

RISK-BASED FINANCIAL INSTRUMENTS: THEORIES AND CONCEPTS

Khalilov Bahromjon Bahodirovich
Asian International University

ARTICLE INFO.

Keywords: foreign exchange,
manufacture, risk, financial
instruments.

Abstract

This article provides information on risk-based financial instruments. Their theories and concepts are discussed. Relevant conclusions and suggestions are also given.

<http://www.gospodarkainnowacje.pl/> © 2024 LWAB.

Most economic agents, such as firms and investors, face foreign exchange or interest rate risk when they have future cash inflows or outflows arising from their capital investments, operations, and financing. The main factors that determine the magnitude of these flows, foreign exchange rates, and interest rates, both real (i.e., net of inflation) and nominal, are volatile. Indeed, there is a close correspondence between foreign exchange and interest rates. Hence, one of the important tasks of financial management is to reduce the exposure of the agent to foreign exchange and interest rate risk using various financial instruments. For instance, if a firm needs to convert its foreign currency inflows or borrow money at a future point in time, it can hedge its exposure to an increase in these rates in a number of ways. The principal instruments available for the hedging of foreign exchange and interest rate risk are discussed in the following subsections.

Forward Contracts. A foreign exchange forward contract is an agreement made today to deliver or take delivery of a specified amount of foreign currency in exchange for domestic currency, on a future date at a fixed exchange rate. An interest rate forward or a forward rate agreement (FRA) is a contract made now to pay or receive the difference between the future rate of interest and a fixed interest rate on a specified principal amount, over a given loan period. In the absence of changes in credit risk, an FRA can be thought of as an agreement to borrow or lend money in the future at a fixed agreed rate of interest.

Futures Contracts. Futures contracts are standardized contracts on foreign exchange and interest rates that are traded on a futures exchange. They are based on the delivery of a specified amount of foreign currency or an interest-bearing security at a future date. Thus, both forward and futures contracts are agreements to deliver or take delivery of a specified quantity of an asset on a future date at a prespecified price. However, the important difference between forward and futures contracts is that the latter are marked-to-market on every trading day.

Option Contracts. Interest rate options give the holder the right to receive the difference between the future rate of interest and a fixed interest rate, known as the strike rate, on a specified principal amount, over a given loan period. Again, in the absence of credit risk, an interest rate option can be thought of as the right to borrow or lend at a fixed rate. Note that in contrast to forward contracts, the holder of the option is not obliged to borrow or lend at the agreed rate, if market interest rates change to a level that is unfavorable to the holder of the option.

Foreign exchange options confer on the holder the right to buy or sell a specified amount of foreign currency at a fixed exchange rate, the strike rate, in exchange for domestic currency. As in the case of interest rate options, the option holder would exchange the foreign currency only if the previously fixed strike rate is favorable in relation to the prevailing market rate. Many firms and investors have cash flows denominated in multiple currencies. For firms involved in transnational trade, manufacture, and financing, these cash flows may be related to the purchase of capital equipment or raw materials, and the sale of finished products, or financing flows relating to borrowing and lending. In the case of investors, these cash flows may be related to their investments and the return from the investments, as well as the cash flows for consumption. Cash flows in various foreign currencies may be hedged using forward/futures or option contracts, for short horizons. For longer maturities, it may be necessary to use foreign currency swaps, caps, and floors. A foreign currency swap is a portfolio, or a series, of foreign currency forward contracts over multiple periods. Similarly, a foreign currency cap or floor can be defined in terms of a series of call or put options on the foreign currency. A derivative security or contract is one whose payoff and value depends on the price of some underlying asset. In the present context, we are concerned with foreign exchange and interest rate derivatives. These are contracts whose payoff and value depend on an underlying foreign exchange or interest rate (or bond price). The forward contracts, futures contracts, and option contracts mentioned in the overview are all examples of derivatives. One of the main features of a derivative is that the contract is detachable from the underlying asset. If an agent desires to speculate on the movement of a future foreign exchange or interest rate, it can use a derivative as a standalone bet. However, if it wishes to hedge an existing borrowing or lending commitment, it must add the derivative payoff to its loan costs or returns. The market for derivatives allows hedgers and speculators such as corporations, investors, banks, brokers, and other institutions involved in providing these services to compete in the same market, using the instruments for whatever purpose they desire. For example, in the case of interest rate risk, the loan cost, including the payoff from the derivative will be:

Net Cost of Borrowing/Return on Lending=Market interest rate at future date \pm Payoff on interest rate derivative

For example, if a borrower hedges, and interest rates rise, they might end up paying a market rate of interest of $x\%$, having a payoff from the derivative of $y\%$ and a net borrowing cost of $x-y\%$. A similar definition in terms of costs versus prices in terms of domestic currency can be made in the case of foreign exchange derivatives. Forward contracts have been common in commodity and foreign exchange markets for centuries. In the middle ages, for example, the monks from the abbeys in Yorkshire, England, bought their wool forward on continental markets. Forward and futures contracts on rice warehouse receipts were traded in Japan since the late seventeenth century. Forward contracts to buy and sell commodities and foreign exchange and interest rate instruments are in widespread use today and are growing at a rapid rate. Indeed, most of the trading in foreign exchange is still in the form of forward contracts, and currently exceeds \$1.5 trillion a day. However, public futures markets have evolved to overcome some of the moral hazard problems associated with forward markets (i.e., the incentive for one of the parties to the contract to default). Futures contracts are made between a hedger/speculator and the clearing corporation of a futures exchange. Also, the default risk problem is minimized by requiring the contract holder to put up margin: a form of deposit against adverse price movements. Futures contracts are also of a standard size. For example, in the case of short-term interest rate futures, one standard eurodollar futures contract represents a bet on the future short-term (three-month) interest rate on a face amount of \$1 million. Note that the holder of a long futures contract receives the difference between the market rate of interest and the futures rate agreed in the contract. The holder of a short futures contract pays the difference between the market interest rate and the agreed futures rate. Note that a forward or futures contract has no up-front cost that is, at the time the contract is made, so that it is initially a zero-value contract. In the case of futures contracts, the marking-to-market ensures that the contract has zero value at the end of each trading day. In contrast, an

option contract can be thought of as a one-sided futures contract. For example, a call option on euro confers the right, but not the obligation on the holder to exchange dollars for euro at a prescribed exchange rate.

In conclusion, foreign exchange and interest rate risk are among the most important risks facing most economic agents, whether they are corporations, institutional investors, or households. In recent times, the volatility of these rates has increased substantially and, as a result, agents have a greater need to hedge against these risks. A number of hedge instruments have been developed to manage these risks effectively. Broadly speaking, there are forward and futures contracts, which represent agreements to deliver a specified quantity of these assets at a prespecified price on a future date, and option contracts, which confer on the holder the right to deliver the assets at a prespecified price, only if it is worthwhile to do so on the future date. Many contracts such as swaps, caps, floors, and swaptions are variations on these basic contracts and provide the ability to hedge multiperiod cash flows. Other customized contracts, often referred to as “exotics,” provide a vast array of hedging possibilities to agents facing interest rate and foreign exchange risk.

Foydalanilgan adabiyotlar ro'yhati:

1. Davronov, I. O., & Shadiyev, A. K. (2020). The cost-effectiveness of improving the quality of hotel services. *Academy*, (4), 40-42.
2. Kayumovich, K. O., Gulyamovich, D. I., & Khudoynazarovich, S. A. (2020). Information and information technologies in digital tourism. *Special issue on financial development perspectives of the life standard in Central Asia*, 32.
3. Khudoynazarovich, S. A. (2022). Features of evaluating the effectiveness of activities at the Bukhara State University. *Galaxy International Interdisciplinary Research Journal*, 10(11), 153-159.
4. Shadiyev, A. (2022). FEATURES OF EVALUATING THE EFFECTIVENESS OF ACTIVITIES AT THE BUKHARA STATE UNIVERSITY. *ЦЕНТР НАУЧНЫХ ПУБЛИКАЦИЙ (buxdu. uz)*, 23(23).
5. Базарова, М. С., Шарипова, М., & Нуруллоев, О. (2021). “РАҚАМЛИ ИҚТИСОДИЁТ” ДА АҲОЛИНИНГ ИШ БИЛАН БАНДЛИГИ ХУСУСИЯТЛАРИ. САМАРҚАНД ДАВЛАТ УНИВЕРСИТЕТИ, 482.
6. Базарова, М. С. (2020). Развитие внимания дошкольников посредством дидактических игр. In *Исследования молодых ученых* (pp. 37-40).
7. Бозорова, М. С. (2021). Глава 10. Стратегия внедрения цифровых технологий и современных методов в образовательный процесс. In *Инновационное развитие науки и образования* (pp. 122-132).
8. Базарова, М. С. (2021). ЭКОНОМИКА РЕСПУБЛИКИ УЗБЕКИСТАН И РОЛЬ ИНОСТРАННЫХ ИНВЕСТИЦИЙ В ЕЁ РАЗВИТИИ. In *Современные проблемы социально-экономических систем в условиях глобализации* (pp. 350-354).
9. Supieвна, В. М., & Furuza, S. (2023). STRATEGIC WAYS OF IMPLEMENTING PERSONNEL POLICY IN COMMERCIAL BANKS. *THE THEORY OF RECENT SCIENTIFIC RESEARCH IN THE FIELD OF PEDAGOGY*, 1(7), 22-25.
10. Khalilov, B. (2023). FINANCIAL INDICATORS OF BUSINESS EFFICIENCY IN COMPANIES. *Modern Science and Research*, 2(10), 835-839.
11. Khalilov, B. (2023). FINANCIAL ELEMENTS OF BUSINESS STABILITY. *Modern Science and Research*, 2(12), 877-882.
12. Xalilov, B. (2024). ISSUES OF IMPROVING THE FINANCIAL MECHANISM OF SMALL BUSINESS ENTITIES. *Modern Science and Research*, 3(1), 747-753.

13. Xalilov, B. (2024). COBB-DOUGLAS PRODUCTION FUNCTION AND ITS IMPORTANCE IN BUSINESS MATHEMATICS AND ECONOMIC ANALYSIS. *Modern Science and Research*, 3(1), 754-758.
14. Khalilov, B. (2024). FOREIGN EXPERIENCE IN PERSONNEL MANAGEMENT. *Modern Science and Research*, 3(2), 974-978.
15. кизи Рахмонкулова, Н. О. (2023). КИЧИК САНОАТ ЗОНАЛАРИНИНГ ХУДУДЛАР ИҚТИСОДИЁТИНИ РИВОЖЛАНТИРИШДАГИ ЎРНИ. "Экономика и туризм" международный научно-инновационной журнал, 6(14).
16. Raxmonqulova, N. O. (2022). THE IMPACT OF THE DIGITAL ECONOMY ON RESOURCE CONSUMPTION. In *Современные проблемы социально-экономических систем в условиях глобализации* (pp. 476-480).
17. Raxmonqulova, N. (2024). MAIN PRIORITY DIRECTIONS OF REGIONAL ECONOMY DEVELOPMENT. *Modern Science and Research*, 3(2), 371-375.
18. Sh, Y. D., & Rakhmankulova, N. O. (2021). Risks in the Process of Digitalization of Business Activities. *TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI*, 1(2), 19-22.
19. Sh, Y. D., & Rakhmanqulova, N. O. (2021). Innovative approaches to the use of digital technologies in theeconomy. *BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, 1(2), 77-80.
20. Raxmonqulova, N. (2024). IMPORTANCE OF PERSONNEL MANAGEMENT IN BUSINESS DEVELOPMENT. *Modern Science and Research*, 3(1), 13-17.
21. Jumaeva, Z. K., & Gafurov, E. O. (2022). Fiscal policy in ensuring the economic security of the state. In *Экономическая безопасность социально-экономических систем: вызовы и возможности* (pp. 358-361).
22. Ruzmetov, B., Ruzmetov, S., Bakhtiyarov, S., Dzhumaeva, Z., & Juraev, K. (2023). Formation of supporting points for production growth based on diversification of the regional industry. In *E3S Web of Conferences* (Vol. 449, p. 01001). EDP Sciences.
23. Жумаева, З. К. (2024). Необходимость инновационного подхода в управлении организациями.
24. Jumayeva, Z. K., & Mamadjonov, G. N. (2024). Ways to Strengthen Financial Control in the Utilization of State Budget Funds. *EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY*, 4(1), 61-64.
25. Жумаева, З. К. (2016). Эффективность стратегического управления предприятием. *Наука и образование сегодня*, (2 (3)), 60-62.
26. Жумаева, З. К. (2023). ПОТЕНЦИАЛ ИНВЕСТИЦИОННОЙ СТРАТЕГИИ РАЗВИТИЯ РЕГИОНА. *Gospodarka i Innowacje.*, 41, 333-337.
27. ЖУМАЕВА, З. СТРАТЕГИЧЕСКИЕ НАПРАВЛЕНИЯ ФОРМИРОВАНИЯ ТОЧЕК ПРОИЗВОДСТВЕННОГО РОСТА В БУХАРСКОЙ ОБЛАСТИ. *ЭКОНОМИКА*, 4, 455-458.
28. Rasulova, N. N., & Jumaeva, Z. K. (2019). Uzbekistan oil and gas industry: history and development prospects. *Теория и практика современной науки*, (5 (47)), 52-57.
29. Жумаева, З. К., & Расулова, Н. Н. (2019). Инновационный путь развития экономики Узбекистана. *Теория и практика современной науки*, (5 (47)), 224-226.
30. Жумаева, З. К. (2019). СОВРЕМЕННЫЕ ТЕНДЕНЦИИ И НАПРАВЛЕНИЯ РАЗВИТИЯ ИНВЕСТИЦИОННОЙ ДЕЯТЕЛЬНОСТИ В РЕГИОНАХ РЕСПУБЛИКИ УЗБЕКИСТАН. In *СОВРЕМЕННЫЕ ПРОБЛЕМЫ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИХ СИСТЕМ В*

УСЛОВИЯХ ГЛОБАЛИЗАЦИИ (pp. 148-152).

31. Жумаева, З. (2023). МИРОВОЙ ОПЫТ РАЗВИТИЯ ЦИФРОВОЙ ЭКОНОМИКИ. Nashrlar, 318-321.
32. To'rayevna, S. N. (2024). YANGI IQTISODIYOT VA UNING MOLIYA BOZORLARIGA TA'SIRI. Gospodarka i Innowacje., (45), 333-339.
33. Sodiqova, N. (2024). TECHNOLOGY DISCOURSE AND THE POLITICAL ECONOMY OF NEW MEDIA. Modern Science and Research, 3(2), 376-384.
34. Sodikova, N. (2024). THE MAIN DIRECTIONS OF PROVIDING THE BUSINESS SECTOR WITH QUALIFIED PERSONNEL. Modern Science and Research, 3(1), 133-139.
35. Sodiqova, N. (2024). TADBIRKORLIK SOHASINI MALAKALI KADRLAR BILAN TA'MINLASHNING ASOSIY YO'NALISHLARI. Modern Science and Research, 3(1), 123-132.
36. Toshov, M. (2024). STRATEGIC MANAGEMENT OF HIGHER EDUCATION. Modern Science and Research, 3(2), 461-468.
37. Toshov, M. (2024). PERSONNEL MANAGEMENT SYSTEM. Modern Science and Research, 3(2), 603-608.
38. Mirzabek, T. (2023). Marketing Kommunikasialari Tizimida Og'r Muloqotlar Xususiyatlari. Innovations in Technology and Science Education, 2(14), 388-391.
39. Hakimovich, T. M. (2023). TA'LIM TIZIMI BOSHQARUVIDA PEDAGOGIK TAHLIL. Gospodarka i Innowacje., 42, 415-420.
40. Alimova, S. O. FEATURES OF THE STRATEGIC MANAGEMENT SYSTEM OF INDUSTRIAL ENTERPRISES.
41. Shamsiya, A. (2023). HR MANAGEMENT AND COACHING IN THE INNOVATIVE ECONOMY AS A METHOD OF BUSINESS MANAGEMENT. Modern Science and Research, 2(10), 712-717.
42. Abidovna, A. S. (2024). THE ROLE OF INFORMATION TECHNOLOGY IN THE PERSONNEL MANAGEMENT SYSTEM.
43. Рахматов, Ж. А., Алимова, Ш. А., & Бобомуродов, К. Х. (2021). Стратегия инвестиционной политики Республики Узбекистан.
44. Алимова, Ш. А., & Халимова, Д. Р. (2021). СОЦИАЛЬНО-ЭКОНОМИЧЕСКАЯ СУЩНОСТЬ СТРАТЕГИЙ ИНВЕСТИЦИОННОЙ ПОЛИТИКИ РЕСПУБЛИКИ УЗБЕКИСТАН. In Современные проблемы социально-экономических систем в условиях глобализации (pp. 340-344).
45. Alimova, S. (2023). THE CONCEPT AND TASKS OF A MODERN MANAGEMENT SYSTEM ENTERPRISE PERSONNEL. Modern Science and Research, 2(12), 1085-1090.
46. Alimova, S. (2024). THE IMPACT OF E-ACCOUNTING IN MODERN BUSINESSES. Modern Science and Research, 3(1), 928-932.
47. Alimova, S. (2024). THE ROLE OF INFORMATION TECHNOLOGY IN THE PERSONNEL MANAGEMENT SYSTEM. Modern Science and Research, 3(2), 385-390.
48. Abidovna, A. S. (2024). FORMATION AND DEVELOPMENT OF CAREER AS PERSONNEL TECHNOLOGY OF HUMAN RESOURCE MANAGEMENT. Gospodarka i Innowacje., (45), 327-332.
49. Alimova, S. A., & Khaitov, V. S. (2022). ON THE WAY OF TOURISM DEVELOPMENT IN UZBEKISTAN APPLICATION OF ELECTRONIC MARKETING STRATEGIES

OPPORTUNITIES. PEDAGOGICAL SCIENCES AND TEACHING METHODS, 303.

50. Akbarovna, N. N. (2024). OPPORTUNITIES FOR THE DEVELOPMENT OF CRYPTOCURRENCIES IN THE DIGITAL ECONOMY. *Gospodarka i Innowacje.*, (45), 320-326.
51. Akbarovna, N. N., & Bahodirovich, X. B. (2023). AKSIYADORLIK JAMIYATLARIDA MOLIVAVIY HISOBOTNING XALQARO STANDARTLARI ASOSIDA MOLIVAVIY HISOBOTLARINI TUZISH TARTIBI.
52. Ikromov, E. (2024). SCIENTIFIC AND THEORETICAL BASIS OF INCREASING THE EFFICIENCY OF SERVICE ENTERPRISES. *Modern Science and Research*, 3(2), 103-109.
53. Ikromov, E. (2024). FEATURES AND ADVANTAGES OF SERVICE ENTERPRISES. *Modern Science and Research*, 3(2), 98-102.
54. Ikromov, E. (2024). THE IMPORTANCE OF MANAGERIAL WORK IN THE USE OF MODERN MANAGEMENT PRINCIPLES AND METHODS. *Modern Science and Research*, 3(1), 18-23.
55. Ikromov, E. (2024). CLASSIFICATION OF LEADERSHIP STYLES IN THE MODERN MANAGEMENT SYSTEM. *Modern Science and Research*, 3(2), 615-621.
56. Ikromov, E. (2023). PROBLEMS IN IMPROVING THE FORECASTING OF LOCAL BUDGET REVENUES. *Modern Science and Research*, 2(10), 794-797.
57. Mahmudovna, Q. G. (2024). RAQOBATDOSHLIKNI OSHIRISHDA INNOVATSION SALOHIVATNING AHAMIYATI.
58. Qudratova, G. (2024). THE IMPORTANCE OF INNOVATIVE POTENTIAL IN INCREASING COMPETITIVENESS. *Modern Science and Research*, 3(1), 933-938.
59. Qudratova, G. (2024). THE IMPORTANCE OF INNOVATIVE ACTIVITY IN INCREASING THE COMPETITIVENESS OF HIGHER EDUCATION INSTITUTIONS. *Modern Science and Research*, 3(2), 1257-1261.
60. Azimov, B. F., & Qudratova, G. M. (2023). Oliy ta'lim muassasalarining raqobatbardoshligini oshirish. *Science and Education*, 4(7), 476-481.
61. Bustonovna, J. Z. (2024). IQTISODIYOTNI TARTIBGA SOLISHDA DAVLATNING ROLI.
62. Bustonovna, J. Z. (2024). O'ZBEKISTON IQTISODIYOTINING BARQAROR O'SISHIDA SANOAT TARMOQLARINING AHAMIYATI.
63. Jumayeva, Z., & Nozimova, A. (2023). Palyno-Morphological Study of Allergenic Flora of Samarkand, Uzbekistan. *American Journal of Plant Sciences*, 14(5), 533-541.
64. Jumayeva, Z., Nurullayeva, N., Nozimova, A., Tursunboev, X., & Dosjanova, G. (2024). Dynamics and characteristics of allergenic plant pollen in the Republic of Uzbekistan. In *E3S Web of Conferences* (Vol. 498, p. 02015). EDP Sciences.
65. Jumayeva, Z. (2024). IMPORTANCE OF INDUSTRIAL NETWORKS IN THE SUSTAINABLE GROWTH OF THE ECONOMY OF UZBEKISTAN. *Modern Science and Research*, 3(2), 257-262.
66. Jumayeva, Z. (2024). THE MAIN WAYS OF EFFECTIVE WORK ORGANIZATION IN THE MODERNIZATION OF THE ECONOMY. *Modern Science and Research*, 3(2), 366-370.