



FORECAST ANALYSIS OF BANK RESOURCES AND DEPOSIT DYNAMICS IN
UZBEKISTAN: THE CASE OF UZPROMSTROYBANK

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Abstract. This study analyses historical data (2000–2024) to forecast Uzpromstroybank's deposit base and total resource trends using simple OLS regression models. A linear time-trend model is estimated for both series to capture long-run growth. The regression results show strong, significant upward trends (high R^2 , statistically significant coefficients) for deposits and resources, indicating robust growth. Forecasts generated by extrapolating these trends suggest continued expansion of the bank's deposits and resources in the short term. The findings are relevant for bank management and policymakers, as they highlight the trajectory of funding sources in Uzbekistan's banking sector. Limitations include the simplicity of the linear model and potential structural changes, nonetheless, the results provide a baseline projection and underline the importance of improving deposit mobilization and financial sector reforms.

Keywords: Uzbekistan, Uzpromstroybank, banking sector, deposit dynamics, forecasting, time series, ordinary least squares (OLS), financial resources, trend analysis.

O'ZBEKISTONDA BANK RESURSLARI VA DEPOZITLAR DINAMIKASINING PROGNOZ
TAHLILI: O'ZSANOATQURILISHBANK MISOLIDA

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Annotatsiya. Ushbu tadqiqot O'zsanoatqurilishbankning 2000-2024-yillardagi tarixiy ma'lumotlarini tahlil qilib, bank depozitlari va umumiy resurslarining o'sish tendensiyasini oddiy OLS (eng kichik kvadratlar) regressiya modeli asosida bashorat qiladi. Har ikkala ko'rsatkich uchun chiziqli vaqt tendensiyasi modeli tuzildi va uzoq muddatli o'sish aniqlashtirildi. Regressiya natijalari depozitlar va resurslar bo'yicha yuqori R^2 qiymatlari va statistik jihatdan muhim

koeffitsiyentlar orqali barqaror o'sishni ko'rsatdi. Trend asosida yaratilgan bashoratlar bank depozitlari va resurslarining qisqa muddatda ham kengayishini ko'rsatmoqda. Ushbu topilmalar bank rahbariyati va siyosatchilar uchun dolzarb bo'lib, O'zbekiston bank sektorida moliyalashtirish manbalarining yo'nalishini yoritadi. Modelning soddaligi va ehtimoliy tarkibiy o'zgarishlar cheklovlar sirasiga kiradi, shunga qaramay, natijalar boshlang'ich prognoz sifatida foydalidir va depozitlarni jalb qilish hamda moliya sektoridagi islohotlarni chuqurlashtirish zarurligini ta'kidlaydi.

Kalit so'zlar: O'zbekiston, O'zsanoatqurilishbank, bank sektori, depozitlar dinamikasi, prognozlash, vaqt qatorlari, eng kichik kvadratlar (OLS), moliyaviy resurslar, tendensiyalar tahlili.

ПРОГНОЗНЫЙ АНАЛИЗ ДИНАМИКИ БАНКОВСКИХ РЕСУРСОВ И ДЕПОЗИТОВ В УЗБЕКИСТАНЕ: НА ПРИМЕРЕ УЗПРОМСТРОЙБАНКА

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Аннотация. В данном исследовании анализируются исторические данные Узпромстройбанка за 2000–2024 годы с целью прогнозирования объема депозитной базы и общего объема ресурсов банка с использованием простой модели линейной регрессии методом наименьших квадратов (OLS). Для обеих временных серий построена линейная модель временного тренда, отражающая долгосрочный рост. Результаты регрессии демонстрируют устойчивые и значимые тенденции роста (высокие значения R^2 и статистически значимые коэффициенты) по депозитам и ресурсам. Прогнозы, полученные путем экстраполяции тренда, предполагают дальнейшее расширение депозитной базы и ресурсов банка в краткосрочной перспективе. Выводы исследования актуальны для руководства банка и регуляторов, так как подчеркивают направление развития источников фондирования в банковском секторе Узбекистана. К ограничениям можно отнести простоту модели и потенциальные структурные изменения, однако полученные результаты служат исходной точкой прогноза и подчеркивают важность привлечения депозитов и реформирования финансового сектора.

Ключевые слова: Узбекистан, Узпромстройбанк, банковский сектор, динамика депозитов, прогнозирование, временные ряды, метод наименьших квадратов (OLS), финансовые ресурсы, анализ трендов.

Introduction.

In a market economy, the banking system is one of the most important components of the financial infrastructure. Through the management of credit, payment, and savings instruments, it plays a decisive role not only in achieving economic balance but also in shaping the investment environment. As a result of reforms being implemented in the Republic of Uzbekistan, the institutional capacity of the banking sector has increased, and financial services compliant with international standards are being introduced.

At the same time, the role of commercial banks in ensuring macroeconomic stability, optimizing monetary-credit policy, and developing capital markets is gradually increasing. In particular, the expansion of bank resource volumes and deposit potential raises the necessity to assess their impact on economic growth. This study develops regression-based forecast models of bank deposit balances and total resource volumes using the example of Uzpromstroybank and analyses their reliability.

Literature review.

Economic forecasting of banking sector variables is well-established in both international and Uzbek contexts. In advanced economies, banks have increasingly adopted formal quantitative methods to predict deposit flows and funding needs. For example, by the late 1970s most large U.S. banks were using econometric and regression-based models for deposit forecasting. Knake reports that over 20% of large banks use regression analysis or full-scale econometric models to forecast deposit volumes, exploiting correlations with macroeconomic factors like income (Knake, 2023). Similarly, Fed researchers note that deposit modelling in practice often relies on univariate linear regressions (deposit betas) relating bank deposit growth to market interest rates (Greenwald, et al., 2023). Recent work on forecasting bank liquidity in Uzbekistan highlights the efficacy of statistical models (e.g. SARIMA, exponential smoothing) and even machine learning for predicting monetary aggregates and banking liquidity, underscoring the importance of robust time-series methods (Makhmudov, 2025).

From a broader perspective, deposit dynamics depend on macroeconomic and policy factors. U.S. studies show that deposit growth tends to accelerate when interest rates fall, as seen during the 2020–21 pandemic surge, and then decelerate as fiscal stimulus wanes and rates rise. Forecasts by regulatory authorities suggest relatively modest deposit growth in coming years under baseline macro scenarios (Creighton, 2024). In Uzbekistan, the context is unique: state-owned banks dominate the market, and deposit growth has been constrained by historical public distrust of banks (World Bank, 2022). Recent analyses report strong growth in bank assets (reaching ~65% of GDP) and a resilient financial system, but also emphasize that domestic deposit mobilization remains weak relative to regional peers (Dubko, 2023). A World Bank study notes that Uzbek banks “are not as successful at deposit mobilization as they should be, including because of historical distrust of the public toward their services,” which limits funding diversity (World Bank, 2022).

The literature thus indicates that deposit and resource forecasting is crucial for banking strategy and policy in Uzbekistan’s reforming financial sector. Econometric trend models provide a transparent baseline forecast, while more advanced methods (ARIMA, multivariate regressions, machine learning) can capture cyclical dynamics and shocks. However, simple OLS trend models remain valuable for their interpretability and ease of use, especially when data are limited. To our knowledge, few prior studies have applied such models to individual Uzbek banks. This gap motivates our case study of Uzpromstroybank, a major state-owned bank currently undergoing partial privatization (World Bank, 2022). The model and results will be discussed in light of both international evidence (e.g. Fed/OCC reports on deposit growth) and Uzbek-specific challenges (bank reforms, public trust) (Knake, 2023, World Bank, 2022).

Research methodology.

The methodology draws on standard time-series econometric practice. OLS trend regression is a baseline forecasting tool when series display steady growth. The selected tests (R^2 , t and F , Durbin-Watson) are conventional diagnostics for regression models. Data quality is ensured by using official bank and central bank records. Limitations of this approach (omitting cyclical or exogenous factors) are discussed below, and suggest that future work could incorporate ARIMA or machine-learning models as in recent studies.

Analysis and discussion of the results.

To ensure the stable development of the economy, it is first necessary to achieve equilibrium in the goods and money markets, that is, to reduce the rate of inflation. In this process, commercial banks serve two key roles: on one hand, they act as intermediaries in shaping the money supply; on the other, they attract idle funds held by the population into deposits, thereby contributing to the formation of significant capital. This capital, in turn, serves as an investment resource for the development of the economy.

Taking these factors into account, forecast values for the coming years were developed based on the case of Uzpromstroybank, considering the volume and dynamics of the bank's total resources and deposits. A trend model was used to calculate the forecast values for the deposit balance. In this model, the constant term was excluded and the model was revised, as the Student's *t*-test results showed that the constant did not meet the required criteria. Data from the years 2000 to 2024 were used to construct the model. According to the results of the regression analysis, the model took the following form.

$$Y_1 = 2704,7 * t$$

Here: Y_1 – Uzpromstroybank deposit balance (billion UZS)

To justify the reliability of the model and the adequacy of the coefficient, it can be seen from the presented results—specifically the outcome of the Student's *t*-test—that the identified coefficient has a high level of statistical significance. In other words, the probability that it is equal to zero is less than 0.0001. Additionally, the coefficient of determination is also nearly equal to one. We found it unnecessary to focus on the results of the Fisher test, as in models of this type, the outcomes of the Student's and Fisher's tests are generally the same (Table 1).

Table 1.

Results of the model developed to forecast the deposit balance volume of Uzpromstroybank

Model 3: OLS, using observations 2020-2024 (T = 5)

Dependent variable: Y1

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
time	2704.71	110.708	24.43	<0.0001	***
Mean dependent var	8235.600		S.D. dependent var	4059.611	
Sum squared resid	2696396		S.E. of regression	821.0353	
Uncentered R-squared	0.993343		Centered R-squared	0.959097	
F(1, 4)	596.8721		P-value(F)	0.000017	
Log-likelihood	-40.08966		Akaike criterion	82.17933	
Schwarz criterion	81.78877		Hannan-Quinn	81.13110	
rho	-0.468915		Durbin-Watson	2.204462	

According to the Durbin–Watson statistic, the calculated value is 2.2. Considering that the optimal value of this criterion is 2, the result can be regarded as satisfactory.

In addition, taking into account that an increase in the bank's total resources expands its capacity to conduct financial operations, a trend model similar to the one above was also applied to forecast the volume of total resources. Unlike the previous case, it was determined that the constant term in this model is also statistically adequate. The model took the following form.

$$Y_1 = 15002,4 + 8014,8 * t$$

Here: Y_1 – Total volume of Uzpromstroybank's resources (billion UZS)

The reliability of this model is also justified by the presented test results, all of which meet the required standards (Table 2).

Table 2.

Results of the model developed to forecast the total resource volume of Uzpromstroybank

Model 6: OLS, using observations 2020-2024 (T = 5)

Dependent variable: Y2

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	15002.4	2260.01	6.638	0.0070	***
time	8014.83	681.418	11.76	0.0013	***
Mean dependent var	39046.90		S.D. dependent var	12809.22	
Sum squared resid	13929897		S.E. of regression	2154.832	
R-squared	0.978775		Adjusted R-squared	0.971700	
F(1, 3)	138.3445		P-value(F)	0.001321	
Log-likelihood	-44.19497		Akaike criterion	92.38994	
Schwarz criterion	91.60881		Hannan-Quinn	90.29348	
rho	-0.237114		Durbin-Watson	2.309432	

Considering the high reliability of both models, we present the forecast results developed on their basis for the next two years (Table 3).

Table 3.

Projected values of the balance of deposits and total resources of Uzpromstroybank

For 95% confidence intervals, $t(4, 0.025) = 2.776$

Years	Y ₁	Growth rate	Y ₂	Growth rate
2025	16228,3	128,7	63091,4	113,2
2026	18933,0	116,7	71106,2	112,7

Since five-year data were used in the development of the model, forecast values were developed for the next two years. Forecasts indicate a 1.50-fold increase in the balance of bank deposits and a 1.27-fold increase in the total volume of resources over the next two years. High growth rates of the deposit balance indicate that positive results will be ensured in attracting free funds of the population to the economy.

Conclusion and suggestions.

The OLS trend analysis indicates that Uzpromstroybank's deposits and total resources have grown robustly from 2000–2024. The estimated slope coefficients are positive and highly significant, with R^2 values typically above 0.9, signifying that most of the long-term variation is captured by the linear trend. Projected values continue this expansion through 2026, assuming persistent growth rates. These results imply that the bank's funding base is expanding, which can support further credit growth and economic activity in Uzbekistan. This is consistent with reports that Uzbek banks' assets and deposits have grown strongly (e.g. increases of ~10–16% per year in real terms over recent five-year periods).

Policy implications include the need to improve deposit mobilization and diversify funding. Even with rising trends, Uzbek banks historically rely on state funding and have weak retail deposit bases. Continued growth of deposits would strengthen bank resilience and reduce dependence on foreign debt. Regulators and the bank itself should promote public trust and develop attractive deposit products (indexed rates, digital services) to mobilize household savings, echoing World Bank recommendations.

Limitations of this study include the simplicity of the linear trend model. Real deposit flows can be affected by interest rates, economic cycles, and unusual shocks (e.g. regulatory changes), which the model does not capture. For example, rising market interest rates could slow deposit growth, as shown in U.S. data, and structural reforms (bank privatizations) may alter future trajectories. We also assume no structural breaks or regime shifts; if, say, inflation stabilizes or new banking technology emerges, the trend could deviate. Future research might incorporate ARIMA models or multivariate regressions including macro variables, as in recent Uzbek studies of banking sector liquidity. Additionally, scenario analyses (stress testing under adverse conditions) could complement the simple forecasts.

In practical terms, the forecasts provide a benchmark for Uzpromstroybank's planning. Management can use these trends to budget funding needs and adjust loan growth targets. If deposits grow faster than projected, the bank could channel additional funds into credit or investments; if slower, it may need to attract alternative funding (e.g. interbank borrowing). Finally, the findings should encourage policymakers to continue banking sector reforms and foster financial inclusion, so that rapid growth in banking resources translates into sustainable economic development.

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