015–2021 ranged from 5.1% to 10.5%, and the seven-year average was 2.6%.[10]

The revenue from foreign currency revaluation has had a significantly higher influence on the increase in the volume of investment revenue. The total income for the eight-and-a-half-year period (from 2014 to the first half of 2022) was approximately 1.5 trn tenge, and the average share of total investment income for that period was 22.5%.[11] Thus, the revaluation of currencies yields a higher return on investment due to the exchange rate difference than the revaluation of securities.

A significant percentage of revenue from foreign currency revaluation, which for the period of operation of the UAPF represents almost a quarter of its total investment income, means that the final financial result depends on this component. Accordingly, the positive real return on pension assets is largely due to the availability and size of currency revaluation income. Thus, in 2016, when the National Bank allowed a single decline in the real return on pension assets below zero, the revaluation of the currency also brought the largest loss in seven

[8] Information on investment management of pension assets of "UAPF" JSC for December 2014. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/invest/review.php#2022 (accessed on 22.07.2022).

[9] Information on investment management of pension assets of "UAPF" JSC for 1 January 2022. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/invest/review.php#2022 (accessed on 22.07.2022).

[10] Calculated from data from the following sources: Information on investment management of pension assets of "UAPF" JSC for 2014–2022. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/invest/review.php#2022 (accessed on 22.07.2022).

[11] Calculated from data from the following sources: Information on investment management of pension assets of "UAPF" JSC for 2014–2022. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/invest/review.php#2022 (accessed on 22.07.2022).

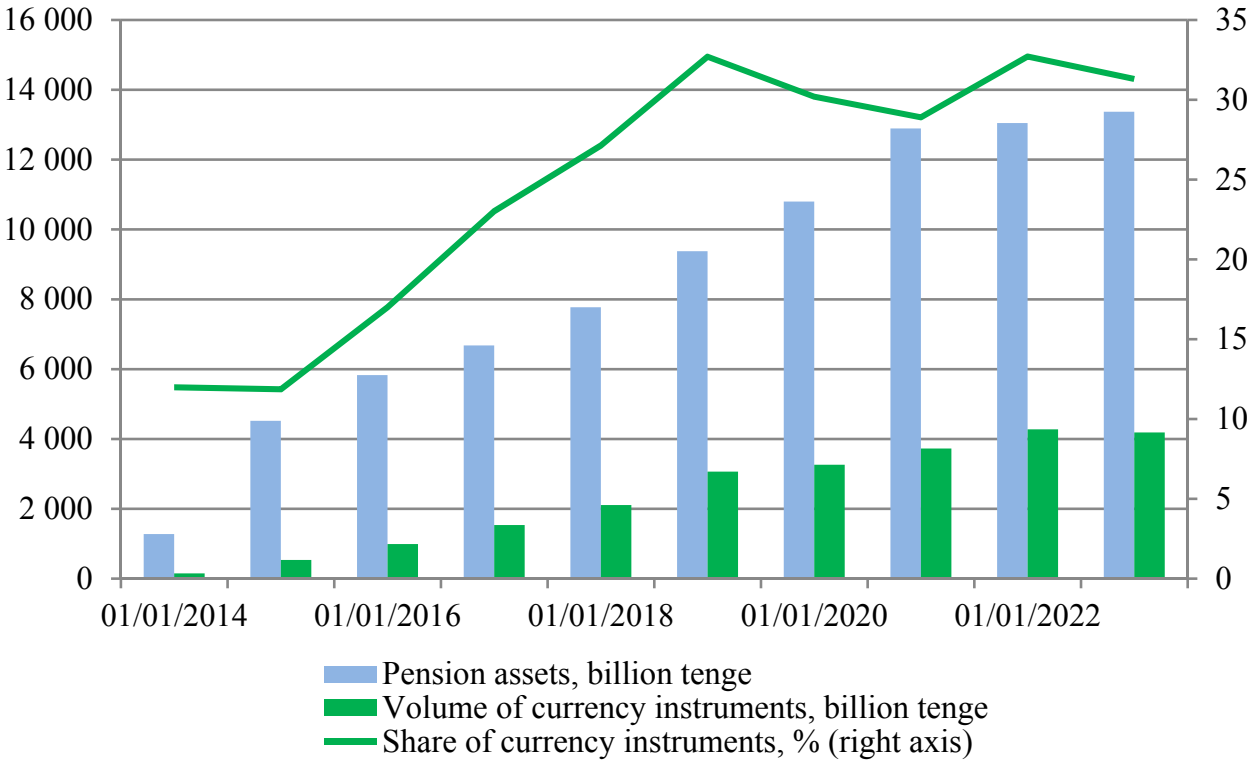

Fig. 2. **Dynamics of the Volume and Net Weight of Pension Assets Invested in Foreign Currency Financial Instruments Compared to the Total Volume of UAPF Pension Assets**

Source: Compiled by the author from "UAPF" JSC data.

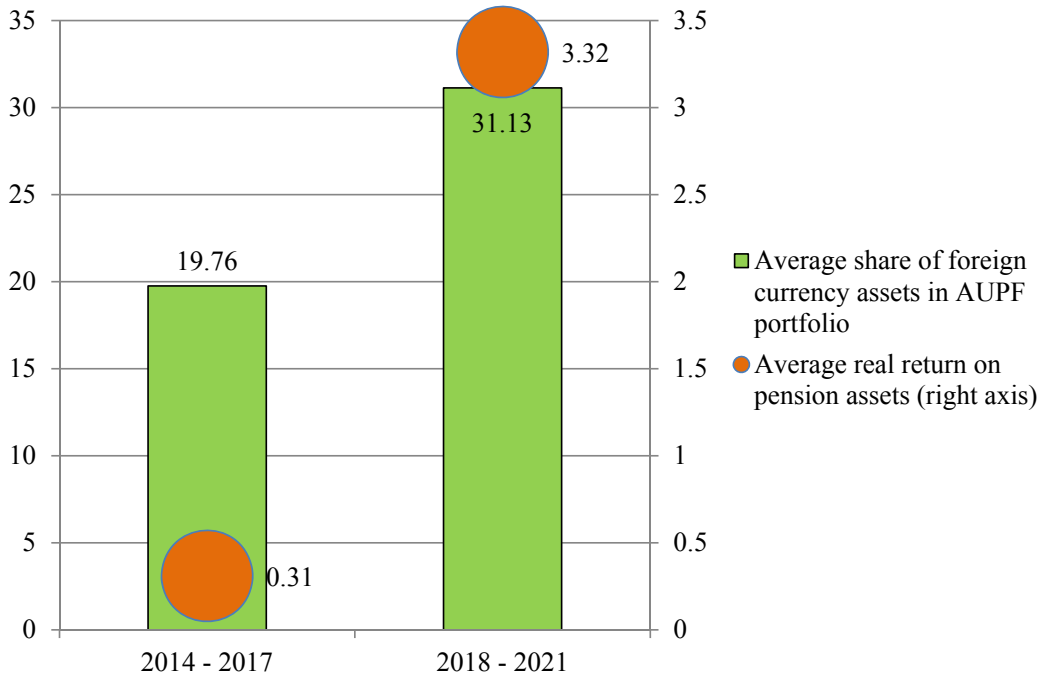

Fig. 3. **Real Return on UAPF Pension Assets and the Share of Foreign Currency Financial Instruments in the Portfolio, %**

Source: Compiled by the author from "UAPF" JSC data.

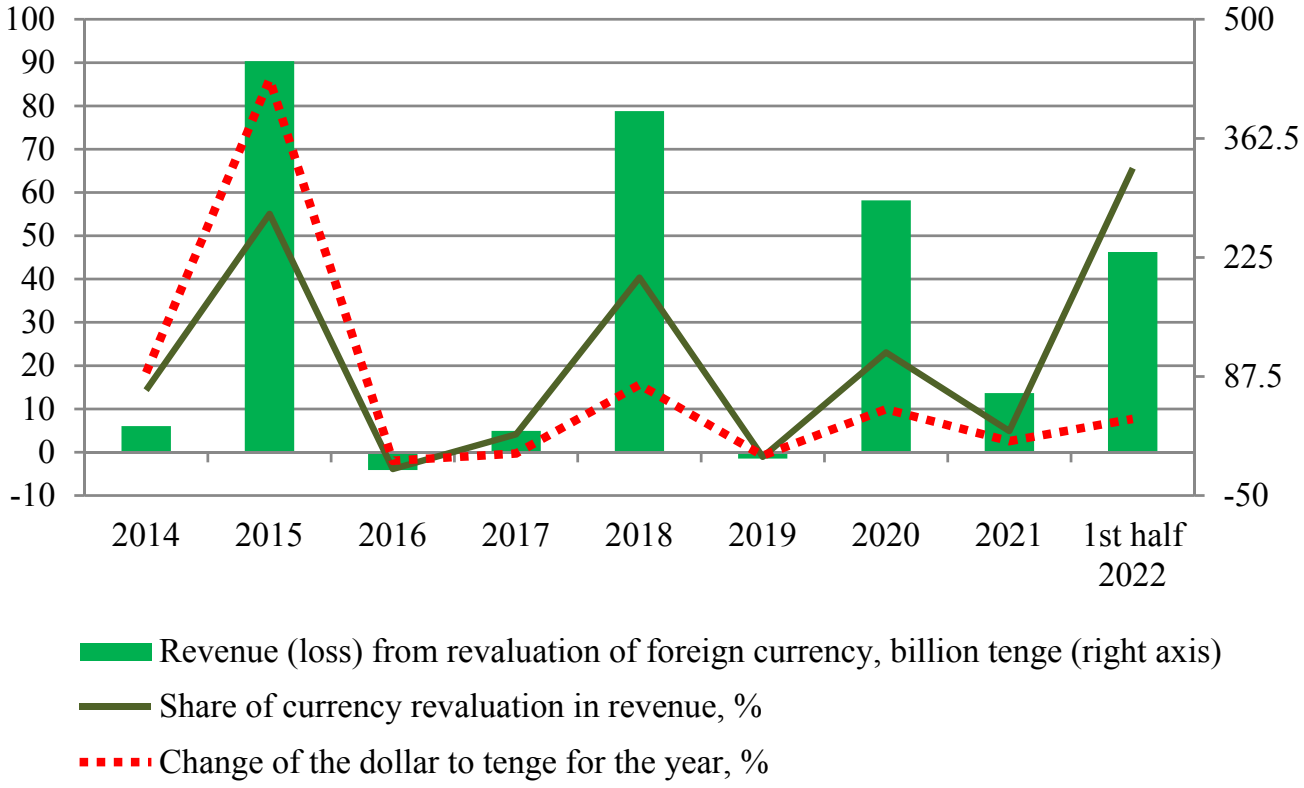

Fig. 4. **Comparative Dynamics of Indicators of Income from Currency Revaluation and Changes in the Exchange Rate of the US Dollar Against Tenge**

Sources: Compiled by the author from "UAPF" JSC and National bank of Kazakhstan data.

full years of its management of the UAPF portfolio. The relationship between revenue from foreign currency revaluation and return on pension assets is also confirmed by the high correlation factor between these indicators at the level of 0.86 for the period from 2014 to 2021.

In its turn, the revenue from the revaluation of the currency, UAPF is formed primarily by the change in the tenge exchange rate. Thus, in 2020, net profit from foreign currency transactions of 290.9 bln tenge was formed by exchange rate difference of 291 bln tenge and loss from trade operations of 81 mln tenge.[12] The exchange rate difference results from a change in the tenge to other currencies in which the currency part of pension assets is invested. The predominant foreign currency in this case is the US dollar, which accounts for almost the entire amount of investment of pension savings in foreign currencies. So, at 1 July 2022, the share of the dollar in foreign exchange assets was 99.7%.[13] Accordingly, a change in the tenge against the US dollar leads to a difference in the exchange rate and, as a consequence, an investment return or loss from the revaluation of foreign currency. The relationship between the change in the US dollar to the tenge, the amount of revenue from currency revaluation, and the percentage weight of this revenue in the total

[12] Joint Stock Company "Unified Accumulative Pension Fund". Assets of the pension system. Financial statements and audit report of the independent auditor for the year ended 31 December 2020. p. 22. Website of "UAPF" JSC. URL: https://www.enpf.kz/upload/medialibrary/a32/a326c3b53c580bd54d45e19b2b3daffb.PDF (accessed on 25.07.2022).

[13] Information on investment management of pension assets of "UAPF" JSC for 1 July 2022. p. 4. Website of "UAPF" JSC. URL: file:///C:/Users/Первый/Downloads/guid=b7379b3f-e4e4-4ed7-88a0-efdfc57c5161%20(4).pdf (accessed on 25.07.2022).

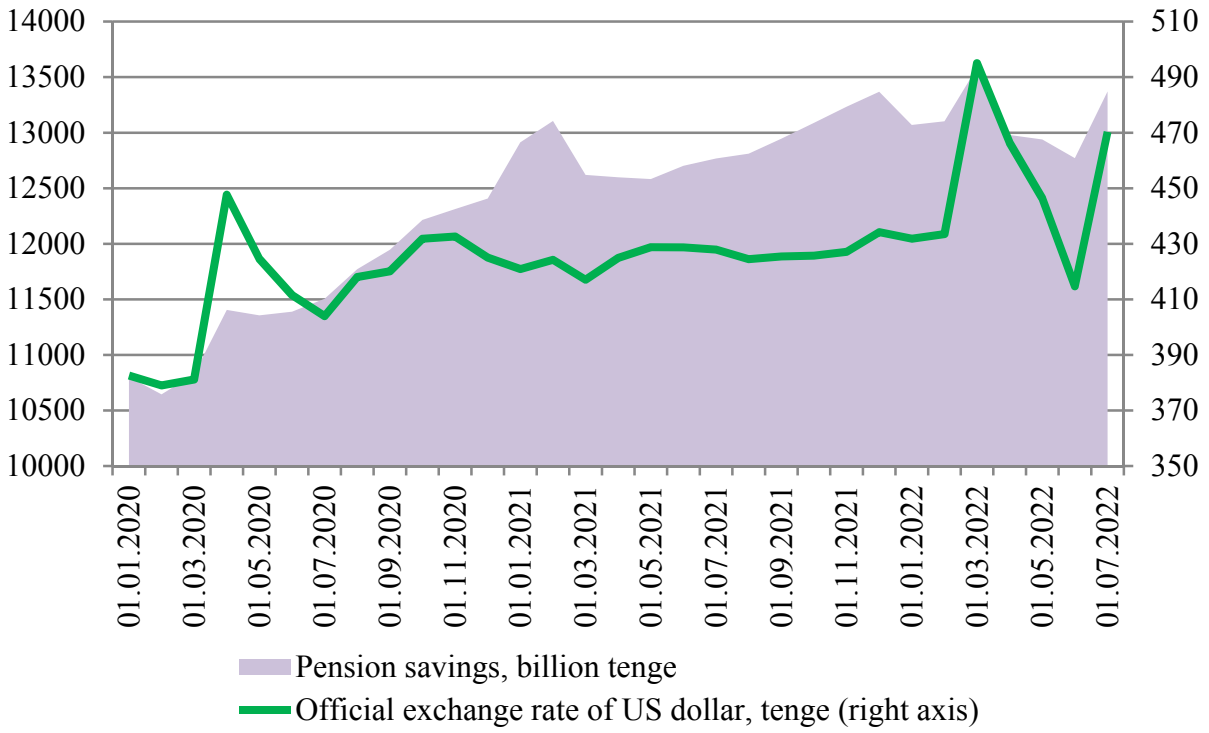

Fig. 5. **Comparative Dynamics of the Volume of Pension Assets of the UAPF and the Exchange Rate of the US Dollar Against Tenge**

Sources: Compiled by the author from "UAPF" JSC and National Bank of Kazakhstan data.

investment income on pension assets are reflected in the graphs (*Fig. 4*).

The graphs demonstrate the relationship between the change in the tenge rate and the revenue (or losses) from currency revaluation, as well as its importance in the formation of the UAPF's investment return. This correlation indicates the availability of revenues during tenge devaluation periods and the development of losses from currency revaluation during tenge strength years (2016 and 2019). The emergence of this relationship and its strengthening as the share of foreign exchange instruments in the assets of the UAPF increased, also formed a more general dependence of the return on pension assets as a whole on the change in the tenge rate. At the same time, it should be noted that the exchange rate difference, which forms the revenue from the revaluation of the currency, arises as a consequence of the change in the value of pension assets; that is, the change in the tenge rate affects not only their yield, but also their volume. The devaluation of the tenge increases the volume of pension assets, and the strengthening of tenge reduces it. The influence of the tenge on pension assets has been more visible at short intervals in recent years, when the share of foreign exchange instruments in the UAPF portfolio exceeded 30%. The dynamics of the tenge and the amount of UAPF pension assets at monthly intervals from 1 January 2020 to 1 July 2022 — during the period when the average value of the net weight of foreign assets was 31.2% — reflects the existence of a correlation between these indicators (*Fig. 5*).

More significant changes in the amount of pension assets unfolded during periods of strong tenge rate fluctuations. This relationship is confirmed by a rather strong correlation factor (0.7) between the data variables in the time period under research. It is these changes in the value of assets associated with fluctuations in the tenge exchange rate that have largely determined

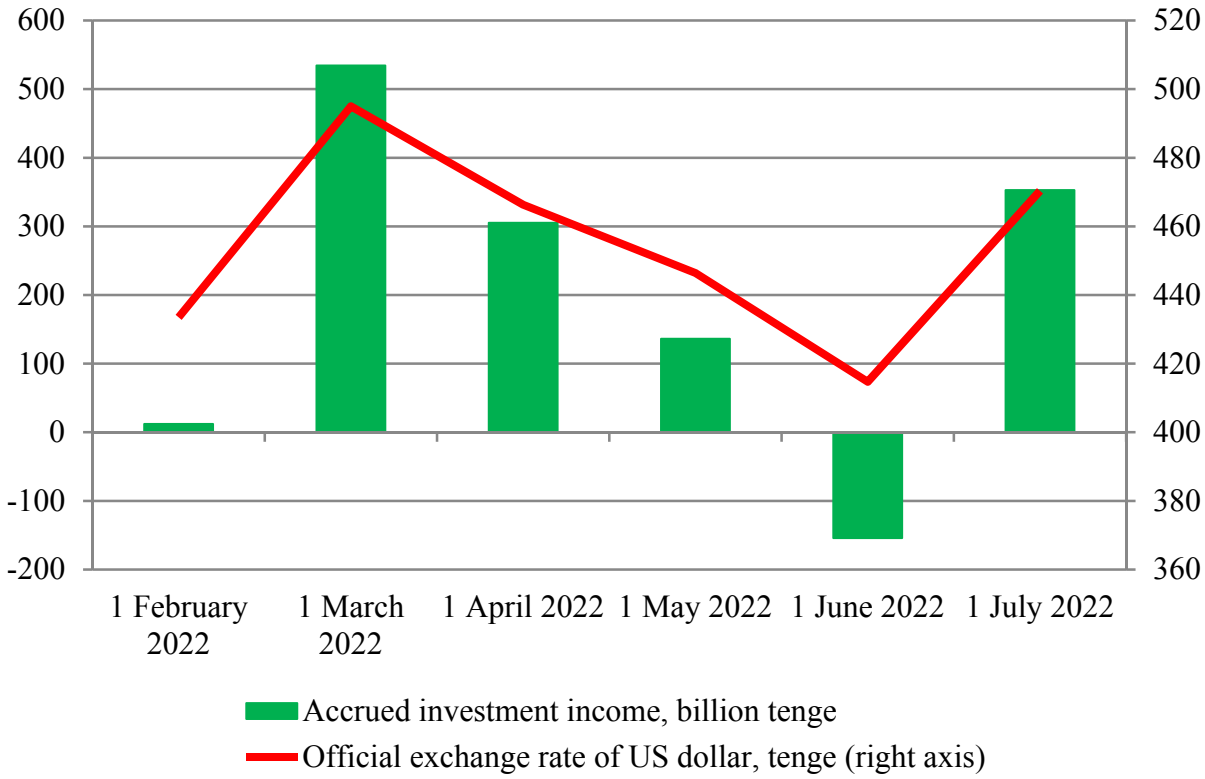

Fig. 6. **Dependence of Investment Income (Loss) of UAPF on the Dollar/Tenge Exchange Rate in the First Half of 2022**

Sources: Compiled by the author from "UAPF" JSC and National Bank of Kazakhstan data.

the dynamics of the volume of investment returns (losses) of the UAPF through the revaluation of the currency. The relationship between this indicator and the dollar to the tenge was pronounced during periods of high volatility in the Kazakhstan foreign exchange market, in particular, in the first half of 2022 (*Fig. 6*).

RELATION BETWEEN RETURN PENSION ASSETS AND TENGE EXCHANGE RATE AND ITS CONSEQUENCES FOR THE CURRENCY MARKET OF KAZAKHSTAN

Thus, it can be noted that there is a significant relationship between the situation in the domestic currency market of Kazakhstan and the parameters of the cumulative pension system, which arose as a result of the increase in the share of foreign assets in the UAPF portfolio. Given the high role of currency revaluation income in ensuring the return on pension assets and the need to ensure that it exceeds inflation, it can be concluded that this relationship is mutual. In other words, not only does the change in the tenge rate affect the return on pension assets, but there is also a need to ensure that the return can also affect the tenge exchange rate.

The hypothesis of such influence, in our opinion, can be confirmed by quite significant changes in the process of formation of the tenge exchange rate in the last few years, precisely during the period when the share of foreign exchange instruments in UAPF assets reached its highest point. The essence of these changes is that the tenge rate has gradually lost connection with the main external sector parameters that regulate currency demand and supply in the domestic market — exports, trade balance, current

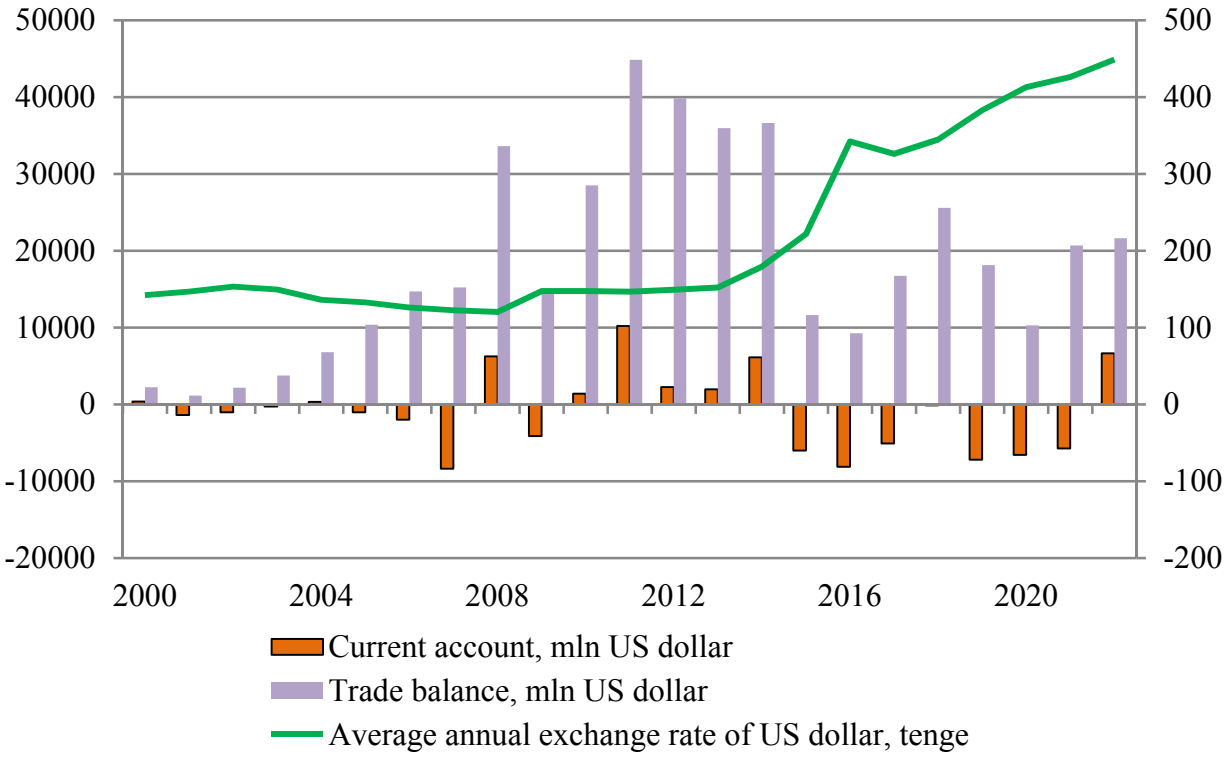

Fig. 7. **Comparative Dynamics of the Exchange Rate of the US Dollar Against the Tenge, the Trade Balance and the Current Account**

Sources: Compiled by the author from National bank of Kazakhstan data.

account balance — as well as the factors that determine these parameters, especially the foreign economic situation, including the price of oil, which is a priority factor for Kazakhstan.

In Kazakhstan, during the long period 2000–2016 (*Fig. 7*) the tenge rate was largely due to fundamental factors. This was reflected, among other things, in its increasing in 2002–2008 against the context of rising oil prices and the resulting increase in foreign trade surpluses; stability in 2010–2013 against the backdrop of a trade surplus formed by a high and stable oil price; and finally, the decline in 2014–2016, caused by a fall in key external sector parameters as oil prices fell from 110 to 35 dollars.

However, since 2018, the relationship between the tenge rate and indicators of the external sector has been disrupted. Kazakhstan's currency during this period is gradually declining regardless of oil prices, the size of the trade balance surplus and current account. At the same time, the decline has significant proportions: the dollar strengthened to the tenge in the period from 2017 to the first half of 2022 by 38% — stronger than during the global financial crisis of 2009 (20.3%), or during the triple fall of oil prices in 2015 (24%). This situation supports the conclusion that some new forces were introduced in the construction of Kazakhstan's currency, which is starting to dominate over traditional currencies. At the same time, the effects of these new factors are increasing, which is noticeable in the period 2021–2022, when tenge accelerated its decline against the background of sharp growth of the foreign trade surplus and current account balance.

The distortion that have developed in recent years in the tenge course formation

are, in our opinion, a result of problems with the budget process, the necessity to ensure the support of the National Fund, etc. [29]. In relation to the problem of the impact of pension assets on Kazakhstan's foreign exchange market, it is important to note that the period of loss of the tenge rate's relationship with fundamental factors and parameters of the external sector coincides with the period of maximization of the share weight of foreign instruments in the UAPF portfolio and the emergence of a hard dependence of its return on the exchange rate.

This problem was apparent in the first half of 2022, when the tenge rate fell from 431.8 to 465.1 tenge per US dollar[14] against the background of rising oil prices and subsequent growth of the positive trade balance and current account of Kazakhstan. In our view, the phenomenon of the decline of the Kazakhstan currency in such favorable conditions is explained by the fact that during this period there was also a sharp fall in the return on pension assets of UAPF, with its decrease reaching very large negative values. This decline was caused by two main factors: an acceleration of inflation, which rose to 14.5% in June against 8% in December 2021,[15] and a sharp decline in global financial markets, which led to a fall in the value of assets in the UAPF portfolio. As a result, the real return on pension assets became negative, with unacceptably high values — in May, this figure exceeded 10%. A further factor in the decline in yields was the strengthening of the tenge, which formed an investment loss from the revaluation of foreign currency in the amount of 81 bln tenge.[16] Negative real returns of such a scale at the end of the year could form very large obligations of the State to compensate for them with aggregate pension savings in the UAPF of about 13 trn tenge 10% of the compensable difference between inflation and return is equivalent to 1.3 trn tenge. This situation, in our opinion, may have resulted in the National Bank regulating pension assets and trying to increase the return on assets as quickly as possible.

In the context of falling financial markets and rising inflation, the only way to increase returns was to increase the UAPF's investment income component, such as currency revaluation income. The main source of this revenue is the devaluation of the tenge, which occurred intensively in the first half of 2022, despite extremely favorable external factors. The decline in the exchange rate of tenge contributed significantly to the formation of income on pension assets from the revaluation of foreign currency, which amounted to 231 bln tenge over the six months and formed two-thirds of the total investment income.

Taking into account the above-mentioned aspects of the situation in the field of formation of the tenge exchange rate in Kazakhstan's foreign exchange market, it is possible to conclude that the situation with the UAPF yield has a substantial influence on this rate. The realization of this influence is facilitated by the fact that both the manager of pension assets and the regulator of the foreign exchange market is — the National Bank of Kazakhstan. In the first half of 2022, during the period of aggravated problems with UAPF yields, the regulator sharply reduced the volume of currency sales from the National Fund on the Kazakh foreign exchange market, which could not but affect the formation of the tenge exchange rate.

[14] Daily official (market) exchange rates. National Bank of Kazakhstan. URL: https://nationalbank.kz/ru/exchangerates/ezhednevnye-oficialnye-rynochnye-kursy-valyut/report?rates%5B%5D=5&beginDate=2022–01–01&endDate=2022–06–30 (accessed on 07.09.2022).

[15] Price statistics. Office of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. URL: https://stat.gov.kz/official/industry/26/statistic/5 (accessed on 07.09.2022).

[16] Information on investment management of pension assets of "UAPF" JSC for 1 July 2022. Website of "UAPF" JSC. URL: https://www.enpf.kz/ru/indicators/invest/review.php#2022 (accessed on 22.07.2022).

Currency sales from the National Fund constitute a significant part of the trading in the exchange market and amounted to 28% in 2021.[17] Therefore, the decline in these sales could not fail to affect the tenge price, making a significant contribution to its decline. That is, the weakening of the tenge and the resulting revenue from the revaluation of foreign currency have somewhat mitigated the loss of UAPF returns.

CONCLUSION

In our opinion, the hypothesis of the formation of a relationship between the exchange rate and the investment returns of pension assets in Kazakhstan is confirmed by the identified sustained influence on this return of the foreign currency revaluation factor in the UAPF portfolio, as well as by the non-standard dynamics of the Kazakh currency in conditions of significant improvement in the external economic situation. The main consequence of the relationship considered can be recognized as the growth of its influence on the foreign exchange market of Kazakhstan and the increase in the role of the return on pension assets as a new factor in the formation of the tenge exchange rate.

Taking into account the fact that the real return on pension assets is derived from the level of inflation and the situation in the global financial markets, it is possible to forecast further complications of the task of ensuring its positive values. Negative real returns on pension assets will mean increased public budget expenditure on compensation and contribute increasingly to the imbalance of the budget process.

[17] Operations of the National Fund. National Bank of Kazakhstan. URL: https://nationalbank.kz/ru/page/operaciinacionalnogo-fonda (accessed on 10.09.2022).

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