

EXCHANGE RATE RISK MANAGEMENT IN INTERNATIONAL CREDITS

Author: Yakubov Jakhongir

Workplace: Tashkent Institute of Finance Position: Assistant teacher

Email: y.jakhongir1@gmail.com

Tel: +998974324652

ABSTRACT	KEYWORDS
With the change of the currency regime rate from crawling peg to almost floating regime Uzbekistan government is trying to remove all restrictions regarding foreign currency use by individuals as well as companies and liberalize its currency regulations. On the one hand this long-awaited reform which allowed everyone equal access to currency markets, gives local businesses and individual opportunities to employ foreign currency operations, but on the other hand it will make the national currency exchange rate extremely volatile and have a big impact on companies with assets and liabilities denominated in foreign currencies making them exposed to foreign exchange risk. The paper will investigate the condition of the exchange risk management in Uzbek financial organizations and try to identify problems and challenges related to currency risk management methods and techniques. Moreover, level of currency risk exposure and tools used by the commercial banks for risk management will be reviewed. Experience of the World Bank, Asian Development Bank, European Bank of Reconstruction and Development, International Monetary Fund and Japanese banks will be reviewed and discussed.	EBRD, ADB, Hedging, VaR, CVaR, Stress testing, Back testing, Foreign Exchange, IT

Introduction

With the change of the currency regime rate from crawling peg to floating regime Uzbekistan government is trying to remove all restrictions regarding foreign currency use by individuals as well as companies and liberalize its currency regulations. On the one hand this long-awaited reform which allowed everyone equal access to currency markets, gives local businesses and individual opportunities to employ foreign currency operations, but on the other hand it will make the national currency exchange rate extremely volatile and have a big impact on companies with assets and liabilities denominated in foreign currencies making them exposed to foreign exchange risk. Although Central bank still has the responsibility of maintaining the national currency's stability foreign exchange risk

has become one of the prevailing risks as both financial and non-financial companies are not aware of the risks related to exchange rates and have almost no experience of currency risk management. Besides, market determined value of the national currency would be unpredictable due to high inflation rate and government-controlled interest rate. Moreover, government initiatives to stimulate export and decrease the import would also have its effect on the value of the currency

1. Literature Review

Due to financial globalization and integration of capital markets, world has witnessed unprecedented increase in the volume of capital movement in form of investments, loans and deposits compared to last decades. According to UNCTAD world investment report, only foreign direct investments (FDI) reached the amount of \$1.8 trillion in 2017. The volume of foreign currency loans issued to governments, financial organizations and private companies are also exceptionally high which presents the great risk for domestic financial markets endangering the stable currency exchange rate which may threaten economic stability.

In early 1970s, growing international capital movement put enormous stress on the gold standard of the US dollar thus leading to the abandonment of any link to gold and further adoption of the new system of floating currencies (Schenk, Tobias 2014). Since high volatility of the floating exchange rates has a significant impact on the assets, liabilities and profits of companies operating on an international level. It has become an issue which has to be taken into account. Currency risk management cannot be neglected by any financial or non-financial organization as they encounter currency risk due to dealings in foreign currencies for their own account or on behalf of their customer's account. Therefore, currency risk is an integral part of every firm's decision regarding foreign currency exposure (Allayannis, Ihrig, & Weston 2001).

In order to secure their assets and cash flows from depreciation financial institution need to employ different methods of currency risk management strategies which involve eliminating or reducing currency risk (Barton, Shenkir, & Walker, 2002).

Movements in the exchange rate affects cash flows, revenues and the asset value of large and small companies participating in the international capital movement. However, it is surprising that US companies, exporters, and producers are slightly affected by exchange rate movements (Allayannis, George, Ofek, & Eli. 2001).

Commercial bank are holders of assets and liabilities denominated in foreign currencies and active participants of international financial markets and therefore they are constantly exposed to currency risk. According to (Saunders & Cornett, 2003) Foreign Exchange Trading Activities of commercial banks include:

- Trade of different currencies to allow clients international transactions;
- Trade of different currencies to allow clients participation in foreign investments;
- Trade of different currencies for hedging purposes;
- Trade of different currencies for speculative purposes.

Managing foreign exchange risk can successfully reduce bank's foreign exchange exposure and ensure its cash flows and profit will not be affected by the fluctuations in the exchange rate. Managing foreign exchange risk provides the following benefits to banks (Berisha, Asllanaj and Shala 2014):

- minimize the effects of exchange rate movements on profit margins
- increase the predictability of future cash flows

- eliminate the need to accurately forecast the future direction of exchange rates

Exchange-rate exposure is an important source of risk for multinational corporations. To mitigate the impact of exchange-rate fluctuations, it has been claimed that multinational corporations can employ risk-management strategies not only through financial derivatives, but also through operational hedges (Allayannis, Ihrig, & Weston).

Financial organizations exposed to foreign exchange risk have following three options to manage their exposure.

- they can choose to do nothing about their exposure
- they can “hedge” against their exposure
- they can partially hedge against the risks, or limit their hard currency exposure to set levels.

A number of instruments can be used to hedge against foreign exchange risk (IMF working paper 2006):

- forward contracts and futures (agreements made to exchange or sell foreign currency at a certain price in the future)
- swaps (agreements to simultaneously exchange or sell an amount of foreign currency now and resell or repurchase that currency in the future)
- options (instruments that provide the option, but not the obligation, to buy or sell foreign currency in the future once the value of that currency reaches a certain, previously agreed, price)

2. Background information on current situation

2.1 Until the massive reforms began taking place in 2017

According to (IMF report 2000) back in 1997 Uzbekistan adopted a system of multiple exchange rates and it had one of only few transition countries that operated a segmented exchange market and multiple exchange rates, with strict control of export and import markets. Uzbek sum had three exchange rates: two official and one unofficial. The official exchange rate, was set by the central bank and was at 4000 sum (2016) per dollar. The other, black market exchange rate reflected the much weaker real value of the currency. While the rate fluctuated however, the trend stood at roughly twice as much as the official rate. Therefore, the Uzbek sum may have only been half as valuable as the official rate. Anyone doing business in Uzbekistan had to use the official exchange rate. It was compulsory for exporters to turn over half of any foreign currency they earned to authorized banks at the official exchange rate. Since the official exchange rate overvalued the national currency-sum, this transaction effectively seized a substantial chunk of exporters’ revenues, and discouraged exporters.

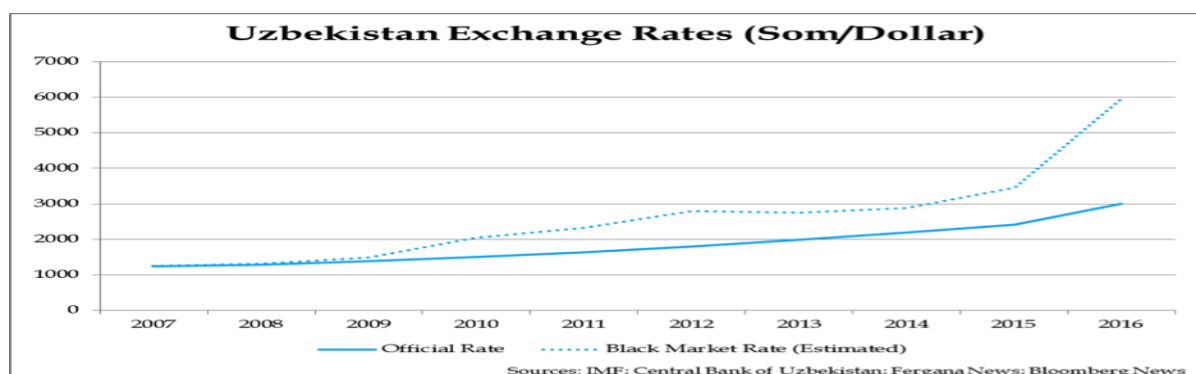


Chart 1

2.2 After the liberalization of economy and foreign exchange market.

In 2017 (IMF working paper 2018) Uzbekistan changed course, putting the country on track toward building a more open and market-oriented economy. The most significant was the liberalization of the FX market in September 2017, with the official exchange rate depreciating by about 50 percent. The newly elected Central bank governor began by increasing the interest rate from 9% to 14% which was the first step to foreign exchange market liberalization.

For the last 5 years national currency has depreciated considerably (almost by 400%). Moreover, the high inflation rate together with the problems of cash circulations has made it almost impossible for commercial banks to attract international credits in order to finance its projects.

Due to the globalization and integration processes taking place in the economy of Uzbekistan, commercial banks are getting full access to financial resources from international crediting organizations which in turn is affecting commercial banks' open currency positions and increasing exposure to foreign exchange risk.

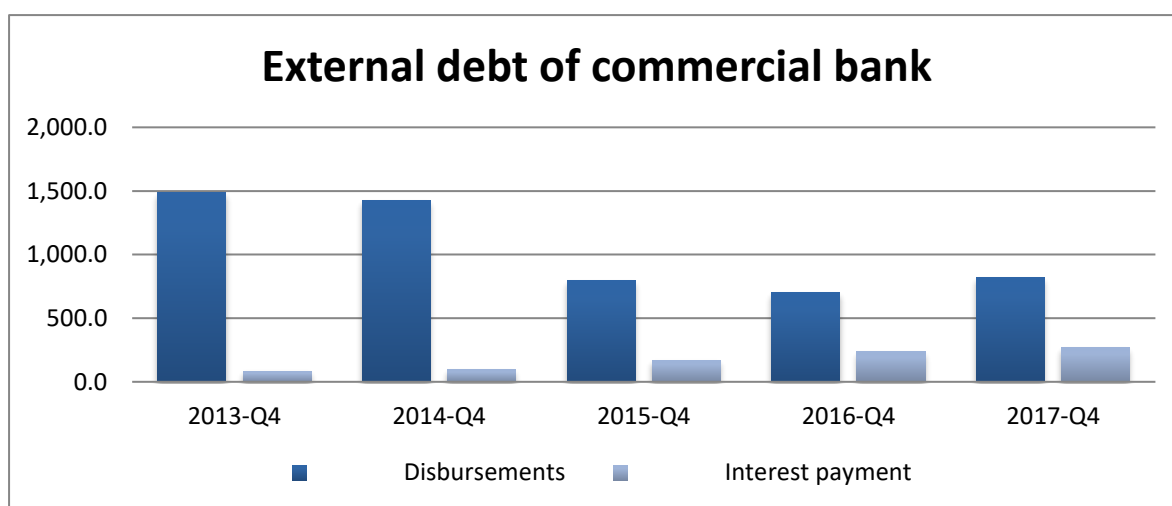


Chart 2

Source: <http://www.cbu.uz/en/statistics/e-gdds/data/111575/>

The new government is requiring commercial banks and other financial organizations in Uzbekistan to attract more and more funds and investments in order to finance all the necessary projects. Shrinking inner resources and government budget funds are not just sufficient to satisfy the potential projects and big liquidity problems are being faced by many commercial banks. In order to be able to successfully attract and employ international credits financial organizations in Uzbekistan should learn to manage their foreign exchange exposure effectively. According to the Central Bank of Uzbekistan, the external debt of commercial banks is rising sharply, so are the interest payments, and it requires the application of risk management and hedging instruments.

3. Challenges and analysis of solutions

3.1 Challenges and problems financial organizations in Uzbekistan are facing with.

Having little integration with global financial markets, the banking system in Uzbekistan has developed its unique features and the way of operating. Most of the banks, being under direct control of the government, have been paying little or no attention to risk management, only fulfilling the

regulations set by the Central bank as the main authority. In order to mitigate exchange rate risk the Central bank has established limits on the open currency position of commercial banks. According to the regulation the open currency position for each separate type of foreign currency at the end of each operational day should not exceed 10 percent of the regulatory capital of the bank. The total amount of open currency positions on all currencies at the end of each operational day should not exceed 20 percent of the regulatory capital of the bank. This regulation has been the single mechanism to manage commercial banks exchange rate exposure. Therefore, nowadays all the commercial banks in Uzbekistan are facing the following challenges and problems in the area of exchange risk management:

- No strategy of exchange risk identification, analysis and evaluation;
- Little awareness of exchange risk exposure
- Almost no hedging options due to poor stock market development;
- Unpredictable exchange rates;
- Lack of specialist in the sphere of risk management;

In order to fill the gap in the currency risk management of Uzbek financial institutions, immediate measures should be taken and risk management strategies should be adopted.

4. Practice of development banks in foreign exchange risk management.

4.1 Practice of the World Bank in foreign exchange risk mitigation:

The World Bank group employs and suggests different currency risk management strategies depending on the circumstances in the country, financial market development, exchange rate regime and many other factors. Below we will look at the some methods employed by the World Bank to mitigate foreign exchange risks.

4.1.1 Allocation of risks.

The simplest measure that World Bank suggests to minimize the loss of currency risk in financing important projects is to allocate the risks among parties who can manage it best. The currency risk can be assigned to either investor (bank, creditor, foreign and local investor), or to the government of the country (particularly taxpayers), or to consumers of the service. Considering the current economic situation in Uzbekistan risk allocation may not be as successful as in other countries due to a number of reasons. For example, it is generally accepted that investors (banks, local or foreign creditors) have the capability of hedging the currency risks in the financial markets that's why they should be the ones to bear the risk of currency fluctuations. However, in case of Uzbekistan because of underdeveloped financial market there is almost no chance of hedging the risk. As a result, investors would be left fully exposed to the risk. On the other hand, allocation of the risks to government could be another option where the government guarantees to cover the loss caused by exchange rates especially for projects with low profit-margin where investors are hesitant to invest. Considering the situation in Uzbekistan having no government controlled currency regime, allocation of the risks to government would be too big burden for the budget and even applied would be limited to little number of very important projects financed by commercial banks due to pre-determined agreements. Currency risk in other commercial projects with international loans are impossible to be covered by the government. The third option of consumer-based allocation can be dangerous to future cash flows of the project as it means increase in the costs of the projects which affects demand for the product or service.

4.1.2 Local currency financing.

The World Bank group suggests and provides local currency financing in order to mitigate foreign exchange risks. With the developed currency market that would have been ideal for everyone as it would be possible to hedge risk exposure fully. However to generate resources in national currency financial institutions in Uzbekistan attracting foreign currency denominated loans could make a deposit in hard currency with bigger bank and get loan from them in local currency and then provide local currency loans to their clients. Taking into account economic situation in Uzbekistan, hedging of this type would dramatically increase the cost of borrowing which could be extremely expensive and even overweight the exchange rate risk losses. That type of hedging will make the loan too expensive to cover. However this type of back to back loans can be applicable to micro finance institutions as usually their loans are smaller in amount and their profit margin is higher.

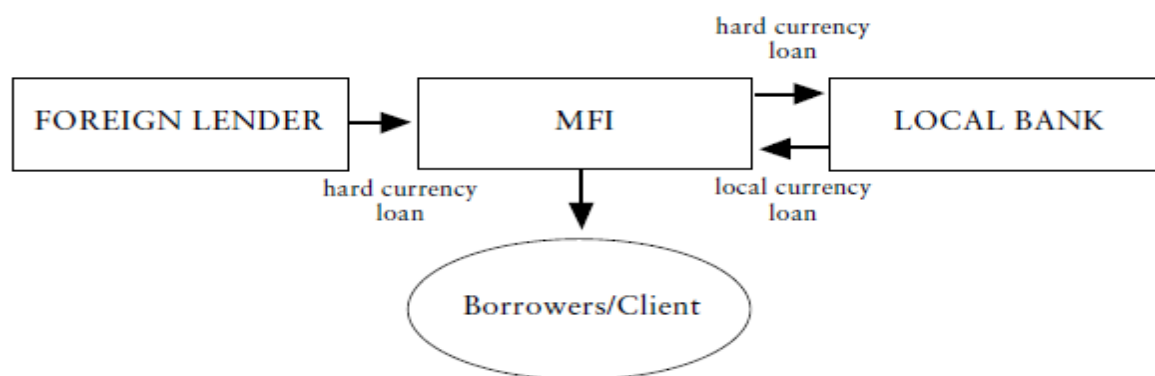


Figure 1. Back-to-Back Loan Structure (account maintained at local bank)

<https://www.cgap.org/sites/default/files/CGAP-Technical-Guide-Foreign-Exchange-Risk-Mitigation-Techniques-Structure-and-Documentation-Oct-2006.pdf>

4.1.3 Currency hedges.

Theoretically foreign exchange risk could be easily eliminated by having forward contracts based on the amount of the currency needed in the future. However, long term forward contracts are available only for a little number of currencies. Countries with low credit ratings like Uzbekistan, even they still could enter into long- or short-term forward agreements however the cost might be unaffordable for much of the institutions because of the high risks and exchange rate uncertainty. Of course, development of fully integrated local currency markets is a lengthy and difficult process. Nevertheless, it must be the utmost priority for emerging countries like Uzbekistan to develop derivatives market.

4.2 Asian Development Bank's and European Bank of Development and Reconstruction's experience on managing currency risk management

As providers of international loans both ADB and EBRD closely monitor their credit portfolio and accomplishes risk assessment using sophisticated methods and technology. Both financial organizations use almost similar techniques for assessing and managing currency risk.

4.2.1 Matching the amount of assets and liabilities denominated in foreign exchange currency.

Strategy of matching the assets and liabilities involves immediate loaning or depositing operations in the same currencies which is an effective way of operational hedge. However, in case of international financial institutions like EBRD or ADB it is a little different as they don't accept

deposits. They can easily match their assets with liabilities by issuing bonds appropriately to the currency and maturity dates of their assets.

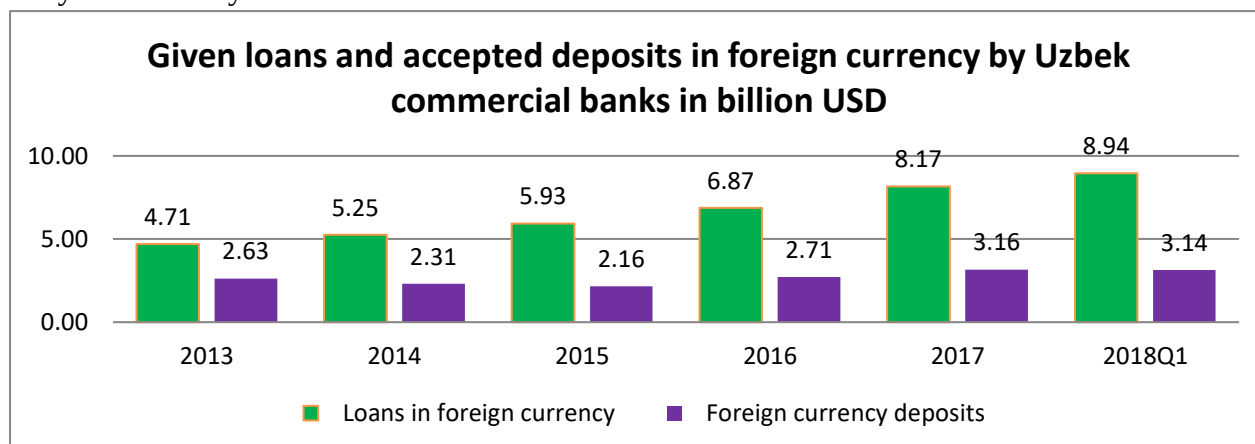


Chart 3

Source: <http://cbu.uz/en/statistics/e-gdds/data/111578/>

Under the current circumstances in Uzbekistan where financial institutions are capable of conducting both loaning and depositing in foreign currencies, putting into practice matching assets and liabilities would be very advantageous. On that course risk assessment committees should be established within each institution which would be responsible for assets and liabilities management. Moreover, setting up sophisticated system enabling calculations of the future changes in the size of assets and liabilities would make this type of hedging very effective tool. It would decrease the foreign exchange exposure of financial institution at no cost and does not require the existence of financial market within the country. Matching strategy, once applied properly will be one of the most appropriate techniques for Uzbek financial institutions taking into account current economic situation.

4.2.2 VaR and CVaR method.

Value at risk model is widely used for measuring exchange rate risk. ADB and EBRD estimates the riskiness of their foreign currency portfolio using VAR or CVAR systems. There are different model for calculating VaR all of which help us to evaluate future exchange rates and manage the currency risks.

4.2.3 Stress testing.

EBRD and ADB conduct a series of Stress-testing on a daily basis. Stress testing is produced in order to

- Identify changes in the level of the price of securities
- Analyzing the profit and loss impact of big deformations
- Based on the historic scenario produce stress test for entire portfolio

Once correctly applied by the financial organizations in Uzbekistan stress testing will become a powerful tool for monitoring the risk further ensuring management decisions making change within the appointed limits. However, lack of the experience of such modelling in financial organizations and lack of experienced risk management staff can become an obstacle in employing this powerful tool.

5. Japanese banks foreign exchange risk mitigation techniques.

5.1 Mizuho Financial Group

Mizuho financial group possesses sophisticated risk management structure beginning with the risk management departments responsible for monitoring, assessing and managing the overall market risk of the Group at middle offices and ending with Risk Management Committees under board of directors responsible for determining basic matters pertaining to market risk management policies.

In order to manage foreign exchange risk Mizuho Financial Group sets limits that corresponds to the risk profiles of the companies. All the risk mitigating limits are discussed and coordinated by the Risk Management Committee, discussed further by the Executive Management Committee, then finally approved by the President & Group CEO. Risk Management Committee takes into account various factors including business strategies, historical limit usage ratios, risk-bearing capacity (profits, total capital and risk management systems), profit targets and the market liquidity of the products involved.

5.1.1 VaR method

Mizuho Group employs company-wide market risk management departments. They monitor risks, submit reports and proposals relating to market risk management. Reports are submitted on a daily basis and system of mutual checks and balances are conducted by independent middle offices. Mizuho Group uses VaR method, supplemented with stress testing as principal instrument to assess foreign exchange risk. The VaR method used by Mizuho Group is based on Confidence interval of 99% with holding period of one day and historical observation period of one year. This method enables them the probability of 99% those losses will not exceed the preset limits. However when VaR calculations are not adequate middle office manages the risks using additional risk indices, carry out stress tests and set stop loss limits as needed. Financial institutions in Uzbekistan can fully adopt the VaR model however by nature VaR is statistical approach and requires using reliable past market data. Financial institutions in Uzbekistan should be very careful using VaR models as they are based on historical market data which in our case can be impossible to acquire.

5.1.2 Interest sensitivity analysis

Mizuho Group also conducts ISA (interest sensitivity analysis) which is one of the main sources of market risk. Interest rate sensitivity shows how much net present value varies when interest rates rise by 10 basis points. It explains the effect of interest rate on net present value.

5.1.3 Back testing and Stress testing

To evaluate the VaR model Mizuho Group carries out back tests regularly with the VaR model loss and profit estimations. For the fiscal year ended in March 31, 2017 Mizuho Group had zero cases where losses exceeded VaR during the given period which means VaR model is reliable if there is accurate market data. Financial institutions in Uzbekistan may use this model later in their operations when there will be enough market data available for historical simulation.

5.1.4 Market risk equivalent

Mizuho group has developed its own internal models based on VaR and stressed VaR to calculate the capital needs relating market risk (interest rate, foreign exchange rates) and separate models to calculate specific risks. However internal models are very sophisticated and requires a lot of research based on the activities and strategic development of the company, banks in Uzbekistan may employ them in the near future to ensure capital adequacy levels specially related to specific type of risks.

5.1.5 Foreign exchange risk management consulting services provided by Mizuho group to its clients

Mizuho Group has the capability to provide local and international currency expertise to its clients and manage their foreign exchange risk exposure. Mizuho Group operates as a full service market maker providing strategic consultations, transaction executions and complicated research and data analysis. Mizuho Group provides hedges covering 50 currencies including spot and forwards as well as derivatives.

6. Russian banks experience in currency risk management

6.1 Sberbank's currency risk mitigation methods

As former Soviet Union country, Russian banks experience in risk management is very valuable to refer to by banks in Uzbekistan as we share common business environment. Besides, having the experience of several currency crises, latest back in 2014, and Russian banking system developed sound foreign exchange risk awareness and advanced currency risk management strategies. Therefore looking at their way of development and learning from their experience is very valuable as we have similar problems and similar economic preconditions. Below we will look at the currency risk mitigation methods used by the Sberbank of Russia.

6.1.1 Authority and responsibility in risk management

Sberbank of Russia utilize a very sophisticated risk management structure with a number of defense lines integrated into each unit of the bank. On top there is Risk Management Committee which is responsible for in-depth review of risk management and preparing recommendations to Supervisory Board. Under the Executive Board there are five separate risk management committees responsible for different risk groups including Market Risks Committee. Market Risks Committee is mainly in charge of foreign exchange risk and interest rate risk. At the bottom line risk management structure is divided into three defense lines. First line of defense is Risk acceptance where Treasury and Business units are mainly involved. Second line of defense is Risk Management unit where different risks are assessed, evaluated and mitigated. Third line of defense is Internal Audit unit where auditing of the risk management system is accomplished. Compared to banks in Uzbekistan where there is only one Risk Management Department under the executive board responsible for all the types of risks at the same time. Moreover no integration of risk management into the operational unit where risk exposure should be managed. Besides this due to economic preconditions banks in Uzbekistan have been ignoring the Market risks particularly foreign exchange exposure, but at the current economic conditions foreign exchange exposure cannot be neglected.

6.1.2 Methods used by Sberbank of Russia to manage currency risk

Similar to Japanese banks Sberbank of Russia use the VaR method as the main risk assessment tool. VaR assesses maximum portfolio losses for a given time period with the probability of 99%. The currency risk management tool is the establishment of limits for separate portfolios. The limits are established on the four hierarchy levels, starting with the aggregate level and ending with the limits of the separate sub-portfolios or strategies.

Sberbank of Russia for mitigating foreign exchange exposure mainly employs matching assets and liabilities denominated in foreign currency based on the maturity date, sector and volume. Moreover, Sberbank of Russia uses currency hedges forwards, swaps and options in order to secure its future cash flows in foreign currency. Unfortunately, banks in Uzbekistan could not use the currency

market to hedge its currency positions therefore banks should take the advantage of the method of matching assets and liabilities.

Conclusion

Foreign exchange exposure is a danger that cannot be ignored by any firm or company in any country. Several ways of foreign exchange risk assessment, management and mitigation exist, however not all of them are suitable for companies and firms to be adopted at the same time depending on economic circumstances and market development. Especially financial institutions like banks or crediting organizations are very vulnerable to foreign exchange exposure due to high amount of foreign currency assets and liabilities.

To maintain low exchange rate exposure and successfully mitigate exchange risks it is of utmost importance for the banks to reorganize risk management staff and their structure in the bank units. Nowadays, many banks in Uzbekistan have risk management department within the head offices under the executive board. However, as in the case of Japan's Mizuho Group or Russia Sberbank there should be several Risk Management Committees for special group of risks with responsibilities and course of actions predetermined.

For example, Market Risk management Committee will be responsible for:

- integration of currency risk management into the business process of a credit institution in all levels, branches and spots;
- establishment of standards for management of currency risks and strict compliance by all employees and divisions of the bank;
- compliance of selected methods and instruments for minimizing foreign exchange risks;
- Non-stop monitoring, assessment and continuity of activities;
- Real time sufficiency of information in all branches and levels;
- assessments; restrictions; control;

Having no access to currency market and options of currency hedges financial institutions should take full advantage of operational hedging by matching liabilities and assets as suggested by International Financial Institutions. Currently banks poorly manage their assets and liabilities as seen in the (chart 5) which should be immediately improved. As banks have unlimited access to both depositing and crediting operation in foreign currencies banks must use this capability to reduce their currency exposure as much as possible.

Banks in Uzbekistan should employ portfolio stress testing on a daily basis to identify up and bottom level of their losses. Once correctly applied by the financial organizations in Uzbekistan stress testing will become a powerful tool for monitoring the risk further ensuring management decisions making change within the appointed limits. Therefore, highly qualified risk management staff should be employed who would be conducting the testing and sharing the results.

Development of IT technologies, user-friendly software and real time online trading platforms should be developed by commercial bank. Financial institutions should understand risk management is moving away from strong policies and strategies towards Artificial Intelligence technologies which could accomplish sophisticated calculations make necessary simulations and predict the future trend or accomplish necessary operations like buying or selling in a matter of seconds given the predetermined installations. Financial institution in Japan already developing such software and to catch up with them our banks should act immediately.

Of course, without developed currency market where different swaps, options, forwards and future contracts are offered, foreign exchange risk management would never be complete. So that government should make it a priority to create a necessary precondition for the currency market development like we are observing in Uzbekistan now. Once organized well, not only financial institutions like banks or credit organizations could manage their currency exposure but also great number of export and import firms could get advantage of hedges, so that creating extra supply and demand for the market which in turn will help to identify real market value of the currencies.

It is understandable that financial institutions in Uzbekistan are willing to employ statistical tools for predicting probability of their losses in terms of normal market fluctuations like VaR for risk assessment. However, at the current state of the currency market VaR method would be highly inaccurate as it requires real historical data on exchange rates which is impossible to obtain. Therefore, at the current stage VaR method would be inappropriate for risk assessment provided that Uzbekistan lacks real market currency exchange rates. However, in the near future these methods could be used fully once the currency market begins to operate properly.

References

1. Allayannis, G., Ihrig, J., & Weston, J. (n.d.). Exchange Rate Hedging: Financial Vs. Operational Strategies. *American Economic Review Papers & Proceedings*, 91 (2), pp391-395.
2. Allayannis, George, Ofek, & Eli. (2001). Exchange Rate Exposure, hedging and the use of foreign currency derivatives. *Journal of International Money and Finance*, 20 (2001) 273-296.
3. Barton, T. L., Shenkir, W. G., & Walker, P. L. (2002). Making Enterprise Risk Management Pay Off: How Leading Companies Implement Risk Management. *Brookfield, Connecticut: Fei Research Foundation*.
4. Berisha, Rustem Asllanaj, Albulena Shala ... positions of currencies movements. DOI: 10.5901/ajis.2014.v3n2p371
5. European Bank for Reconstruction and Development Financial Report 2010
6. <http://rru.worldbank.org/Viewpoint/index.asp>
7. <http://www.smfg.co.jp/english/company/organization/risk/>
8. <https://2017.report-sberbank.ru/en/risk-report/risk-management-principles>
9. <https://www.cb.ru>
10. <https://www.cbu.uz>
11. https://www.mizuho-fg.co.jp/investors/financial/sec/pdf/form_6-k_20160728.pdf
12. https://www.norges-bank.no/contentassets/3fba8b3a3432407d929ae9218db1ffc4/05_schenk_and_straumann2014.pdf
13. IMF working paper on Uzbekistan 2000
14. IMF working paper on Uzbekistan 2018
15. IMF working paper on: Exchange rate measurement and management: Issues and approaches for Firms *Michael Papaioannou* 2006
16. Paul Holden and Sarah Holden 2004 "Foreign Exchange Risk and Microfinance Institutions" The Enterprise Research Institute (ERI) Washington DC
17. Philip G and Timothy I. Allocating Exchange Rate Risk in Private Infrastructure Projects 2003 World Bank

18. Saunders and , 2003 - Administración de riesgos - 778 pages
19. Tomoko Matsukawa, Robert Sheppard and Joseph Wright “Foreign Exchange Risk mitigation for Power and Water Projects in Developing Countries” 2003 paper No.:9
20. UNCTAD World Investment Report 2017 p-10.