Money Laundering Affects on Bank Profitability

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Abstract

In 2019, Financial Action Task Force /FATF/ evaluated the implementation of the recommendations on anti-money laundering and terrorism, and placed Mongolia on the list of countries to be monitored or the "gray list", which not only caused a scandal in society and politics, but also affected the economy and foreign relations of Mongolia. As a result of cooperation between public and private sector organizations for the purpose of combating money laundering, at the FATF Asia-Pacific Anti-Money Laundering Group meeting held in August 2022, 39 out of 40 recommendations in Mongolia were evaluated as "fully implemented" or "mostly implemented".

As for Mongolia, government agencies are intensively organizing activities to improve regulatory measures and control mechanisms. Foreign researchers have done a lot of research on combating money laundering, detecting it, ensuring transparency, effective regulation, and how money laundering affects the economy.

This study was conducted since there is a lack of research on money laundering in Mongolia, particularly on how money laundering affects the economy and banking and finance sector.

Keywords: money laundering, bank profitability, economic crime, financial analysis, correlation

1. Introduction

In the 20th century, It is believed that an organized form of economic communication, designed to hide the source of cash-based income /money/, formed when the method of payment switched from cash to non-cash throughout the world. At the beginning of the 20th century, gangs made large amounts of illegal cash through crimes such as robbery, prostitution, drug and arms trafficking. In order to freely spend the proceeds of crime, it was necessary to confirm whether they were obtained legally and one of the methods used by the criminals was to mix the ill-gotten gains with the legitimate ones. To do this, criminals began to use the laundromats that they operated, where large amounts of cash were circulated.

Peter Lilley, an American economist and consultant in the fight against money laundering and terrorism, said that "current efforts to separate the proceeds of crime from its illegal activities

were carried out by American gangs at the time. For this purpose, they start a cash-flowing business, in which they invest their ill-gotten gains and withdraw legal cash. The word wash has a similar meaning to washing and cleaning, but at the time American gangs were actually using washing machines for this purpose."

The term "money laundering" was coined in the 1920s, when American gangs began using laundromats to make their ill-gotten cash look legitimate. and the concept meant making ill-gotten gains appear legitimate. Gradually, the word entered the official written language from the spoken language and began to be reflected in the legal documents of the countries.

According to "the United Nations Convention against Transnational Organized Crime", The conversion or transfer of property, knowing that such property is the proceeds of crime, for the purpose of concealing or disguising the illicit origin of the property or of helping any person who is involved in the commission of the predicate offence to evade the legal consequences of his or her action.

In most cases, money laundering occurs through the banking sector. The banking sector plays a very important role in capital allocation in an economy. Many studies have tested the effect of banking profitability and stability on economic development (Klein and Weill, 2018; Ho et al., 2019). Banking profitability refers to the measurement of efficiency and ultimately its profit and loss in the form of return on assets and return on equity. Banking profitability relates to financial stability and these are significant indicators for financial regulators, policymakers and for stakeholders (Xu et al., 2019).

According to Dowers and Palmreuther (2003) and Drayton (2002), money laundering harms the economy by causing monetary and socio-economic instability, economic distortions, and promoting corruption and a more vulnerable financial system. Similarly, Hendriyetty and Grewal (2017), found that money laundering increases criminal activities, increases the shadow economy and reduces tax collections.

Money laundering does not only undermine economic development but also affects banking performance. In this context, it is found that money laundering has a negative impact on banking stock valuation as well (Blani, 2019).

In this research, we tried to study whether money laundering affects the profitability of 5 biggest banks in Mongolia, and correlation between crime rate of money laundering and unemployment rate. In the research, the linear regression method was used to analyse data, the financial reports year between 2012-2021 of the five biggest banks of Mongolia, number of crimes registered year between 2012-2021 in National statistics office, and number of registered unemployed rate of that same period.

Financial reports of banks who has an influence in the Mongolian banking system for 2012-2021, the number of crimes registered between 2012-2021, the number of registered unemployed people, and the risk level of money laundering and terrorist financing developed by the Basel Institute of Governance were used by the National Statistics Office. Based on the data, the analysis was performed using the linear regression method.

The first part of the research is about the work written by the researchers on how money laundering affects bank profitability, the second part is about the data collected and the method

used to conduct the research, and the third part is about the research results.

2. Literature review

The researchers have investigated the various social, financial and economic consequences of ML (Sanusi, 2008). ML creates complications for the government(s) to manage and implement the economic policy and also has an adverse impact on income distribution, exchange rates and macro-economic indicators. In the existing literature, many studies examined the anti-money laundering (AML) regulations (Blani, 2019), AML practices in banks (Sanusi, 2008; Viritha and Mariappan, 2016; Slahi and Molla Imeny, 2019), AML disclosure and factors affecting the ML (Nobanee and Ellili, 2018).

Anti-money laundering control varies in different countries depending upon Anti-money laundering control efforts, investigated environment and time period. Many countries have established their own rules and regulations to control money laundering in accordance with international standards (Slahi and Molla Imeny, 2019). The European Commission, United Nations, Financial Action Task Force (FATF) are the major international standards setter organizations in the field of money laundering. In this regard, it is argued that financial institutions play a very important role in establishing a proper framework and structure to combat money laundering.

P.V. Revenkov and A.G. Voronin (2012) asserted that money laundering and terrorist financing pose a threat to financial market stability and international stability. They believed that this threat directly reduces tax revenue, negatively affects the value of the national currency and interest rates, and significantly damages the country's reputation.

In the examination of the relationship between money laundering and banking performance, Nobanee and Ellili (2018) investigated the impact of anti-money laundering disclosure on UAE banking performance and found that AML disclosure is at a low level for conventional and Islamic banks of UAE. The study also shows that the degree of anti-money laundering disclosure on annual reports is lower than bank websites.

Anti-money laundering regulations also have various effects on the profitability of firms and stock valuation. The researchers have investigated the anti-money laundering regulation's effects and reported the mixed effects of anti-money laundering regulations on banking stock valuation. Blani (2019) provides evidence that anti-money laundering regulations familiarized in 1998 have a positive impact on stock valuation while regulations introduced in 2001 negatively affect the stock valuation of USA banks. The findings suggest that because of greater investor confidence, regulations positively affect the banking stock valuation while regulations can negatively affect the stock valuation because of increased operational cost.

With the growing focus on illicit activities, the academic literature has emphasised coming up with a wide variety of automated detection systems to detect such illicit activities. As per Ngai et al. (2011), although the application of data-mining techniques has been extended towards the detection of insurance fraud, there exists a distinct lack of research on mortgage fraud, money laundering and securities and commodities fraud.

Zhang et al. (2003) on using Link Discovery based on Correlation Analysis (LDCA) suggested that the possibility of being associated with a money-laundering scheme would depend upon the

correlation between the financial transaction patterns of two persons. The data /surname, place of work, transaction date, address, transaction amount/ were processed, which were collected as a result of investigative work of a real case. using the LDCA method, after analyzing 332 documents and personal data of 252 people, 7 people were identified as members of a criminal group, which corresponds to reality.

LDCA uses a correlation measure to determine the "similarity" of patterns between two data items to infer the strength of their linkage.

Zdanowicz (2009) proposed the use of statistical analysis to monitor and detect trade-based money laundering. He uses not only country prices but also world prices and variance measures to determine unusual transactions. Consider a product, say, ketchup, that has an import price that lies below the margins of this country's usual ketchup prices. All transactions with aprice below the 5 percent margin or above the 95 percent margin are classified as trade-based money laundering.

Unger (2013) directed attention towards detection of money laundering being undertaken through real estate and trade. Bidabad (2017) suggested mechanisms to detect money laundering being undertaken through the use of banking transactions.

Barone and Schneider (2018) view cyberlaundering and money laundering accomplished through the use of automatic electronic devices as a growing threat. Dostov and Shust (2014), on investigating cryptocurrencies such as Digicash and Bitcoin and the threats they pose towards money laundering and financing of terrorism, found that the feature of anonymity is unlikely to make them popular among its users. According to them, cryptocurrencies have limitations in terms of negotiability, risk and the need for specialised training. In other words, as there is no universal acceptability for cryptocurrencies, the need to exchange them for fiat money arises at some point. Secondly, cryptocurrencies such as Bitcoins are unequally distributed and are highly volatile, which makes them unattractive. Dostov and Shust also stressed the importance of examining each cryptocurrency and their respective characteristics separately to develop an appropriate regulatory framework.

The need to have a regulatory framework in place to combat the threats posed by cryptocurrencies towards money laundering and financing of terrorism is supported by Choo (2015).

To address the problem of anonymity and untraceable nature of crypto currency transactions, Turner and Irwin (2018) made an attempt to de-anonymise Bitcoin transactions using a variety of software tools. The authors found that while it was possible to follow a transaction across the blockchain, the anonymity feature inherent in the system was not overcome. Using the "Wireshark" and "blockchain.info" programs, it was determined where transactions in the amount of 0.00449934 bitcoins were transferred.

As technology advances, so does the risk of money laundering using cryptocurrencies and other new technologies. Therefore, the above-mentioned scientists came to the conclusion that a legal document regulating relations related to cryptocurrency is needed

When looking at the research done in the field of combating money laundering, it is written more in the areas of transparency, regulation and control. So an empirical study should be conducted

on how money laundering affects the financial stability and profitability of banks, and whether social phenomena such as unemployment and crime are related to money laundering.

Since money laundering is a criminal offense under Article 18.6 of the Criminal Code of Mongolia, it is believed that it has a high probability of having a negative impact on the society and economy, so the following hypothesis is made. It includes:

Hypothesis 1: Money laundering will have a negative impact on bank profitability.
Hypothesis 2: Money laundering will have a negative impact on bank assets.
Hypothesis 3: Money laundering is directly related to unemployment.
Hypothesis 4: Money laundering is directly related to crime.

3. Collected data and methodology

The study aims to determine the relationship between money laundering and bank profitability. A data such as year-end financial reports for 2012-2021 from the websites of the banks who can influence the Mongolian banking system, the number of unemployed citizens and the number of crimes in Mongolia for 2012-2021 from the website of the National Statistics Office 1212.mn, from the website of the Basel Institute of Governance, Mongolia's money laundering risk level for 2012-2021 was collected and A linear regression method was used in the study.

The collected data is shown in Table 1. The risk level for Money Laundering and Terrorist Financing issued by the Basel Institute of Governance is marked as ML. The Basel Institute of Governance assesses countries' money laundering and terrorist financing risk levels from 0 to 10, and the higher the number, the higher the risk. The sum of assets and equity capital of influential banks in the Mongolian banking system is shown in the table in billion tugrug. ROA is the ratio of profit before tax to assets, and ROE is the ratio of profit before tax to equity.

Table 1. Collected data

Year	ML	Number of unemployed people	Number of registered crime	Assets, billion ₮	Owners equity, billion ₮	A profit before tax, billion ₮	ROA	ROE
2021	6.09	15462	25429	38,298.90	3,735.75	723.11	0.0189	0.1936
2020	6.24	18103	23064	34,357.64	3,539.26	341.26	0.0099	0.0964
2019	6.57	20761	31524	31,411.64	2,916.47	381.18	0.0121	0.1307
2018	6.65	24964	36220	28,535.53	2,929.83	329.72	0.0116	0.1125
2017	6.14	25450	32259	24,735.30	2,557.27	238.59	0.0096	0.0933
2016	6.11	34412	27167	22,130.91	2,236.08	216.25	0.0098	0.0967
2015	6.13	32788	27757	18,105.20	1,916.76	271.27	0.0150	0.1415
2014	6.14	36970	27318	18,690.05	1,612.71	318.75	0.0171	0.1976
2013	6.14	42772	25362	17,238.53	1,230.93	388.14	0.0225	0.3153
2012	6.35	35776	22089	9,415.42	784.54	219.79	0.0233	0.2802

According to the collected data, between 2012 and 2021, Mongolia's risk of money laundering and terrorist financing was assessed as the highest in 2018 (6.65) and the lowest in 2021 (6.09). The highest number of unemployed people was recorded as 42,772 people in 2013, and 36,220 crimes were recorded in 2018, which is the highest figure. The assets of the 5 influential banks of the Mongolian banking system have continuously increased since 2012, reaching 38.2 trillion MNT in 2021, and their own capital has reached 3.7 trillion MNT. The minimum ratio of profit to assets ratio is 0.0096, the maximum ratio is 0.0233, the minimum ratio of profit to equity ratio is 0.0933, the maximum ratio is 0.3153.

The correlation coefficient was calculated to determine whether there is a relationship between the financial risk level assessment of money laundering and terrorism in Mongolia, the number of unemployed people, the number of registered crimes, the sum of bank assets, equity, pre-tax profits and profitability coefficients, and the results are table 2- d showed.

The correlation coefficient is between -1 and +1, and the closer to -1, the more inverse correlation, and the closer to +1, the data are considered to be directly related.

The correlation coefficient between the financial indicators of banks who has an influence to the Mongolian banking sector and financial risk level assessment of money laundering and terrorism in Mongolia is between -0.18 and +0.16, and the number of unemployed people is -0.27, which indicates that there is no correlation between the above figures. This shows that the conclusion of Qamar (2020) that money laundering had a negative effect on the profitability of banks in Malaysia and Pakistan does not match for banks in Mongolia. From this, it can be concluded that money laundering has different effects on the profitability of banks depending on the country's social, economic, and finance feature.

The correlation between Mongolia's money laundering and terrorist financing risk level assessment and the number of reported crimes is +0.55, indicating a strong direct correlation.

In addition, in order to reduce the amount of data, when analyzing the data between 2018 and 2021, it is shown in the table that the correlation coefficient was calculated so that the indicators are highly correlated.

Table2. Correlation coefficient

	ML	Number of unemployed people	Number of registered crime	Assets	Equity	Profit before tax	ROA	ROE
ML*	1	-0.27	0.55	0.16	0.15	-0.11	-0.18	-0.17
ML**	1	0.95	0.90	-0.97	-0.99	-0.73	-0.58	-0.54

*-Estimation based on data from 2012-2021
**-Estimation based on data from 2018-2021

4. Conclusion
In this research, the existence of a relationship between money laundering and bank profitability, unemployment, and crime in the case of Mongolia has been investigated by calculating

correlation coefficients using statistical data and linear regression methods. Banks' profitability figures are based on the financial indicators of 5 influential banks in the Mongolian banking system, and money laundering figures are taken from the evaluation of Mongolia's money laundering and terrorism financing risk level issued by the Basel Institute of Governance. In addition, unemployment and crime rates are based on statistics released by the National Statistics Office of Mongolia.

The research showed that money laundering has no effect on the profitability of banks in Mongolia.

The results showed that there is a strong direct correlation between the level of risk of money laundering and terrorist financing in Mongolia and the number of registered crimes, while there is an inverse weak correlation between the number of unemployed people.

1 of the 4 hypotheses made before the start of the study was confirmed and 3 were not.

Hypothesis 1: Money laundering will have a negative impact on bank profitability. - NOT CONFIRMED

Hypothesis 2: Money laundering will have a negative impact on bank assets. - NOT CONFIRMED

Hypothesis 3: Money laundering is directly related to unemployment. - NOT CONFIRMED

Hypothesis 4: Money laundering is directly related to crime. - APPROVED

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