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# Interviewing With a Shadow: Agricultural Trade Chain in Kyrgyzstan

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## Abstract

Kyrgyzstan is considered as one of the territorially smallest but politically highly challenging countries in the Central Asia. In the first section of the article readers can find the main concerns and the method that is used in the study before it comes to the point of having political economic background of the country in the next part. As the aim of this work is to understand and analyse the agricultural trade chain and how the shadow economy is taking place in the market, within the scope of this study, in-depth interviews as part of a field study were conducted in Bishkek and its findings were examined after giving the theoretical and historical background. In the fourth and the last section, Kyrgyzstan's international status is studied and with a conclusion part where an overall assessment was gathered, the study will come to an end.

## Keywords

Kyrgyzstan, political instability, illegal trade, shadow economy, agriculture

## Introduction: What the article aims to find out and the methodology adopted

Located in the mountains of Central Asia, Kyrgyzstan has been one of the lowest-income republics of the former Soviet Union, despite having a relatively diversified economy and well-educated workforce. One of the main reasons why Kyrgyzstan was chosen as a case study is that, following independence, Kyrgyzstan played a progressive role in realizing market reforms such as an improved regulatory system and land reform, and was the first country in Commonwealth of Independent States to be admitted to the World Trade Organization in 1998.

The primary aim of this article is to understand and analyze the Kyrgyz agricultural political economy and whether it is a shadow economy in the sense of agricultural political and legal regulations in the country. Research question, therefore, can be put forward as which legal basis the country has for the agricultural sector and how the illegal or shadow economic structure of Kyrgyz agricultural economy is taking place in the market. For this purpose, in order to be able to answer the first question the way to find out legal regulations and the law which is operating in the agricultural trade relations in the country is adopted in this article. In the aim of reaching an answer to the second question we carry out a field work in the agricultural trade chain in Bishkek market. With the data we collected from the field, it is our main concern to get the point to give an approved answer to the question of how the agricultural trade chain is processed by different actors in the market.

In our fieldwork we thought ourselves as a co-producer of the data while keeping in mind that the main information should be provided by the people we interviewed with. We organized our interviews as semi-structured in order to get the participants' points more clearly and in a pure way. It is also very important to establish a trust-based conversation with the participants in interviews since they would

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share sensitive issues and they would like to feel understood and in safe zone.. While we were gathering the data from the field, we aimed to connect with the people on the basis of trust and interviews were made in places that participants would feel safe and in time that participants would like to share and of course in a way that they would feel that we wish to understand their points. However, as in many methods, in-depth interviewing process has also its own problems. Making generalization based on the data collected from the field is not possible since the number of participants are not enough and the nature of the method is based on uniqueness. In the interviews we made in Bishkek we also faced with the same obstacle that we could not make any bold generalization. On the other hand it is not necessarily a goal for the research to make bold generalizations if the interview process reached its saturation point. After interviewing with six people we started to get answers not the same but very close to each other and it was a saturation point for our study to go on with further interviews since it would not provide anything new. Deciding and finding participants part is also a challenging point for the research, therefore it was quite an easy call to reach people through snow-ball method with the advantage to establish trust-based dialogue as well. As it is mentioned above, preparing questions is a very important point that researcher should take into consideration the most. Our interview structure was consisting of three major sections which can be listed as followings; participants' working and personal info as the first section, production info and legality of the trade as the second section and comments and concerns as the third section and the questions were asked to the participants based on the nature of dialogue while sticking into the sections' aims with it. The interview process, as it needs to be done so, started with a smooth entrance through introducing the researcher and the research itself. Since the participants would not agree to be audio-recorded<sup>3</sup>, the research was conducted via taking notes on every words that participants said and gestures, tone of their voices, some kind of body movements they made. All participants gave their permission to be recorded in this way and their words to be used in the article. In the next chapter of the article the political economic understanding of the country from independence will be examined in order to make linkages between the procedural developments in the political economy with the field work analysis we make.

### **Political Economic Understanding: Socio-economic situation from independence to the present**

Kyrgyzstan has been one of the lowest-income republics of the former Soviet Union, despite having a relatively diversified economy and well-educated workforce. Under the command economy, Kyrgyzstan has historically become a country of industrial agriculture. Kyrgyzstan gained the greatest economic importance thanks to the gold mine, of which Kyrgyzstan was the third largest supplier to the Soviet Union (DEiK, 2012:16). In addition, while agriculture employs one third of the workforce in the country's economy, comparatively, the average employment in agriculture in other Soviet Republics was 19% (Rumer & Zhukov, 1998:68). Agricultural specialization enabled Kyrgyzstan to meet its food needs through its own production. However, due to the shortcomings of industrial facilities and the underdevelopment of the industry, it has been heavily dependent on the delivery of non-food products from other regions. On the other hand, the country had a great potential, especially in the energy sector, but it was insufficient to put this potential into practice. While the food industry products that stand out in the country in terms of export are listed as tobacco, meat products and canned vegetables, on the other hand, it is seen that Kyrgyzstan is insufficient in the production of some consumer goods (vegetable oil, dairy products, confectionery products), albeit for its own needs (Plyshevskii, 1995:30). However, with the collapse of the traditional supply chains as a result of the collapse of the Soviet economy and the termination of important transfers from the

Soviet Union, the newly developing Kyrgyz economy has been hit hard, especially in the defense and machinery industries, as well as in the refined sugar industry (D^browski & Antczak, 1994:1-2).

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<sup>3</sup> Concerns of the participants were mainly about the any possible political fluctuation in the country and the illegality of the trade that are being done. Since the agricultural trade chain is proceeding illegal and without any paper work or written procedure, participants would not agree to be showed up and audio recorded; because of the concerns on the possibility of being found openly guilty for illegal trade. Therefore, having respect to their privacy and appreciation for contributing the field work, their answers were transcribed in hand-writing. Ethical committees which gave the approval for our study are informed about the concerns of the participants and agreed to our method to make the field work.





This process means not only loss of potential market but also rising inflation, high transaction costs and high commercial risks.

Shortly after independence on August 31, 1991, the newly formed Kyrgyz government decided to establish the legal and regulatory basis for a market economy. President Akayev, as an important political actor of the period, followed the path of market economy. By targeting a clear economic strategy, the Kyrgyz government aimed to liberalize trade as much as possible with the support of international organizations, especially the World Trade Organization (WTO). However, this process of change has brought both crisis and opportunities. In this context, radical reforms were implemented in the free trade process. Because the geographical location of Kyrgyzstan has been a necessary factor in the formation of foreign trade policy. In other words, the lack of direct access to commercial ports has played an important role in removing barriers to international trade and has been the reason for many agreements. In this way, the existing natural borders were transcended through economic agreements with other countries.

With these goals, the Kyrgyz government started a neoliberal reform program shortly after independence. This program is based on a comprehensive economic transformation framework. The main elements of the structural reform program included the introduction of a new pro-foreign and convertible currency, trade liberalization, financial sector reform, and land reform and privatization of small-scale enterprises (Manasov, 2019:76). Under this programme, the country carried out the privatization of small businesses, liberalization of trade, and restructuring of the country's banking and financial systems.

In fact, the situation that is shown as the main target of the reforms is the process of Kyrgyzstan's membership to the WTO, whose assistance was mentioned above. The membership process and development of the country whose membership was accepted in 1998 was different from other countries in the region. Membership was considered very important for purposes such as making strong economic gains and having foreign partners. Due to both the country's request and the preference for a free market in the current economy, the visible change in the country's membership process has been on the proportional equalization of the consumption tax applied to imported and exported goods (Manasov, 2019:88). On the other hand, the reforms did not meet the expected positive results in the near future. The accompanying worsening of the economic situation and the emergence of social problems led to the revision of the reform program, especially for the liberalization of prices. For this reason, it has been considered to implement regulatory economic measures in order to regulate inflation and control prices. International organizations have argued that these disruptions are the result of the Kyrgyz administration's failure to properly understand the reforms, but not the ineffectiveness of shock therapy, the inadequacy of the market, or the mismatch between fiscal policy and economic policy (Plyshevskii, 1995:30). During the 1990s, these problems did not disappear completely and the country's economy constantly faced this situation. In addition to the freedom in the economy, in this period in Kyrgyzstan, there is a family and kin-based relationship network in the economic field, just as seen in political relations. The role of President Akayev's family and close circle in the economic field was strengthened by the fact that people gained influence in strategic sectors during Akayev's rule. In this framework, the Akayev family acquired ownership in sectors such as oil supply and processing, sugar industry, cement production and newsprint, from which they took over the mass media market, without paying taxes to the state (Ismailbekova, 2018:9). Thus, the current power has become an administration in which the control over the business world strengthens the political influence. Therefore, in this period, economic facilities such as tax exemption provided for influential people from the business world in order to secure their commercial activities, also formed the economic basis of the mutual relationship network that returned to Akayev as political support. A similar situation experienced in the economic field was also seen during the Bakiyev government, which came to power in 2005 after the Akayev administration. With the appointment of Maxim Bakiyev, the son of the President, to the management of the Development, Investment and Innovation Center Agency established in the country, the entire economic course of the country was transferred to him, and in this way, the son Bakiyev was appointed to the agency responsible for evaluating the domestic economy and international trade of Kyrgyzstan. and has been responsible for all tender, domestic and foreign investment networks (Osmonov, 2009:16).





In general, the economic growth in Kyrgyzstan gained momentum with the processing of gold deposits in the country's territory. After the Makmal gold mine, which was the first gold mine site, started to work, the country became an important gold supplier to the Soviet economy as a result of the economy that was opened with other mining fields (DEIK, 2012:16). After independence, gold extraction has been extensively developed as the main focus of foreign direct investment. Gold mining, which became the cornerstone of the Kyrgyz economy in the years following independence, played a driving role in the development of not only the economy but also the social infrastructure. The growth of the national economy is planned together with the growth of the mining sector. The rate of economic growth or decline in the country directly depends on the development of mining and especially on the gold mining sector. Since the beginning of independence, gold has remained the country's main export commodity. According to the information provided on the website of the Ministry of Economy, Switzerland, the main buyer of gold, accounts for 42% of Kyrgyzstan's total gold exports (Podolskaya, 2017). The free market established in the gold mining sector has negative social and political effects on the local people. A long-term stability seems possible only with the equal participation of the people in local politics and decision-making processes on an equal basis, and the impartiality of the state.

From an economic point of view, it was aimed to start the process of free market and openness in the Kyrgyz economy by bringing liberalization practices to the country's economy after independence. Kyrgyzstan, which cannot reach liberal economies with natural borders or ports due to its geographical location, has tried to integrate into the economies of capitalist countries with the liberalization of the economy. In addition, it is possible to say that the country's economy is dependent on foreign sources due to lack of resources. Due to this foreign dependency, Kyrgyzstan has joined certain economic and international treaties and unions. On the other hand, the gold mine formed the cornerstone of the country's economy. Foreign dependency in the economic field has also been a determinant in the country's international relations. General vulnerability and dependence on foreign support forced Kyrgyzstan to maintain close relations with the hegemonic states periodically. For this reason, Kyrgyzstan's relations with other Central Asian countries are complicated due to their mutual distrust. Kyrgyzstan strives to develop good relations with the European Union and the USA, especially in order to balance the dominance of Russia and China in the region. However, despite the low strategic interest of both the EU and the USA in the country, the Kyrgyz regime has a positive view that it will maintain its democratic authenticity and will attract investment and support from the West in the future. Shortly after independence on August 31, 1991, the newly formed Kyrgyz government decided to establish the legal and regulatory basis for a market economy.

Kyrgyzstan, which does not have large-scale industry, large energy resources and a large population compared to the countries in the region, has therefore received relatively less attention from Western enterprises and states. Therefore, the only viable option for President Akayev, as an important political actor of the period, was to follow the path of market economy and democratization by advocating an open economy, to liberalize wages and trade, and thus to try to adapt to the developing capitalist world. By targeting a clear economic strategy, the Kyrgyz government aimed to liberalize trade as much as possible with the support of international organizations, especially the World Trade Organization. However, this process of change has brought both crisis and opportunities. Agriculture has an important place in the economy of Kyrgyzstan. This situation appears as an important factor in the economic restructuring process of Kyrgyzstan, especially in the post-Soviet period. It has been experienced that international investors and multinational companies invest in these sectors in cooperation with the state. In other words, the lack of direct access to commercial ports has played an important role in removing barriers to international trade and has been the reason for many agreements. In this way, the existing natural borders were transcended through economic agreements with other countries.

Kyrgyzstan's economy is heavily dependent on the agricultural sector. Kyrgyzstan has historically become a country of industrial agriculture. In addition, while agriculture in the country's economy employs one third of the labor force, comparatively, the average employment in agriculture in other Soviet Republics was 19% (Rumer & Zhukov, 1998:68). Agricultural specialization enabled Kyrgyzstan to meet its food needs through its own production.





Kyrgyzstan is a member of the organization of Commonwealth of Independent States (CIS) and has close relations diplomatically with the other member countries. Coming to the trade relations it is even closer the way the member countries' relations among each other. CIS countries founded Free Trade Area in 1994. In the Kyrgyz Republic products, being imported from one of the CIS countries, except from excise goods (such as alcohol and tobacco); furniture; video, television and computer equipment and any accessories to such electronic equipment with certain certificates are not subjected to any customs, quotas or taxes according to the agreement (ARIC, n.d.). From the beginning of the 2000s Kyrgyzstan decided to make trade relations with the USA more effective and in 2004 Trade and Investment Framework Agreement between the Kyrgyz Republic and the United States, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan was signed to make trade relations easier and more limitless. The Kyrgyz Republic, in 2015, joined also to the platform of the Eurasian Economic Union (EAEU) in which bilateral and multilateral negotiations about trade might be held (ARIC, n.d.).

Looking at the Kyrgyzstan's bilateral trade relations, it is obvious that Kazakhstan should be taken into consideration firstly. According to the data provided by EAEU, the mutual trade turnover between Kyrgyzstan and other member countries was dominated around more than %22 by the trade between Kazakhstan (Ruslanova & Raissova, 2020). There is a bilateral free trade agreement between Kyrgyzstan and Kazakhstan upon which two countries' producers sell their goods to each other legally. General Agreement on Tariffs and Trade (GATT) and WTO notified the Free Trade Agreement between the countries which was signed in 1995 and from then on domestic producers have been trading their products (ARIC, n.d.). It can be said that the economy of Kyrgyzstan continues to be vulnerable in 2019, with the economy being open to external shocks due to its dependence on a gold mine which constitutes approximately 8% of GDP and remittances equivalent to 28% (The World Bank, 2020). In addition, as of 2020, this fragile situation has become even more evident with the conditions of the COVID-19 pandemic. According to the European Bank for Reconstruction and Development, remittances to Kyrgyzstan fell by 7% in the January-August 2020 period (Bartlett, 2021).

### **Deeper looking in the market, a field work: Agricultural production and trade chain of goods in the Kyrgyz Republic**

As stated in Article 5 of Kyrgyzstan's Law on Peasant Farm;

a peasant farm shall have the right to independently organize economic activities, determine directions and types of such activities; own, purchase or otherwise acquire, sell, pledge, and exercise other real rights to property subject to procedures and conditions set forth in legislation of the Kyrgyz Republic and the charter of the farm; use for economic purposes, subject to the provisions of legislation of the Kyrgyz Republic, common minerals, water objects available on the land plot as well as exploit other useful qualities of land; independently dispose of the products manufactured and revenues from sale thereof; engage, subject to the established procedures, in supplementary/seasonal works and processing of agricultural products.

According to this article, the rights of peasant farms seem to offer quite a wide range of property rights. However, there is no statement regarding reporting in this article. When it comes to article 6; the phrase *"any peasant farms shall on a timely basis pay the land tax or make payments for lease of the land, as well as other obligatory payments envisioned by legislation of the Kyrgyz Republic"* is noteworthy. Regarding land tax and the tax on income obtained from products grown on this land, it is necessary to look at the Tax Code of the Kyrgyz Republic. As stated in Article 8; *"a peasantfarm shall have an ownership right to the products it produces and to the revenues from sale of such products which the farm may use at its own discretion."* Accordingly, the farmer has the right to own property on the income of the product he produces, but this property-based taxation can be found only in the Tax Code of the Kyrgyz Republic, as stated in Article 10. Looking at the Tax Code of Kyrgyzstan, peasant (farm) economy is defined as individual entrepreneurship (Article 26). Therefore, it is taxed as individual entrepreneurship. As stated in Article 106, *"a unified tax declaration is a tax reporting, the purpose of which is to provide information on the economic activity of the subject, information on*





income, expenses and property necessary for calculating the tax liability, on the calculated and / or paid amount of taxes and applicable tax benefits. ” In addition, the transfer of information regarding taxation and recording of statistics must be carried out by peasant farms according to Article 143.

When all these details are considered, statistical information is recorded as the villages that make a living by farming are informed about the legislation, the necessary instructions are prepared for them to fulfill the obligations in this legislation and the villagers implement these directives, the processes are blocked due to ambiguity and ambiguous statements in the taxation processes, and the gain of the farmer enters the taxation processes. It requires a great deal of bureaucracy. We are talking about a very voluminous paperwork process for both the bureaucracy and the farmer. Therefore, it is inevitable for the state to increase its investments to monitor these processes. However, in the current ambiguity, it does not seem possible for the villagers who work the land to make a living to do what the legislation requires, even just for production. The legal obligations and taxation of selling products from villages to city markets and even cross-border markets go far beyond what the farmer can do. For this reason, a number of intermediary people and institutions emerge that fill these gaps in the ambiguous mechanism. Brokers and companies have also found ways to make money in this chain by inventing illegal ways to eliminate the legal impasse in the production process of Kyrgyzstan peasants. They have created an informal economy in order to overcome the legal barriers on the bridge between the producer and the consumer and to make a profit for themselves.

In this part of the study, the findings of our field study conducted in Bishkek, Kyrgyzstan are included. During the one-month fieldwork conducted in Bishkek, interviews were conducted with agricultural producers and brokers. In the article, the findings of our field study conducted in Bishkek, Kyrgyzstan are included. This field study aims to determine the chain of delivery of the products produced by local agricultural producers in Kyrgyz villages to the city market and abroad, and to interview all actors in this chain. In this way, it will be understood how and by which methods the product of the producer reaches the buyer in the trade chain and it will be seen how much of the economy operates illegally outside of registered trade. Interviews were held with local producers producing in the village, brokers making transportation, marketers selling their products in Bishkek city market, and sellers selling products going to Kazakhstan in Almaty market, and it was aimed to reveal how large the untaxed, illegal and shadow economy part of this chain is.

Çınara 48 years old, secondary school graduate, mother of four children, produces and sells fruits such as sour cherries, plums, apples, pears and various vegetables for nine months of the year. She is a citizen who produces with her husband in Issyk-Kul. She sells the products she has stored in the refrigerators in the summer during the three-month winter period when she cannot produce. She states that she provides most of her household income from her own labor. Working 10 hours a day, Çınara earns an average of 8,000 som, or about 100 dollars. She sells its products to the Kazakhstan and Bishkek markets, pays 13 soms per kilo to the driver who transports the products it sends to the Almaty market, and sends an average of 700 kg of product. For the products it sends to the Bishkek market, there is a difference of 2.5 soms per kilo, and its products are sold for 2.5 soms per kilo more in the Bishkek market. The best goods are sent to the Almaty market, these products account for about 30 percent of the production. No receipts, taxes or bills for any purchases, including 13 soms per kilo paid to the driver. The 13 soms given to the driver are considered as the fee paid for all paperwork and entry of products into the Almaty market. For the goods sold in Bishkek, only 2.5 soms are paid to the driver, as documents such as customs documents etc. are not required. Çınara and other producers earn 7 soms per kilo from the products they send to the Bishkek market. Of course, this is the money left after the shipping fee paid to the driver. Therefore, the products sent to the Bishkek market reach the buyer with a fee of 2.5 soms more than where they are produced. Meanwhile, the difference in fees goes to the broker, not the producer. For the products sent to Kazakhstan, she earns 40 soms per kilo, 13 soms he pays to the driver per kilo, finds a place in the price paid by the buyers shopping in the Almaty market, and the product becomes more and more expensive on the way from the producer to the buyer. All these, on the other hand, are tax-free and excluded from economic statistics, as they are done informally and without bills. Çınara states that she was able to provide education for her four children and own a house under these living conditions, but all of her children are currently working as workers in Russia.



Another interview that was done with Aruke who is 36 year-old agricultural producer, married with three children contained shadow economic features as well. Aruke graduated from secondary school, works in agriculture, grows and sells vegetables, does not work between October and February. She stocks some vegetables, sells them in winter, and her husband is also farming. She stated that she works 10 hours a day, earns an average of 6,000 soms, sells to the Kazakhstan and Bishkek markets and she is like the other producers paying the driver 13 soms per kilo to Almaty, sends an average of 400 kg, in Bishkek it makes a difference of 2.5 soms per kilogram. Aruke also said that there is nothing written during the trade with the broker. She claims that which makes this kind of trade preferable for them is avoiding papers and documents that Dordoy Food asks for, and it is somehow a trust-based relationship because after broker buys the products now every problem that can be occurred is his own business. The law does not give such a confidence to the producer and producer prefer to pay for it in trade with the broker. She has been working for 13 years. Their children are of school age, their house is their own property, they live in the village, they want to send their children to Russia or Kazakhstan when they grow enough to work abroad she said.

The interviews we conducted with the drivers who bought their products from Çınara and Aruke and took them to Bishkek and Almaty enabled us to reach some very interesting findings. Among the most important reasons for us to do this it can be said to make a comparison between the gain of the producer in the market and the gain of the brokers in the market, to determine the place of the brokers in the informal economy and to test the thesis that they are the most important link in the chain, apart from the position of the brokers connecting the producer and the buyer, discovering what functions they can have in the chain of shadow economy.

The 34-year-old broker driver Muhammad lives with his mother, father, a child and a brother in Issyk-Kul. Like Çınara and other producers, he works less in the three-month period in winter. The truck he transports is his own vehicle of \$26,000 worth, he spends 200 liters of fuel for each shipment he makes to Almaty, with an average of 60 soms per litre of fuel. He works with about 15 villagers, including Çınara, with charging 13 som per kilo and working with Dordoy Food company, which is authorized to prepare some legal documents to transfer the products to Kazakhstan. Dordoy Food is a market company authorized by the state and is in a monopoly position in Kyrgyzstan, and the documents it prepares are specified by the brokers as the CMR document transport contract, Phytosanitary document, filling document. Therefore, every agricultural producer and broker who wants to bring products to the Almaty market has to get the legal document by paying 30,000 soms per 5 tons and 50,000 soms per 10 tons to Dordoy Food company. This process is required for every product sent to the Altın Ordo market, so villagers are willing to let the brokers do this by not bothering with the preparation of these legal documents and paying taxes to sell their products. Since the brokers work with about 15 producers rather than a single producer, they carry a huge amount of product and the document fee they pay to Dordoy Food is less than the burden that would be incurred if a single villager paid. That's why the villagers consider the 13 soms they pay per kilo as a service fee for the brokers to do all this. For the brokers, the money he paid to Dordoy Food, together with the tons of products he collected from many villagers and the extra fee he received per kilo, is considered quite fair. This legal mechanism is one of the biggest reasons why the villagers work informally without dealing with receipts, bills and taxes for the goods they produce. Brokers earn an average of 50,000 soms a day by working nine months a year, 20 days a month, and this is the net income they have after subtracting all costs. Counting their expenses also reveals an important finding, with the common expression of all brokers, apart from fuel and travel expenses, there are three different bribes at customs. The bribe paid to get ahead while waiting at the border, to pass without waiting at some points and to pass the goods across the border at the x-ray points where the quality of the products is checked, costs a total of 3000 soms. Sometimes brokers take the products to Russia and sell them without even knowing the manufacturer, and the third and fourth brokers are included in this chain. We see that the product is at least six times more expensive on the way from the producer to the buyer, with the inclusion of the second and third brokers in the chain after the first broker who earned

20.0 som per ton for the goods going to Russia. If the producing villager earns one unit, the buyer pays six units to reach this product and the difference goes to more than one broker's pocket.



Another interview with a broker was made with broker shipper, Mirbek, 40 years old, married with two children live also with his parents and is waiting for another baby. He is a truck transporter and a high school graduate. He works from May to January, the car he uses for transport is his own. Mirbek stated that going to Almaty costs 220 liters of gasoline, 60 soms per liter of gasoline. These are costs on the way. He works with 20 villagers, receives 13 soms for each kilo, works with Dordoy Food company to prepare legal documents, pays them

30.0 soms for 5 tons, 50,000 soms for 10 tons, He has been working for almost 20 years. Mostly he works 15 days a month, earns an average of 60,000 som a day for one shipping, works nine months a year. As Muhammed said, Mirbek also stated that he pays for bribes at customs, bribes customs, for not-so-well goods and he claims that it costs between 400-1000 soms; he gives bribes in three different places, he also gives bribes to pass without waiting in the queue.

Another interview with a marketer was made with both broker and marketer, Mirlan, 28 year-old single male, studying at university, works with brokers who bring vegetables and fruits from the villagers. Mirlan buys goods from them and sells them in the Bishkek market. He works 14 hours a day and earns an average of 12,000 som. It costs 2.5 soms per kilo in Bishkek, so it plays a role in creating a trade difference between the buyer and the producer by selling for more than the producer's earnings. He stated that the business is going in unregistered and unwritten ways between brokers and him. Since brokers do not have to prepare documents registered in the domestic market, he does not pay a lot to the broker extra Money for paper work. He has been trading for six years. After graduating from university, he wants to go to Russia and work there.

Kubanic, 40 years old, male, married with children, used to work as a broker. He brought and sold many production goods such as electronic/technological devices, cars, etc. to Kyrgyzstan as a broker or sent them abroad from Kyrgyzstan. He thinks that he can do all this without any registration and that 80 percent of the trade is running under the shadow economy and that the biggest reason is the loopholes in the laws. He states that there is no strong mechanism to follow the law and that political instability has allowed all this illegal unregistered trade. In this way, goods entering and leaving the customs through bribery and smuggling enter the market without being subject to taxation, and intermediary people called brokers become actors who guarantee the goods. The difference in fees for each commodity is that the brokers act as an actor who will offer a guarantee for the goods as a result of all this illegal transaction.

What do these interviews tell us? In order to answer the question of what we should deduce from the information gathered in these interviews, we must first remember the question we asked at the beginning. At what stage and to what extent does the shadow economy operate in the agricultural industry of Kyrgyzstan? As can be understood from the interviews, the shadow economy is actually spread over a large area where all kinds of actors are involved and at every stage of trade. It is possible to observe the shadow economy in this whole process, which includes agricultural producers, brokers who bring the products to the market, and second generation brokers who take the products from the market to larger markets. It is clear that the price of the product increases exponentially from the producer to the buyer, without a recorded transaction during this commercial process. The shadow economy has actually taken over every stage of the agribusiness, and the laws seem quite inadequate and far from institutionalized in this respect. In addition, considering the dimensions of the shadow economy, it is impossible to give precise information since there are no registered transactions, but we see that almost all of the country's agricultural economy is made with unregistered transactions. It is also a matter of a commercial network where bribery is also very large. Therefore, since Kyrgyzstan did not take it under control, it is possible to say that millions changed hands in the market and caused great damage to the country's economy. Since unregistered transactions are conducted in a tax evasion manner, the state lacks those sources as well, but it is clear from the interviews why people prefer this path. The most important thing for the country to do is to ensure that the agricultural economy is registered with a detailed agricultural trade law, to follow up and to establish a properly functioning commercial network away from the complex bureaucracy that will make it difficult for people.



### Conclusion: What the article reached and how to go further

After independence, the free market and the process of opening up in the Kyrgyz economy were targeted. Kyrgyzstan, which cannot reach liberal economies due to its geographical location, has tried to integrate into the economies of capitalist countries with the liberalization of the economy. In addition, the country's economy is dependent on foreign sources due to the lack of resources. Due to this foreign dependency, Kyrgyzstan has participated in certain economic and international agreements and unions. On the other hand, the gold mine formed the cornerstone of the country's economy. Foreign dependency in the economic field has also been a determinant in the country's international relations. Vulnerability and dependence on foreign support have forced Kyrgyzstan to maintain close relations with hegemonic states periodically. For this reason, mutual distrust prevails in the relations of Kyrgyzstan with other Central Asian countries. Kyrgyzstan strives to develop good relations with the European Union and the USA, especially in order to balance the dominance of Russia and China in the region. Through the fieldwork which was carried out with the snowball model and by directly conducting in-dept interviews in order to reach the findings that the article needs from the field, we aimed to reveal the effect of the political stability and relationship between core-periphery countries on today's independent Kyrgyzstan through a micro-level agricultural trade network. Thus, the country in the political instability environment, which the article has revealed so far, has been pushed to the periphery status internationally and even after independence, it has kept its domestic producer in the domestic market in the shadow of the investments of core countries through foreign direct investments (FDI) and portfolio investments and the country also has pushed the domestic producers to a disadvantageous position.

As mentioned above, although Kyrgyzstan has international and national legal grounds such as WTO, CIS, EAEU, it is very much possible to talk about shadow economy in agricultural trade chain, as we have demonstrated with field work, and we should talk about political instability and the gap in enforcement of the law rather than legal deficiencies. It is possible to talk about gaps in executive and judicial powers in observing the apply of the laws and regulations. The state has a duty to monitor the laws and encourage their implementation, in addition to its duty of making laws. In addition to the legislative mechanism, there will be no point in making laws in cases where there are no mechanisms that ensure the implementation of these laws and that impose sanctions in cases where they are not implemented, or if they do not function. In the study we conducted on the agricultural products that are planted and produced in Issyk-Kul in Bishkek and sent from the Bishkek market to the Kazakhstan Almaty market, it is clearly revealed how easily and widely the informal economy works. For this reason, it is very important to have the functioning of political mechanisms, a stable separation of state powers and to make laws that protect its citizens against the disadvantaged position of the international system.

As we stated the research questions and the aims in the very first chapter in this article, understanding and analysing the trade chain of Kyrgyz agricultural sector is the main concern of the field study and the conclusion this work reached is even if the country is a part of international regulations and it has domestic legal basis the shadow economy is taking a remarkably great part in the market because of the lack of political stability and law enforcement, and this chain is practiced through different actors and for different reasons of these actors. Therefore, in order to study the agricultural trade further, it could be recommended for those who are interested in shadow economy in Kyrgyzstan to look deeper in the political instability in the country. With reference to the section in which the historicity of the political and economic structure of Kyrgyzstan is examined, Kyrgyzstan's effort to integrate into the capitalist world economy after independence and its economy, which was uncontrollably liberalized with the desire to attract foreign investors to the country, lead Kyrgyzstan to delay or even to underestimate the most important thing that every country which later included in the world economy, should do, namely institutionalization and eventually lead the today's informal economy reach gigantic scale. Like every non-institutionalized capitalist economy, Kyrgyzstan is trapped in the shadow economy. It is impossible to prevent a shadow economy without having a mechanism to make laws, regulate laws, establish a mechanism responsible for monitoring the implementation of laws, and impose sanctions in cases where laws are not enforced. Due to the lack of



this mechanism, the agricultural economy of Kyrgyzstan has turned into a huge shadow. This is the basic argument of this article.

### Ethical Declaration

Ethics approval was obtained from the European Commission (23.11.2020), Marmara University (14.12.2020) and Lund University (where the project center was located) (02.02.2022) for the implementation of the interviews in accordance with the principles of qualitative research, and the study was carried out in accordance with the principles of social sciences. The written informed consent of the people we interviewed was obtained to record the information given in writing and to publish the information in the article, and they took part in the study by stating their names without specifying their surnames.

### Statement of Contribution Rate of Researchers

The contribution rates of the authors in the study are equal.

### Declaration of Conflict

There is no potential conflict of interest in the study.

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# Development of Renewable Energy Sources in the Kyrgyz Republic: Current Status, Problems And Prospects

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#### Abstract

**PURPOSE.** Determination of prospects for the development of renewable energy sources in the Kyrgyz Republic by assessing their potential, current state and development in the Kyrgyz Republic, as well as analyzing the regulatory framework, opportunities and barriers to their development. **METHODS.** Anonymous surveys of specialists in the field of energy and renewable energy, systematic and integrated approaches, analysis and synthesis, induction and deduction were used. A survey of the expert community was also conducted in order to identify "bottlenecks" in the state management of renewable energy projects and find ways to solve them. **OUTCOMES.** Ways to improve the state policy and mechanisms for the development of renewable energy in the Kyrgyz Republic through the introduction of auctions, the expansion of the practice of public-private partnership (PPP), the solution of the issue of guaranteed state purchase of electricity from small and medium-sized producers at mutually attractive tariffs and terms, the issue of land allocation, zoning for projects for the deployment of photovoltaic solar and wind generating plants are proposed.

#### Keywords

Renewable energy sources, diversification of fuel and energy balance, small hydroelectric power plants, photovoltaic power plants, greenhouse gases

## Introduction

The Kyrgyz Republic (KR) has significant potential for renewable energy sources (RES): solar, hydro resources of small rivers, wind energy on mountain passes, geothermal energy of hot springs, biomass of agricultural waste, etc.[1,2]. The country has accumulated experience in a number of organizations and enterprises in the development, design and industrial use of equipment operating on renewable energy sources, as well as some experience in conducting scientific work and research, there are good results in the development of new technical means operating on renewable energy sources and their application in practice [3].

Despite the existing potential of renewable energy sources, and, in particular, small hydropower, today their share in the structure of the fuel and energy balance (TEB) is scanty [4] and does not meet the requirements of diversification in the context of global warming due to the imperfection of the regulatory framework, low and socially oriented electricity tariffs, insufficient financial resources and unattractiveness for investors. Their development remains less cost-effective and significantly more capital-intensive than traditional ones.

According to [5], over the past 20 years, a number of national strategies in this area have been approved. Their ambitious goals were not met due to frequent institutional changes and imperfections in the regulatory framework. Only a few small hydropower (SHPP) projects have been implemented,

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funded mainly by international or bilateral donors. They faced regulatory, institutional, technical and financial obstacles, as well as a shortage of qualified local personnel for the design, construction, operation and maintenance of SHPPs.

The issues of assessing the potential and prospects for the development of renewable energy sources are also considered by foreign scientists and researchers, scientists from Russia and the CIS. According to the quantitative analysis carried out in [6], "the introduction of renewable energy sources will stimulate economic growth, provide new employment opportunities, increase the well-being of mankind and contribute to the achievement of a climate-friendly future."

According to the conclusions of the Report [7], "New technologies for the use of renewable energy sources can provide competitive energy supply, while reducing the negative impact on the environment and human health, opening up the possibility of universal access to inexpensive, reliable, sustainable and modern energy sources for various categories of consumers, which is one of the obligations of the Kyrgyz Republic to achieve the United Nations (UN) Sustainable Development Goals."

Despite the fact that the Kyrgyz Republic has a huge potential and reserves of water and energy resources, its dependence on energy imports (natural gas, petroleum products, partly coal) accounts for more than 50% of total energy consumption. The share of renewable energy in the country's electricity balance does not exceed 1%, while many states are now beginning to pay great attention to the production of environmentally friendly forms of energy. [8]

Other CIS countries are at different levels of renewable energy development. CIS scientists reveal the problems and challenges they face [9-13].

The Government of the Kyrgyz Republic consistently calls the development of renewable energy as one of its priorities in the development of green energy [14].

Thus, we can conclude that the researchers have extensively studied various factors influencing the widespread involvement of renewable energy sources in the country's energy balance, but the risks arising due to their variability for the Kyrgyz Republic have not been sufficiently studied.

The solution of the above problems requires an integrated approach based on a serious analysis of the current situation in the state management of renewable energy projects, supported by economic studies that take into account the potential of renewable energy sources, the commissioning of new energy capacities, the forecast of the country's economy's energy needs for the medium and long term, taking into account the socio-economic development of the country in the future, which this work is aimed at.

*The scientific and practical significance of the work* lies in assessing the potential and prospects for the development of renewable energy sources of the Kyrgyz Republic, taking into account environmental aspects, determining the principles of the energy policy of the Kyrgyz Republic in the field of renewable energy development, taking into account the successful experience of neighboring countries, justifying the mechanism for improving the rational development and use of renewable energy sources. Also, the study identified priority organizational problems, the solution of which will ensure the expansion of areas and increase in the use of renewable energy sources in the Kyrgyz Republic.

*The scientific novelty* lies in the discovery of clear dependencies between the implementation of specific mechanisms for the development and stimulation of renewable energy sources, widely used in other countries, and the degree of development of renewable energy sources in them, and the substantiation of prospects for improving the rational development and use of renewable energy sources in the Kyrgyz Republic through the introduction of similar mechanisms.

#### *Problem Statement*

The current situation, problems and prospects for the development of renewable energy in the Kyrgyz Republic are considered, including various aspects.







The purpose of this work is to determine the prospects for the development of renewable energy in the Kyrgyz Republic by assessing their potential, the current state and development in the Kyrgyz Republic, as well as analyzing the regulatory framework, opportunities and barriers to their development.

### Outcomes

Renewable energy is a rapidly developing high-tech sector of the economy that has a positive impact not only on the energy security of countries, but also on the growth rate of the economy as a whole, the level of employment and well-being of the population, as well as the environmental situation.

The assessment of sustainable energy policies and regulatory support for 111 countries (representing 96 percent of the world's total population) was carried out by the RISE project, an initiative of the World Bank. The analysis covers three energy pillars: energy access, energy efficiency, and renewables. According to 27 indicators measuring the policy of states in the field of renewable energy and energy conservation, Kyrgyzstan received 64 points out of 100. In the assessment system, where a higher score means better readiness for sustainable energy, the global average score is 56, Russia is 77, Kazakhstan is 78, Tajikistan is 60, and the average score for the region is 71. Thus, Kyrgyzstan lags behind the regional average by 5 points.

The installed capacity of small hydropower plants is 56.7 MW with electricity generation up to 250 million kWh per year. About 24 SHPPs are in operation, including those belonging to OJSC Chakan HPPs and private electricity producers. (Table 1.)

**Table 1.** - Existing small hydropower plants in the Kyrgyz Republic

№	Name of small hydroelectric power station	Installed capacity, MW	Net power, MW	Average annual output, million kWh
<b>OJSC "Chakan HPP"</b>		<b>38,5</b>		
1	including: Lebedinovskaya HPP	7,6	5,6	34,4
2	Alamedin HPP Cascade (8 HPPs)	21,78	19,3	83,82
3	Malaya Alamedinskaya HPP	0,4	0,33	2,04
4	Bystrovskaya HPP	8,7	8,5	41,08
<b>Other SHPPs:</b>		<b>18,23</b>		
5	Kalinin Hydroelectric Power Station	1,4	1,4	6
6	Tegirmenta SHPPs	3	3	12
7	Satellite-2005	0,2	0,2	1
8	Konur-Olonskaya	3,6	3,6	0
9	Kok-Sai	3,4	3,4	0
10	Nyman	0,6	0,6	3
11	SC ARC	1,4	1,4	10
12	KSCC	0,5	0,5	2
13	Jidalik	1	1	0
14	Maryam HPP	0,5	0,5	2,44
15	Ak-Buura Group	0,23	0,23	1,4
16	Impex Trade	2,4	2,4	11,9

**Source:** Compiled by the authors according to the Ministry of Energy of the Kyrgyz Republic.

OJSC "Chakan HPP" is the main producer of electricity among small hydroelectric power plants in the Kyrgyz Republic and has extensive experience in the field of their operation. The share of generation of OJSC "Chakan HPP" in the structure of the incoming part of the electricity balance is more than 1%. At the same time, since the establishment of the company, annual output has increased by 2 times, the company's revenues for this period have increased 10 times. The main problem in the operation of the stations of OJSC "Chakan HPP" is the high level of depreciation, which at the moment is more than 80.8%. The low domestic electricity tariff and the ban on the export of generated





electricity do not allow the company to make a profit for the reconstruction and new construction of power plants.

The total gross *hydropower potential* of the *small rivers and watercourses* surveyed on the territory of the republic exceeds 80 billion kWh per year, of which the technically acceptable for development averages 6 billion kWh per year. The level of their development is 0.000003%.

Promising areas for the development of the electric power industry include the development of the hydropotential of small rivers in high-mountain regions, as well as the restoration and construction of SHPPs.

There are about 270 rivers and 1000 small streams in Kyrgyzstan. Among the priority rivers proposed for development are the following rivers:

1. Chon-Kemin, Shamsi, Issyk-Ata, Alamedin, Ala-Archa, Sokuluk, Ak-Suu, Kara-Balta in *the Chui region*;
2. Uch-Koshoy, Karakol, Talas, Urmaral, Kurkuresuu in the Talas region;
3. Zhergalan, Turgen-Aksuu, Ak-Suu, Karakol, Arashan, Zhety-Oguz, Juuku, Ak-Sai, Akterek, Chon-Aksuu, Tyup, Sary-Jaz, Kuylyu, Inylchek, Akshiyrak in *the Issyk-Kul region*;
4. On-Archa, Kokgerty, Alabuka, At-Bashi, Kokomeren, Karakol, Suek, Jungal, Min-Kush, Juanaryk, Karakujur, Kochkor, Suusamyr, Keckerim in *the Naryn region*;
5. Karadarya, Tar, Kara-Kulja, Iasi, Sokh, Akbura, Isfaramsay, Shakhimardan, Khojabakirgan, Kyzyl-Suu, Aravansay, Karakol, Kurshab in *Osh region*;
6. Aflatun, Padshaat, Kara-Suu (right), Kara-Suu (Lev.), Tenteksay, Kugart, Mailuu-Suu, Chatkal, Chichkan, Uzunakhmat in *Jalal-Abad region*.

According to Kyrgyz scientists, it is possible to restore 39 previously functioning small hydroelectric power plants with a total capacity of 22 MW on these rivers and build about 100 new small hydroelectric power plants with a total capacity of about 200 MW in new sections.

Of all the small hydropower plants proposed for new construction, the most promising are 27 stations with a total capacity of 69 MW and an average annual output of 350 million kWh.

It is possible to build seven hydroelectric power plants with a total capacity of 74 MW at existing water facilities. The priority reservoirs are the Orto-Tokoy and Kara-Buura reservoirs on the Chu and Talas rivers.

Order No. 156 of the State Committee for Industry, Energy and Subsoil Use of the Kyrgyz Republic dated April 5, 2017 approved the List of promising alignments for the construction of SHPPs in the Kyrgyz Republic (130 alignments), which included 63 alignments for which research was carried out within the framework of the UNDP project "Development of Small Hydropower Plants".

The United Nations Development Programme (UNDP) and the United Nations Industrial Development Organization (UNIDO) have estimated that 87 to 92 new SHPP sites could be developed or rehabilitated. According to their estimates, the total installed capacity of these potential facilities is about 180 MW – at the same time, the average utilization factors of installed capacity are 63%, and the generation potential is about 1 billion kWh per year [5].

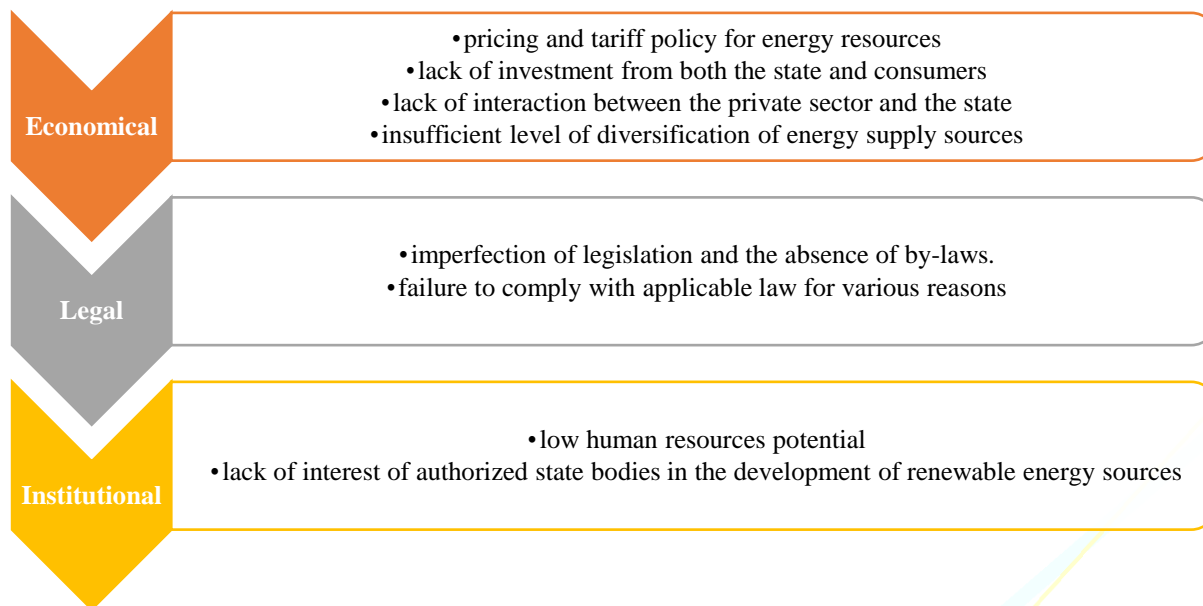
In addition to small hydropower, solar and wind energy are promising areas of development.

For the rational use of the high potential of *solar energy*, as well as *wind energy* in the Kyrgyz Republic, it is necessary to reassess them across the territory of the country's regions using modern advanced methods, including using the results of space surveys. The potential of geothermal sources is used mainly for health purposes in the sanatorium-resort areas of the country's regions. [5].

The analysis made it possible to identify the following problems and barriers to the use of the potential of renewable energy sources. 1.).



One of the main barriers was the socially-oriented tariff policy for electricity. The tariff for the population is subsidized and does not cover the costs of generating and delivering electricity to consumers. At the same time, these subsidies are used by the population consuming up to 700 kWh per month at 77 tyin per kWh, all segments of society, regardless of the welfare of the subscriber, because the law on the electric power industry prohibited the price form of discrimination. However, the Medium-Term Tariff Policy for Electricity and Heat sets a tariff for socially vulnerable segments of the population in the amount of 50 tyin per kWh. with a total cost of electricity of 160 tyin per kWh. A tariff of 5.04 soms per 1 kWh has been introduced for the rich segments of the population. without limiting their consumption.



**Figures 1.** *Problems and barriers to using the potential of renewable energy sources*

The transition to a sustainable energy system, in which various problems of the energy sector are solved through the use of a variety of renewable energy sources, requires favorable, carefully designed and effectively implemented procedures and regulatory conditions.

Uzbekistan and Kazakhstan, in particular, have made great strides in public management of renewable energy projects over the past decade, where governments have begun to pay special attention to reducing greenhouse gas (GHG) emissions.

For example, Uzbekistan's Nationally Determined Contribution (NDC) sets a target of reducing carbon intensity (emissions per unit of GDP) by 35% by 2030 compared to 2010 levels. To achieve the NDC goals, the Government took initial measures to develop renewable energy sources and in April 2020 approved a plan to expand generation for 2020-2030, which provides for the commissioning of about 15 GW of total generating capacity by 2030 (with an estimated investment value of USD 14.7 billion).

The first project of a solar power plant (SPP) of an independent electricity producer with a capacity of 100 MW in Navoi was developed within the framework of the Large-Scale Solar Program in Uzbekistan by the World Bank Group ("Scaling Solar"). Building on this success, the Government has entered into agreements with the All Bank Group to support the preparation of an additional 900 MW of solar power plants, as well as with ADB and the EBRD to support the preparation of an additional 1,000 MW solar power plants and 1,000 MW wind farms (WPPs) of an independent electricity producer, respectively. To date, the Government has signed agreements on the purchase of electricity for 2900 MW of solar power plants and wind farms of public-private partnership (PPP) projects, and another 1000 MW of projects are at the tender stage.



However, other Central Asian countries are on a par with the CD. In Turkmenistan, for example, the Decree of the President of Turkmenistan dated February 21, 2018 No. 674 State Program On Energy Saving for 2018-2024 was adopted. This state program provided for the selection of sites for the introduction of solar and wind energy infrastructure within Turkmenistan and the development of solar and wind inventories, as well as the assessment of solar and wind energy resources. Also, in accordance with the decree of the President of Turkmenistan from On April 12, 2019 No. 1207, within the framework of the adopted concept for the development of the Altyn-Asyr Turkmen Lake for 2019-2025, at the first stage, it is planned to build a solar and wind power plant with a capacity of 10 MW, in order to protect the environment and introduce environmentally friendly "green" technologies in the country.

An analysis of the successful experience of renewable energy development in neighboring countries showed that they widely use the auction method and implement PPP mechanisms for investors in the field of renewable energy.

The Law of the Kyrgyz Republic "On Public-Private Partnership in the Kyrgyz Republic" defines PPP as "long-term (up to fifty years) interaction between public and private partners on the involvement of a public partner of a private partner in the design, financing, construction, restoration, reconstruction of facilities, along with the management of existing or newly created facilities - including infrastructure."

The law allows the use of PPP for infrastructure facilities and/or services in the field of generation, transmission and distribution of electricity and heat. There is no prohibition in the PPP law on the use of PPP frameworks for the development of small hydropower.

When managing a renewable energy project, it is necessary to take into account the specifics of this industry, which is expressed in the support mechanisms defined in the country's legislation. To obtain it, it is necessary to meet certain criteria in order to be able to pass the competitive selection and get into the register of qualified renewable energy facilities. Only after that, in the conditions of modern realities, the project becomes viable.

In accordance with the National Development Program of the Kyrgyz Republic until 2026 [8], it is necessary to reduce the degree of dependence of the country on hydrocarbon energy sources. One of the acceptable solutions is a larger-scale development of hydropower and the transition to alternative energy, taking into account changes in the internal structure of energy consumption and technological modernization of the economy, especially climate change processes. This is a fundamental and complex task that requires a lot of effort and resources.

In the medium and long term, electricity consumption will grow. It is necessary to launch the process of designing, developing and launching SHPPs with guaranteed state purchase of electricity from small and medium-sized producers at mutually attractive tariffs and terms. The Cabinet of Ministers of the Kyrgyz Republic, together with local authorities, should resolve at the legislative level the issues of land allocation for hydropower projects. This will make it possible to put into operation generating facilities with a total capacity of 300-400 MW.

In addition, given that from a financial point of view, the energy sector is in a critical state and remains unattractive to investors, it is necessary to take a difficult but necessary step for the sustainability of the sector - a gradual increase in electricity tariffs.

At the same time, in the conditions of variability of renewable energy entities, it is necessary to work out the issue of differentiating tariffs by zones of the day in order to significantly reduce peak loads in the morning and evening maximums. For example, the current ratio of energy prices from various energy sources in Russia is such that during peak hours, fuel types of generation are profitable, and wind power plants and energy storage achieve grid parity. At the same time, small hydroelectric power plants and photovoltaic solar systems cannot compete with a centralized grid from a market point of view.

The commissioning of new capacities will simplify the connection to power grids and infrastructure and obtain the necessary technical conditions. In the context of growing electricity





consumption and the number of new subscribers, a favorable condition for the placement of mining farms is their location in close proximity to renewable energy entities. This will also affect the reduction of electricity losses during transportation.

As Kyrgyzstan seeks to achieve a more diversified structure of generating capacity, one of the priority areas of work should be zoning for photovoltaic solar and wind generation projects.

Renewable energy zones can be defined as potential areas with high-quality resources, where the deployment of new renewable energy systems is economically and environmentally feasible. These zones meet various criteria, including proximity to power grid infrastructure, load centers, highway networks and other power generation projects. Implementation of zoning can contribute to future planning, goal setting, and the development of policy instruments.

In this regard, within the framework of the USAID project, work is underway to develop a map of renewable energy sources. Zones for solar and wind potential have been preliminarily identified and work is underway on the possibility of connecting to power grids and the availability of transport infrastructure.

Initially, 41 zones for the sun and 27 zones for the wind were identified, of which zones with the lowest costs for the implementation of renewable energy projects were also identified. Currently, the issues of connection to electrical networks and the availability of transport infrastructure in selected areas are being worked out.

It should be noted that with the involvement of solar power plants and solar power plants in the country's fuel and energy balance, the problem of maintaining stability in the Central Asian Unified Energy System (UES CA) may turn out to be the main obstacle to their large-scale integration.

In recent years, with the widespread development of renewable energy sources in neighboring countries, the situation with electricity imbalances in the UES CA has worsened, and on January 25, 2022, the largest systemic accident occurred in the UES CA in its entire history of operation.

CDC "Energiya" has repeatedly noted that the imbalances created by changeable and intermittent renewable energy sources increase the likelihood of large uncompensated overflows on the North-South transit of Kazakhstan by several orders of magnitude.

The existing imbalances, which are significantly increasing with the introduction of renewable energy sources, are due to the fact that regulatory systems in national energy systems do not have time to react to disturbances earlier than primary and secondary regulation stations in Russia.

If effective measures are not taken, such imbalances will occur every day, which casts doubt on the possibility of fully ensuring the stability of parallel operation of power systems.

If the impact of the variability of renewable energy sources in Uzbekistan and Kazakhstan is more or less solved by maintaining hot reserves at power units and with the help of storage devices, then the problem of intermittency inherent in solar stations has its own characteristics. It is not possible to solve this problem at the expense of mobile gas stations, for example, gas turbines or gas piston stations, even in such a gas-rich country as Uzbekistan. The problem with replacing the solar power that disappears in the evening is not due to the lack of generating capacity in the power system, but to restrictions on the speed of power gain at gas stations due to the underdevelopment of the country's gas transmission system.

Currently, there are not enough reserves in the energy system of Kyrgyzstan, about 150-200 MW. The authorities of the Kyrgyz Republic, in addition to the implementation of hydropower projects, are talking about the construction of a gas-fired thermal power plant with the support of the Russian Federation with a capacity of 600 MW. However, given that there are practically no industrial volumes of gas in Kyrgyzstan, and its supplies from abroad will be expensive and with an unpredictable price in the long term, the construction of this thermal power plant is fraught with serious risks.

To increase the maneuverability reserves in the UES CA, it is necessary to create an International Water and Energy Consortium with the joint construction of the Kambarata HPP-1 and Rogun HPP





countries, as well as, taking into account the decrease in water resources in the region, pumped storage stations (PSPPs), which will help reduce imbalances from renewable energy sources.

At the country level, it is necessary to develop Network Codes that provide for the development and maintenance of the parameters of electric grids with the wide involvement of variable renewable energy sources. Such work is already underway in Uzbekistan and Kazakhstan.

In recent years, the Ministry of Energy of the Kyrgyz Republic, with the support of international projects and the expert community, has been working to improve the regulatory framework in the field of the use and development of renewable energy sources. Recent developments in this area include:

**1.** *On June 30, 2022, the new Law of the Kyrgyz Republic "On Renewable Energy Sources" came into force.*

The objectives of the Law are the development and use of renewable energy sources, the improvement of the energy structure, the diversification of energy resources, the improvement of the social situation of the population, ensuring the energy security of the Kyrgyz Republic, environmental protection and sustainable economic development.

**2.** *In order to create equal conditions and mechanisms for the commissioning of renewable energy facilities, the issue of acceptance of completed construction of renewable energy facilities and their further connection to the national electric networks of energy companies has been resolved, that is, a unified approach and the same acceptance procedure have been chosen, in accordance with the Regulation "On the procedure for issuing documents for the design, construction and other changes to real estate objects and assessing the conformity of completed construction of facilities in the Kyrgyz Republic", approved by the Resolution of the Cabinet of Ministers of the Kyrgyz Republic dated August 6, 2021 No. 114.*

**3.** *The Resolution of the Cabinet of Ministers of the Kyrgyz Republic dated October 4, 2021 No. 196 "On approval of the List of specialized goods and equipment intended for the construction of power plants based on the use of renewable energy sources subject to exemption from VAT when imported into the territory of the Kyrgyz Republic" was adopted.*

**4.** *In order to regulate relations arising in the process of technological connection of generating sources, electrical networks of electricity distribution organizations and electrical installations of consumers to electric networks, and to determine the sequence of actions in the implementation of technological connection, Resolution No. 169 of March 29, 2018 approved the Rules for technological connection of generating sources, electric networks of electricity distribution organizations and electrical installations of consumers to electrical networks.*

*According to the National Development Strategy of the Kyrgyz Republic for 2018-2040. In the structure of the electricity balance, the share of renewable energy sources is projected to be at least 1.0%, and taking into account the construction of large hydroelectric power plants - up to 90%, which will contribute to the reduction of greenhouse gas emissions and not contribute to a temperature increase of more than 2 degrees Celsius.*

The assessment of readiness for the development of renewable energy sources is a multi-stakeholder process carried out under the leadership of the country, and includes the study of key conditions for the development of renewable energy sources and the development of short-term and medium-term actions and recommendations to improve the country's preparedness and overcome existing barriers by creating an enabling environment conducive to investment in the development of renewable energy sources. The process of assessing renewable energy sources is based on a multi-stakeholder consultative process, where the development of an institutional and regulatory framework that meets modern requirements is crucial.



## Discussion

In order to discuss and test the results of the study, an anonymous survey of specialists in the field of energy and renewable energy in particular was conducted. 90% of respondents confirmed our theses on the need for widespread involvement of renewable energy sources in the country's fuel and energy balance to meet the growing needs of the economy and the population. Respondents noted that the development of energy capacities using renewable energy sources for remote areas, mountainous and rural areas, industrial complexes and mining enterprises that do not have centralized power supply, road maintenance services, tourism and cultural heritage facilities, medical institutions, etc., is of particular importance.

Respondents endorsed our findings on the effectiveness of PPP mechanisms in the implementation of renewable energy projects to remove existing barriers.

Respondents presented the following recommendations for improving the state management of renewable energy projects in the Kyrgyz Republic:

1. A separate state body is needed, in which all the necessary departments will be concentrated to obtain all the necessary documents for the construction and generation of electricity by renewable energy entities. The authorized body in the field of renewable energy must independently prepare permits for the right to build renewable energy entities.

2. Renewable energy facilities should be located in close proximity to large consumers in hard-to-reach places.

3. The total volume of electricity generation from renewable energy sources should not exceed 18-20% of the volume of traditional generation in order to avoid difficulties with power regulation.

4. The costs of purchasing electricity from renewable energy sources should not be borne by distribution companies, but compensated from the republican budget. There is a need for state support for the purchase of electricity from renewable energy sources and open and accessible mechanisms for regulating renewable energy sources.

5. It is necessary to introduce the practice of building "smart" cities and villages with providing them with autonomous power supply through "clean" renewable energy sources to improve the investment climate.

6. It is necessary to develop and implement preferential lending services for renewable energy entities in the banking sector, as well as to stimulate PPP participants by simplifying the procedures for concluding contracts.

7. As a state partner for the implementation of SHPP construction projects, it is necessary to attract a state-owned company that will deal with land allocation procedures and preparation of the project for the PPP competition.

## Conclusion

The paper examines the development of renewable energy in the Kyrgyz Republic.

The implementation of measures for more intensive use of practically inexhaustible renewable energy sources will make a great contribution to the further development of energy supply, will significantly reduce the tension of the fuel and energy balance by reducing the share of consumption of fossil fuels (natural gas, fuel oil and coal), which is so necessary for other sectors of the national economy.

It should be noted that if the use of renewable energy sources in industrialized countries is determined mainly by environmental issues and the requirements for finding additional energy resources, then for Kyrgyzstan the use of renewable energy sources should be considered as a solution, first of all, to the socio-economic problems of the rural population.



It is the understanding that the large-scale use of renewable energy sources in rural areas can contribute to solving problems such as poverty, unemployment, the development of medium and small businesses, solving the issues of migration of the rural population to cities, increasing the yield of agricultural land, introducing the population to modern innovative technologies, and of course, solving issues of environmental protection and energy supply of autonomous consumers. Such a formulation of the question will make it possible to find a response both in international financial organizations and various funds that provide support for these technologies and, thereby, to carry out the inflow of funds to the Republic for the implementation of projects in the field of renewable energy.

Well-known studies of the issues of wide involvement of renewable energy sources in the fuel and energy balance of the country in the Kyrgyz Republic are mainly devoted to the analysis of technical and economic aspects, regulatory legal and institutional framework [2, 3, 5], as well as studies by foreign authors are devoted to the indicative and economic assessment of the introduction of renewable energy sources [6-8], features and prospects for the development of certain types of renewable energy sources in states [9-13].

Thus, in the well-known literature, the issue of the development of renewable energy in the Kyrgyz Republic, taking into account all aspects, has not been studied deeply enough. The scientific increment of the results of this study is to find clear dependencies between the implementation of specific mechanisms for the development and stimulation of renewable energy sources, widely used in other countries, and their direct widespread implementation in the Kyrgyz Republic.

Taking into account the experience of many countries, PPP projects in the Kyrgyz Republic can use private financing to distribute project costs over many years when the Government does not have enough budget funds to implement the project at the moment. The Government of the Kyrgyz Republic does not have sufficient human and financial capacity to provide and manage all the necessary infrastructure and services. Thus, the development of PPP is possible and, moreover, necessary for the Kyrgyz Republic. Partnership between business and the state can become an important tool for developing the country's economy and improving the quality of life of the population.

It is advisable that now the state authorities begin work on the definition of a pilot PPP project in the field of renewable energy, the model of which, if successful, can be applied to any subsequent PPP projects. The pilot project should be developed taking into account the experience of other countries and preferably be medium in terms of funding, achievable, in terms of results, and commercially viable for the business in order to increase its motivation to participate in future PPP projects.

### **Ethical Declaration**

During the writing process of the study “*Development of Renewable Energy Sources in the Kyrgyz Republic: Current Status, Problems And Prospects*” scientific rules, ethical and citation rules were followed. No falsification was made on the collected data and this study was not sent to any other academic publication medium for evaluation.

### **Statement of Contribution Rate of Researchers**

The contribution rates of the authors in the study are equal.

### **Declaration of Conflict**

There is no potential conflict of interest in the study.







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# Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective

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## Abstract

The objective of this study is to identify challenges encountered by regulators and commercial banks in implementing monetary policy in Bangladesh. The primary data for the research was gathered through interviews with 207 participants from Bangladesh Bank and 19 listed private conventional commercial banks, using a structured questionnaire. The collected data was then analyzed and interpreted using descriptive statistical measures and advanced multivariate techniques, specifically Varimax Rotated Factor Analysis. The study highlights significant challenges for regulators and commercial banks in implementing monetary policy, with a focus on adjusted mean scores. These challenges are ranked from 1 to 29 based on their respective mean scores. The most prominent issue identified is the liquidity trap in the money market, ranked first, while the least practical concern is the central bank's inability to predict the impact of monetary policy on the real level of economic activity, ranked 29th. Additionally, the researcher conducted a ranking of factor variables through Varimax Rotated Factor Analysis. The most crucial factors include economic stability and governance, the inadequate shock absorption capacity of MPS, the absence of a connection to the real economy, consistent policy shifts, regulatory constraints, liquidity constraints posing as government control, and insensitivity of monetary policy.

## Keywords

Monetary Policy, Challenges, Central Bank, Bangladesh.

## 1.0 Introduction

In the dynamic landscape of Bangladesh's financial sector, the effective execution of monetary policy is paramount for achieving economic stability and sustained growth. This research delves into the multifaceted challenges encountered by both regulatory authorities and commercial banks in the intricate task of implementing monetary policy within the nation. Bangladesh, with its unique economic nuances and evolving financial ecosystem, presents a rich terrain for exploring the hurdles that regulators and banks grapple with in their pursuit of optimal monetary policy execution. Monetary policy serves as a linchpin in shaping the economic trajectory of a nation, influencing factors such as inflation, interest rates, and overall economic activity. As Bangladesh navigates through the complexities of a globalized economy, the regulators, primarily the central bank, and commercial banks face an array of challenges that necessitate a nuanced understanding. This research aims to dissect these challenges, offering insights into the intricacies of policy implementation, the evolving regulatory landscape, and the symbiotic relationship between the regulatory authorities and commercial banks (Aminuzzaman, 2013; Karim, 2019; Rana, Mamun, Hossain & Rekha, 2023).

The economic fabric of Bangladesh, characterized by its vibrant yet diverse sectors, introduces unique challenges in executing monetary policy. Factors such as agricultural dependence, remittance inflows, and the burgeoning manufacturing sector contribute to the intricate web of challenges that

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regulators and banks must navigate. The interplay between macroeconomic variables and the financial system's intricacies forms the backdrop against which the efficacy of monetary policy is measured. By shedding light on these challenges, this research seeks to contribute to the ongoing discourse on the refinement of monetary policy frameworks tailored to the specific needs of Bangladesh's economic landscape. As the global economic landscape undergoes transformations, the role of regulators and commercial banks in executing monetary policy becomes increasingly crucial. By unraveling the challenges inherent in this process, this research aims to provide a foundation for policymakers, financial institutions, and researchers to devise informed strategies that enhance the effectiveness of monetary policy in Bangladesh. Through a comprehensive examination of the hurdles faced by regulators and banks, this study aspires to contribute to the sustainable economic development of Bangladesh, fostering resilience in the face of both domestic and international economic challenges (Beck & Rahman, 2006; Manik, (2023).

Monetary policy being an important money market instrument has been a real concern of the central bank, commercial banks, non-bank financial institutions, and bank professionals in the money market of every country. The central banks are found preparing and implementing monetary policy for accomplishing targets and objectives which vary from year to year. In most of the cases, monetary policy is found to have failed to accomplish the target and objectives due to problems facing the regulators and commercial banks in executing the monetary policy. Bangladesh is a developing country with an inefficient and underdeveloped monetary system. It is commonly acknowledged that monetary policy may generate unsatisfactory results in such circumstances. Nonetheless, Bangladesh, like many other LDCs, has never abandoned monetary policy. The Bangladesh Bank faces many challenges in the implementation of monetary policy: inflationary pressure, low investment scenario, unexpected financial instability, linking monetary policy to the target and objective, etc. These issues have been left to be unaddressed as of today. In view of this, the present study has been undertaken to identify the problems facing the regulators and commercial banks in executing the monetary policy in Bangladesh.

### 1.1 Objectives of the Study:

The primary aim of this study is to pinpoint the challenges encountered by regulators and commercial banks in implementing monetary policy in Bangladesh. To achieve this overarching objective, the study has pursued specific purposes outlined as follows:

- i. To explore explored the new dimensions of constraints of monetary policy in order of their magnitudes in execution of monetary policy in Bangladesh.
- ii. To provide policy recommendations for enhancing the operational processes of monetary policy in Bangladesh.

### 2.0 Review of Literatures Relating to the Problems Facing the Regulators and Commercial Banks in Executing the Monetary Policy

Hossain and Ibon (2020) have attempted to describe the efficiency of Bangladesh's monetary policy by identifying the different transmission channels. Monthly data from 1989 M1 to 2018 M12 were analyzed using a Structural Vector Autoregressive (SVAR) model. Positive innovation in the broad money supply results in a temporary rise in the price level and bank credit. Additionally, expansionary monetary policy has an effect on the nominal exchange rate of the Taka. However, the analysis finds that structural deficiencies in the financial system and a lack of dynamic policy rate changes are the primary reasons for Bangladesh's monetary policy seeming to be less successful.

Blot, Creel, and Hubert (2019) have identified three potential monetary regulatory changes. Their advantages and disadvantages are discussed in terms of four dimensions: political restrictions, technical limits, independence, and relations with fiscal policy. Monetary policy seems to be unconstrained in the euro area, with more stimulus available if necessary. Low inflation is unavoidably a concern for the European Central Bank (ECB), since price stability is the central bank's primary mission. Coordination of monetary and fiscal policy may be a more potent weapon for economic stimulation.



Oluwole (2018) has examined the Nigerian economy's monetary policy difficulties and development potential using time series data from 1970 to 2012. In this work, the unit root test, cointegration test, ordinary least squares test, and error correction model were used. The research demonstrates that there is a long-term link between the factors. Additionally, while the real Gross Domestic Product liquidity ratio, lending rate, Treasury bill rate, and money supply are statistically significant, the liquidity ratio, lending rate, and money supply have a negative effect on changes in real Gross Domestic Product as a measure of growth in Nigeria over the review period.

Fabris (2018) has outlined the difficulties confronting current monetary policy. This essay is divided into two sections. The first section discusses conventional monetary policy and addresses problems of consensus, as well as monetary policy aims, transparency, and macro prudential policy. The second section discusses problems that constitute a challenge to monetary policy and on which no comprehensive agreement exists. Central banks over reliance on econometric models led in central bankers becoming overwhelmed by the global financial crisis. While econometric models are a helpful tool, they are not without flaws. As a result, relying only on these models and disregarding expert opinion may lead central bankers to incorrect conclusions.

Srinivas (2014) has explored new problems towards the discipline of monetary regulation by examining the Reserve Bank of India's (RBI) case study in light of the Indian economy's evolution during the previous decade (2003–04 to 2013–14). The paper employs Hyman P. Minsky's financial instability hypothesis as a conceptual framework for assessing the endogenous nature of financial instability and its potential impact on monetary policymaking, as well as the importance of pursuing regulatory policy as a complementary tool to monetary policy in light of Minsky's reform agenda. It also discusses the Minskyan hypothesis's expansions in the fields of fiscal policy formulation, controlling cross-border capital flows, and constructing financial institutional infrastructure. The interaction of policy decisions in these sectors and their influence on the RBI's monetary policies are discussed.

Smaghi (2011) has stated that monetary policy has encountered a variety of difficulties, most notably the connection between the real economy's progress and financial market volatility. This has compelled central banks to act not just via traditional means, most notably the key interest rate at which money is fed into the system, but also through unorthodox methods aimed to circumvent the financial system's malfunctioning. The mix of these actions is determined by the severity of the crisis and its evolution in the real and financial worlds.

Prasad, Kramer, and Poirson (2008) have examined India's financial globalization, both in absolute terms and in comparison, to developing and established economies. Despite its modest degree of openness, the researchers discover that India's internal monetary circumstances are substantially impacted by global forces. Following that, the paper discusses the experiences of nations that have adapted to financial globalization, drawing lessons for India. Additionally, the experience of nations that have utilized non-standard instruments indicates that the ability of governments to successfully limit capital flows via capital controls weakens as financial integration rises.

Mohan (2007) has examined the present difficulties confronting India's monetary policymaking. The Third Quarter Review's major subject is the difficulty of managing the shift to a stronger growth path while maintaining low and stable inflation and well-anchored inflation expectations. Monetary policy's role is to ensure stability and hence to contribute to long-term growth. As a result, monetary policy must be innovative in order to handle these issues in a non-disruptive way. Prudential and other policies, such as provisioning and risk weighting on bank loans to certain sectors, are being utilized in this context to increase the sensitivity of banks to hazards emerging from these sectors, rather than typical monetary policy responses that address aggregate demand.

Mohan (2004) has stated that in a globalized world, monetary policy cannot be independent of foreign events. The formulation of monetary policy has gotten increasingly difficult. Monetary policy must be constantly monitored in order to be effective in an ever-changing global economy. It is important to obtain the advantages of market integration while limiting the hazards of market instability. In addition to central bank activity, financial market expansion may progressively transfer risk mitigation and cost burdens from government to markets. Excess volatility causing financial crises



has negative consequences for low-income nations. They cannot afford the dangers of a financial catastrophe. When deciding on monetary policy, central banks must consider global economic, inflationary, interest rate, currency rate, and capital movements.

Grauwe (2002) has examined some of these problems, concentrating notably on the European Central Bank's (ECB) monetary policy approach and the consequences of the monetary union's expansion to up to 27 Member States. The European Central Bank's monetary policy plan and inflation goal are attacked for being implausible and potentially harmful to the ECB's credibility. It is shown that unless interest rate decision-making procedures are rethought, there is a danger that the incorrect judgments will be made after expansion.

Fagan (1998) has demonstrated that monetary policy is subject to a complex transmission process from policy actions to the central bank's ultimate objectives, it is now widely accepted that the central bank's monetary policy should be both forward-looking and pre-emptive, with timely policy responses ensuring the achievement of the ultimate objective. Additionally, a clear framework that directs the central bank's use of monetary policy tools toward achieving its ultimate purpose is required to maintain the decision-making process's credibility and consistency over time. In this context, monetary policy conduct presents daunting difficulties for central banks and raises a number of critical implementation challenges. These are the concerns that this paper will address.

Wahid (1993) has examined some of the issues and potential linked with Bangladesh's use of monetary policy as a stabilizing tool. Bangladesh has struggled with balance of payments issues from foundation. The government first attempted to alleviate this issue with standard monetary policies, but with unsatisfactory results. Among other factors, this failure may be linked to the fact that Bangladesh's balance of payments issues are often the result of demand-supply rigidities in different factor and product markets. In response to this assessment, the World Bank and the International Monetary Fund convinced Bangladesh in the mid-1980s to start on a medium-term, comprehensive Structural Adjustment Facility program. This article offers a critical assessment of both the plan and Bangladesh's recent macroeconomic experiences.

## 2.1 Identification of Problems in Executing the Monetary Policy on Literatures Review and Content Analysis

Many researchers have conducted research about the problems facing the regulators and commercial banks in executing the monetary policy (MPC Fiscal Year, 2009-2020; Ahmed, 2021; Carney, 2019; Fabris, 2018; RIET, 2017; POLICY, 2011; Calvo, 2006; Mohan, 2004; Grauwe, 2002; Meyer, 1997; Wahid, 1993). Many researchers use various factors that will be problematic in the sense of executing monetary policy. Some of the factors are compiled in the below table.

**Table-1:** Identification of Problems Associated with the Execution of Monetary Policy on Literature Review and Content Analysis

Factor Variables	Research Study										
	MPC Fiscal Year 2009-2020	Ahmed (2021)	Carney (2019)	Fabris (2018)	RIET (2017)	POLICY (2011)	Calvo (2006)	Mohan (2004)	Grauwe (2002)	Meyer (1997)	Wahid (1993)
Time lags	✓			✓	✓						
The monetary policy of the central bank is not independent	✓			✓					✓		
Liquidity trap in the money market				✓				✓			
Frequent shift in monetary policy	✓				✓						
Absence of Monetary Policy Transparency: Political, Administrative and Regulatory.	✓			✓							
Credit Easing Strategy				✓							
Unemployment	✓		✓	✓							✓
The interest rate environment				✓		✓	✓				✓
Inflation				✓		✓		✓	✓		✓
Unexpected socio-economic changes		✓	✓		✓						





... Table-1

Factor Variables	Research Study										
	MPC Fiscal Year 2009-2020	Ahmed (2021)	Carney (2019)	Fabris (2018)	RIET (2017)	POLICY (2011)	Calvo (2006)	Mohan (2004)	Grauwe (2002)	Meyer (1997)	Wahid (1993)
Mismatch between monetary policy and fiscal policy	✓										
The implementation of the various stimulus packages	✓										
Weak Financial Intermediaries	✓			✓							
Weak macroeconomic environment	✓	✓									
Exchange rate fluctuations		✓	✓		✓		✓	✓		✓	
Poor implementation of the National Budget	✓										
Internal governance of the Central Bank		✓				✓			✓		✓
Financial Market Volatility	✓	✓	✓	✓			✓			✓	
Balance of Payments Problems	✓							✓			✓
Widespread Corruption	✓				✓						✓
Nepotism in the Management of Government Projects	✓										✓
Modest Global Growth		✓	✓					✓			
Upward Revision of Fuel Gas Prices	✓										
New VAT Law	✓										
The Lingering Effect	✓										
Ongoing Trade War and Geopolitical Tensions	✓								✓		

### 3. Methodology of the Study:

The investigator conducted the study, gathering primary data through interviews with 207 respondents using a structured questionnaire. The research focused on Bangladesh Bank and 19 privately listed conventional commercial banks, as detailed in Appendix-I, for the convenient collection of data. Within Bangladesh Bank, 36 officials were chosen from various departments, including the Monetary Policy Department, Regulatory Department, Department of Inspection, and Foreign Exchange Policy and Investment Department. Additionally, the study purposefully selected 171 bank professionals, with nine representatives from each sampled bank, specifically from the Treasury Department, Risk Management Department, and Credit Department. The purpose of purposive sampling was to ensure the acquisition of accurate information from officials directly involved in the implementation of monetary policy within their respective banks. After the data was gathered, it was sorted and analysed using descriptive measures, zero-order correlation, a Varimax rotated factor analytical model, and finally, a ranking of factors based on their weighted scores.

### 4. Ranking of Problems Association with the Execution of Monetary Policy on Adjusted mean score.

The study has identified the level of problems of factor variables executing the monetary policy of Bangladesh Bank on the basis of adjusted factor variables as follows:

**Table-2: Ranking of Problems association with the execution of Monetary Policy on Adjusted Mean Score.**

Sl. No.	Variables Factors	Mean Score ( $\bar{x}$ )	Standard Deviation ( $\sigma$ )	Adjusted Factor Variable ( $\bar{x}/\sigma$ )	Ranks
X <sub>1</sub>	Dissatisfactory contend with three lags in the process of identifying macroeconomic problems: Recognition, Implementation, and Impact lags.	4.0290	.82196	4.902	III
X <sub>2</sub>	Default in setting or choosing macroeconomic targets like interest rate, money growth rate and change in price levels while preparing monetary policy.	3.8406	.79748	4.816	VI
X <sub>3</sub>	The monetary policy of the central bank is not independent of pressure from political groups, donors and the government.	4.1594	.94904	4.383	IX
X <sub>4</sub>	The liquidity trap in the money market for ineffective monetary policy affects the economy negatively.	3.8551	.73315	5.258	I
X <sub>5</sub>	There is a frequent shift in monetary policy during the policy period.	3.5942	.84573	4.250	XIII
X <sub>6</sub>	Absence of Monetary Policy Transparency: Political, Administrative and Regulatory.	3.8116	1.00404	3.796	XXI
X <sub>7</sub>	The central bank cannot predict the impact of monetary policy on the real level of economic activity.	3.3043	1.15433	2.863	XXIX
X <sub>8</sub>	The Central Bank's Credit Easing Strategy for addressing the liquidity trap exerts a negative impact on banks' lending as well as private investment in the economy.	3.4928	.93342	3.742	XXV
X <sub>9</sub>	High and sustained growth of the economy in conjunction with low inflation is the central problem of the effective monetary policy of the Bangladesh Bank.	3.4928	.99444	3.512	XXVIII
X <sub>10</sub>	The interest rate environment supported by the current Monetary Policy is not demand-supply driven. This works as a constraint to the flawless market economy.	3.5797	.81178	4.410	VIII
X <sub>11</sub>	Poor response of Monetary Policy to unexpected socio-economic changes has been a root cause of monetary policy failure.	3.7681	.87691	4.300	X
X <sub>12</sub>	Expected targets of monetary policy cannot be accomplished due to the mismatch between monetary policy and fiscal policy.	3.6957	.97475	3.791	XXII
X <sub>13</sub>	The interest rate environment as is targeted by Monetary Policy is not matched with the interest rate on government securities. This lopsided development led to the disruption in the supply of money in the money market.	3.5942	.95976	3.745	XXIV
X <sub>14</sub>	The current monetary policy shift from monetary targeting to interest rate targeting brings no change in the real economy because of the material change in the market rate of interest.	3.3913	.92700	3.658	XXVI
X <sub>15</sub>	The implementation of the various stimulus packages might put MPS under severe pressure to accomplish target inflation and might cause a further increase in non-performing loans if COVID remains beyond control.	3.9130	.93524	4.184	XV
X <sub>16</sub>	The Monetary Policy of the Central Bank does not take the capital and liquidity requirements of BASEL III into consideration for targeting investment and market liquidity. This put commercial banks into the problem of divergence.	3.5072	.93342	3.757	XXIII
X <sub>17</sub>	The lowest level of inflation in many countries poses another problem in econometrics measuring the relationship between capacity gap and inflation break down.	3.6522	.81936	4.457	VII
X <sub>18</sub>	There is an equilibrium degree of missing link between the use of operational tools and the targets of monetary policy to be accomplished.	3.7101	.70921	5.231	II



... Table-2

Sl. No.	Variables Factors	Mean Score ( $\bar{x}$ )	Standard Deviation ( $\sigma$ )	Adjusted Factor Variable ( $\bar{x}/\sigma$ )	Ranks
X19	The effects of interest rates are not equally shared in the economy because of the forced interest rate environment and the imbalance between demand and supply of money.	3.8696	.92216	4.196	XIV
X20	There is a mismatch between the central bank's increased supply of money and the commercial banks' unwillingness to provide more credit/investment despite having the ability under the circumstances.	3.7681	.98735	3.816	XX
X21	Weak Financial Intermediaries of the Financial System of Bangladesh are at the heart of the monetary policy failure of Bangladesh Bank.	3.7101	.90913	4.081	XVI
X22	The failure of Monetary Policy to address the prolonged weak macroeconomic environment has continued to impact negatively on the banking sector's stability.	3.6957	.95954	3.852	XIX
X23	Strong and Bold Fiscal injection for economic recovery requires governance which is absent in practice.	3.5942	.89638	4.010	XVII
X24	The failure of the Monetary Policy to cope with large exchange rate fluctuations with negligible spillover has a negative impact on the real activity of the country.	3.6232	.74954	4.834	V
X25	Poor implementation of the National Budget and insensitive fiscal policy can be attributed to the ineffectiveness of monetary policy.	3.8261	.89042	4.297	XI
X26	The policy intervention of the government in the way of implementing monetary policy is working as a constraint to the accomplishment of targets.	3.7826	.88898	4.255	XII
X27	Continuous Financing of the Deficit of the National Budget by the banking system as a policy target is detrimental to a sound investment environment in the economy.	3.8406	1.05193	3.651	XXVII
X28	The poor monetary policy framework is working against the inclusive growth target of the government.	3.6957	.95954	3.852	XVIII
X29	Internal governance of the Central Bank for effective implementation of monetary policy needs to be improved.	4.1884	.86220	4.858	IV

Sources: Survey Instruments

Notes: Data have been Compiled by the Researcher

After analyzing table 2, it is clear that important variable factors fall between the range of 1 to 29, as indicated by the adjusted mean score. The research highlights the significant impact of the liquidity trap in the money market, where an ineffective monetary policy has a negative effect on the economy. The expected average is 3.855, accompanied by a standard deviation of 0.73315. In addition, the adjusted factor variables used for ranking have a mean score of 5.258, which is the highest among all the values. This has led the researcher to assign it the 1st position. The study brings attention to several significant factors that impact the implementation of monetary policy by the Bangladesh Bank. These include the mismatch between operational tools and policy objectives, delays in identifying macroeconomic issues, internal governance challenges, effectively managing exchange rate fluctuations, selecting appropriate macroeconomic targets, and addressing inflation concerns. These problems are ranked 2, 3, 4, 5, 6, and 7, respectively. On the other hand, the issue titled "the central bank cannot predict the impact of monetary policy on the real level of economic activity" ranks last (29th) with a mean score of 2.863, an expected mean of 3.3043, and a standard deviation of 1.15433. This study highlights the considerable difficulties that arise when dealing with factor variables in the implementation of Bangladesh Bank's monetary policy, taking into account the adjusted factors.





## 4.2 Identification of Problems in Executing the Monetary Policy of Bangladesh Bank on Varimax Rotated Factor Analysis

The research has gathered comments from 207 participants, who were asked to rate their views on 29 different factors related to the implementation of monetary policy in Bangladesh. The participants were asked to rate these factors on a five-point Likert scale. The factors specifically focused on the challenges faced by regulators and commercial banks in executing monetary policy. The research used the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test to assess the sufficiency of the sample for the factor model. The research has determined that the Kaiser-Meyer-Olkin (KMO) measure is 0.770, indicating statistical significance for factor analysis. This is because the KMO value above the threshold of 0.50, as established by Tabachnick, Fidell, and Ullman (2007) and Hair, Anderson, Tatham, and Black (1995). The chi-square statistics is around 617.573 with 406 degrees of freedom, and the significance level is 0.000. Given that the significance value is below 5%, Bartlett's Test of Sphericity is suitable for conducting factor analysis (Tabachnick et al., 2007; Hair et al., 1995; Islam et al., 2023). Subsequently, the data was analysed using an advanced Varimax Rotated Factor Analytical Model. The findings of this investigation have been further upon in the following paragraph: The Appendix-II displays the association between the variables found in the zero-order correlation matrix derived from the study done to identify the issues faced by regulators and commercial banks in implementing monetary policy in Bangladesh.

## 4.3 Identification of Principal Factors

The study employs the 'Principal Components Varimax Rotated Method' of factor analysis to identify significant issues related to factor variables in the implementation of monetary policy by the Bangladesh Bank. The principal component factor captures more variation than any individual factor loading. An algorithm is utilized to determine group membership based on the correlation structure of the input data. The research determines the number of main components using Kaiser's (1958) criteria of Eigenvalue  $>1$ . Principal components with higher reliability coefficients are considered more trustworthy as their associated factors are reproducible in similar studies. Communality is then calculated to reveal how much each variable is explained by underlying variables. Factor scores are computed through the weighted average of Principal Factor loadings and the average of relevant variables within the group. Principal component analysis uses communalities to assess how a specific variable is included in the components (James Wheeler, 2005). PCA reduces numerous variables into smaller components (Tabachnick & Fidell, 2007), and initial communalities forecast the variation in each component contributing significantly to every variable. The mean Communality of all factors, after removal, should exceed 0.50 to be considered significant. Failure to meet this criterion implies the inability to identify specific and consistent factors (Yong & Pearce, 2013). The total variance explained determines the number of significant factors, with only the extracted and rotated data being relevant for interpretation. Factors are ranked in decreasing order from greatest to least explained variance. Extraction Sums of Squared Loadings, equivalent to Initial Eigenvalues, exclude factors with eigenvalues less than one. This value shows eigenvalues and variance before rotation, while Rotation Sums of Squared Loadings display them after rotation. Rotated eigenvalues are crucial in identifying significant factors (Yong & Pearce, 2013). Appendix-III illustrates that an eigenvalue higher than 1.0 results in the extraction of eleven components, a standard requirement for a factor to be considered useful. Components with eigenvalues less than 1.0 convey less information than a single item (Loewen & Gonulal, 2015).

## 4.4. Analysis of Factors

The Rotated Factor Matrix table facilitates the interpretation of the results analysed. Multiple variables undergo rotation to enhance their comprehensibility. Rotation allows for the use of several separate underlying factors to explain or predict various things. Each component has the potential to explain multiple items (Loewen & Gonulal, 2015). According to Sarbabidya (2015), loadings of 0.50 or above are considered very substantial for the purposes of this study. The factor matrix, which has been rotated, is shown in Appendix-IV. It indicates that the variables being examined have been categorised into eleven distinct groups or factors. The subsequent paragraphs in the research provide interpretations for each of these factors.



### Factor-I: Authoritarian Intervention for Ineffective Execution of Monetary Policy

Sl. No.	Factor Variables	Factor Loading
X <sub>26</sub>	The policy intervention of the government in the way of implementing monetary policy is working as a constraint to the accomplishment of targets.	0.717
X <sub>7</sub>	The central bank cannot predict the impact of monetary policy on the real level of economic activity.	0.612
X <sub>18</sub>	There is an equilibrium degree of missing link between the use of operational tools and the targets of monetary policy to be accomplished.	0.587
X <sub>16</sub>	The Monetary Policy of the Central Bank does not take the capital and liquidity requirements of BASEL III into consideration for targeting investment and market liquidity. This put commercial banks into the problem of divergence.	0.534
<b>Total Variance Explained</b>		<b>19.18%</b>

This factor comprises four variable factors, with factor loadings ranging from 0.534 to 0.717. All these variables are positively correlated and collectively account for 19.18% of the total variation. This suggests that the government and central bank's policy interventions lack the ability to predict the impact of monetary policy on the real economic activity. Additionally, there is a mismatch between the operational tools and the targets of monetary policy, and the central bank does not consider the capital and liquidity requirements of BASEL III when targeting investment and market liquidity. These factors contribute to the challenges in framing effective monetary policy to achieve objectives. Consequently, this factor highlights the central bank's policy-related issues, forming a significant cluster termed "Authoritarian Intervention for Ineffective Execution of Monetary Policy."

### Factor-II: Macro-Economic Factor Price and Goals Constraints

Sl. No.	Factor Variables	Factor Loading
X <sub>27</sub>	Continuous financing of the deficit of the national budget by the banking system as a policy target is detrimental to a sound investment environment in the economy.	<b>0.746</b>
X <sub>17</sub>	The lowest level of inflation in many countries poses another problem in econometrics measuring the relationship between capacity gap and inflation break down.	<b>0.682</b>
X <sub>1</sub>	Dissatisfactory contend with three lags in the process of identifying macroeconomic problems: recognition, implementation, and impact lags.	<b>0.567</b>
X <sub>2</sub>	Default in setting or choosing macroeconomic targets like interest rate, money growth rate and change in price levels while preparing monetary policy.	<b>0.547</b>
<b>Total Variance Explained</b>		<b>6.98%</b>

There are four variables that make up this factor, and their factor loadings range from 0.547 to 0.746. It was found that all of these factor variables are positively linked and have accounted for 6.98% of the whole difference. This means that the national budget imbalance needs to be continuously financed, inflation rates need to be kept low in many countries, and macroeconomic goals need to be set or chosen, all of which affect how monetary policy is made and how well it works to reach goals. The factor describes the macroeconomic problem in the central bank, which led to the creation of a major cluster called "Macro-Economic Factor Price and Goals Constraints."

### Factor-III: Continuous Policy Shifts and Regulatory Constraints

Sl. No.	Factor Variables	Factor Loading
X <sub>6</sub>	Absence of monetary policy transparency: political, administrative, and regulatory.	0.827
X <sub>22</sub>	The failure of monetary policy to address the prolonged weak macroeconomic environment has continued to impact negatively on the banking sector's stability.	0.707
X <sub>5</sub>	There is a frequent shift in monetary policy during the policy period.	0.549
<b>Total Variance Explained</b>		<b>6.55%</b>

This factor, comprised of three variables with loadings from 0.549 to 0.827, reveals positive correlations and explains 6.55% of total variation. It points to issues like a lack of monetary policy transparency, policy failures, and frequent shifts, affecting policy framing and effectiveness. Termed "Continuous Policy Shifts and Regulatory Constraints," it encapsulates a significant cluster reflecting challenges in central bank policy.

### Factor-IV: Monetary Policy Insensitivity



Sl. No.	Factor Variables	Factor Loading
X <sub>11</sub>	Poor response of Monetary Policy to unexpected socio-economic changes has been a root cause of monetary policy failure.	.803
X <sub>10</sub>	The interest rate environment supported by the current Monetary Policy is not demand-supply driven. This works as a constraint to the flawless market economy.	.666
X <sub>12</sub>	Expected targets of monetary policy cannot be accomplished due to the mismatch between monetary policy and fiscal policy.	.541
<b>Total Variance Explained</b>		<b>6.44%</b>

This factor comprises three variables with factor loadings spanning from 0.541 to 0.803, indicating positive correlations and explaining 6.44% of the total variation. It suggests the presence of unexpected socio-economic changes, a seamless market economy, and a misalignment between monetary and fiscal policies. These factors collectively impact the formulation and effectiveness of monetary policy in achieving objectives. Consequently, this factor highlights a noteworthy policy-related challenge in the central bank, giving rise to a significant cluster termed "Monetary Policy Insensitivity."

#### **Factor-V: Poor Shock Absorption Capacity of MPS**

Sl. No.	Factor Variables	Factor Loading
X <sub>15</sub>	The implementation of the various stimulus packages might put MPS under severe pressure to accomplish target inflation and might cause a further increase in non-performing loans if COVID remains beyond control.	.719
X <sub>24</sub>	The failure of the Monetary Policy to cope with large exchange rate fluctuations with negligible spillover has a negative impact on the real activity of the country.	.710
<b>Total Variance Explained</b>		<b>5.57%</b>

This factor is composed of two factor variables with factor loadings ranging from 0.710 to 0.719. All these factor variables are found to be positively correlated and have explained 5.57% of the total variation. This implies that various stimulus packages and large exchange rate fluctuations, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Poor Shock Absorption Capacity of MPS."

#### **Factor-VI: Weak Interest Rate Environment in Money Market**

Sl. No.	Factor Variables	Factor Loading
X <sub>21</sub>	Weak financial intermediaries of the financial system of Bangladesh are at the heart of the monetary policy failure of Bangladesh Bank.	<b>0.739</b>
X <sub>13</sub>	The interest rate environment as is targeted by monetary policy is not matched with the interest rate on government securities. This lopsided development led to the disruption in the supply of money in the money market.	<b>0.520</b>
<b>Total Variance Explained</b>		<b>5.28%</b>

This factor is made up of two variables that have factor loadings that range from 0.520 to 0.739. All of these factor variables are linked in a good way and account for 5.28 percent of the overall difference. In other words, this means that weak financial intermediaries and changes in the money market's money supply all affect how monetary policy is set up and how well it works to reach goals. As a result, the factor creates a policy issue for the central bank, which led to the formation of a major cluster called "Weak Interest Rate Environment in Money Market."



### Factor-VII: Liquidity Constraints for Government Control in Disguise

Sl. No.	Factor Variables	Factor Loading
X <sub>20</sub>	There is a mismatch between the central bank's increased supply of money and the commercial banks' unwillingness to provide more credit/investment despite having the ability under the circumstances.	.758
X <sub>3</sub>	The monetary policy of the central bank is not independent of pressure from political groups, donors, and the government.	.624
X <sub>19</sub>	The effects of interest rates are not equally shared in the economy because of the forced interest rate environment and the imbalance between demand and supply of money.	.583
<b>Total Variance Explained</b>		<b>4.95%</b>

This factor consists of three variables, each with factor loadings ranging from 0.583 to 0.758. All these variables are positively correlated and collectively account for 4.95% of the overall variation. This indicates a discrepancy between the central bank's increased money supply and the reluctance of commercial banks to extend more credit or investment. It suggests a lack of independence in the central bank's monetary policy and unequal distribution of the effects of interest rates in the economy. These factors collectively impact the formulation and effectiveness of monetary policy in achieving objectives. Consequently, the factor highlights a policy-related challenge within the central bank, resulting in the emergence of a significant cluster termed "Liquidity Constraints for Government Control in Disguise."

### Factor-VIII: Missing Link to the Real Economy

Sl. No.	Factor Variables	Factor Loading
X <sub>14</sub>	The current monetary policy shift from monetary targeting to interest rate targeting brings no change in the real economy because of the material change in the market rate of interest.	.782
X <sub>25</sub>	Poor implementation of the National Budget and insensitive fiscal policy can be attributed to the ineffectiveness of monetary policy.	.703
<b>Total Variance Explained</b>		<b>4.29%</b>

This factor is made up of two variables that have factor loadings that range from 0.703 to 0.782. All of these factor variables are linked in a good way and account for 4.29 percent of the overall difference. This means that changing monetary policy, not following through with the national budget, and not caring about the budget affect how monetary policy is set up and how well it works to reach goals. So, this factor shows the issue that the banking system is having because of bad management, which caused a big group called "Missing Link to the Real Economy" to form.

### Factor-IX: Liquidity Constraints to the Lending Activities for Private Investment

Sl. No.	Factor Variables	Factor Loading
X <sub>4</sub>	The liquidity trap in the money market for ineffective monetary policy affects the economy negatively.	.582
X <sub>8</sub>	The Central Bank's Credit Easing Strategy for addressing the liquidity trap exerts a negative impact on banks' lending as well as private investment in the economy.	.514
<b>Total Variance Explained</b>		<b>4.15%</b>

This factor consists of two factor variables, with factor loadings ranging from 0.514 to 0.582. These component factors have a positive correlation and account for 4.15% of the total variance. This suggests that the liquidity trap in the money market and the central bank's credit easing technique have an impact on the formulation of monetary policy and its ability to achieve desired outcomes. Thus, the component contributes to the policy-related issue in the central bank, resulting in the emergence of a notable cluster known as "Liquidity Constraints to the Lending Activities for Private Investment".

### Factor-X: Governance Constraints to the Inclusive Growth

Sl. No.	Factor Variables	Factor Loading
X <sub>23</sub>	Strong and Bold Fiscal injection for economic recovery requires governance which is absent in practice.	<b>0.763</b>
X <sub>28</sub>	The poor monetary policy framework is working against the inclusive growth target of the government.	<b>0.511</b>
<b>Total Variance Explained</b>		<b>3.69%</b>



This factor is composed of two factor variables with factor loadings ranging from 0.511 to 0.763. All these factor variables are found to be positively correlated and have explained 3.69% of the total variation. This implies that fiscal injection for economic recovery and poor monetary policy framework, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Governance Constraints to the Inclusive Growth".

#### **Factor-XI (Factor of Economic Stability and Governance)**

Sl. No.	Factor Variables	Factor Loading
X <sub>29</sub>	Internal governance of the Central Bank for effective implementation of monetary policy needs to be improved.	.854
X <sub>9</sub>	High and sustained growth of the economy in conjunction with low inflation is the central problem of the effective monetary policy of the Bangladesh Bank.	.635
<b>Total Variance Explained</b>		<b>3.53%</b>

This factor is composed of two factor variables with factor loadings ranging from 0.635 to 0.854. All these factor variables are found to be positively correlated and have explained 3.53% of the total variation. This implies that internal governance of the central bank and sustained growth of the economy, all of which influence the framing of monetary policy and its effectiveness in achieving objectives. Therefore, the factor provides the policy related problem in central bank, which led to the formation of a significant cluster, "Factor of Economic Stability and Governance".

#### **4.5 Ranking of Factors on Weighted Score**

The ranking of factors (problems) facing regulators and commercial banks in executing monetary policy by a weighted score. A weighted score can be found as the summation of the factor loading multiplied by the mean score of the variables divided by the number of variables.

**Table-3: Ranking of Factors on Weighted Score**

Factors	Name of the Factors	Weighted Score	Rank
<b>I</b>	Authoritarian Intervention for Ineffective Execution of Monetary Policy	2.196	<b>10</b>
<b>II</b>	Macro-Economic Factor Price and Goals Constraints	2.435	<b>7</b>
<b>III</b>	Continuous Policy Shifts and Regulatory Constraints	2.579	<b>4</b>
<b>IV</b>	Monetary Policy Insensitivity	2.470	<b>6</b>
<b>V</b>	Poor Shock Absorption Capacity of MPS	2.693	<b>2</b>
<b>VI</b>	Weak Interest Rate Environment in Money Market	2.305	<b>9</b>
<b>VII</b>	Liquidity Constraints for Government Control in Disguise	2.569	<b>5</b>
<b>VIII</b>	Missing Link to the Real Economy	2.671	<b>3</b>
<b>IX</b>	Liquidity Constraints to the Lending Activities for Private Investment	2.019	<b>11</b>
<b>X</b>	Governance Constraints to the Inclusive Growth	2.315	<b>8</b>
<b>XI</b>	Factor of Economic Stability and Governance	2.897	<b>1</b>

The analysis of Table 9.2.2.3 reveals that Factor XI, focusing on Economic Stability and Governance, holds the top position with a weighted score of 2.897. This makes it the leading factor in the ranking. This factor encompasses internal governance and sustained economic growth, coupled with low inflation variables. Following closely is Factor V, addressing the Poor Shock Absorption Capacity of MPS, securing the 2nd position with a weighted score of 2.693. It involves various elements such as stimulus packages and fluctuations in exchange rates. Factor VIII, which pertains to the Missing Link to the Real Economy, occupies the 3rd position with a weighted score of 2.671. Issues within this factor include the lack of impact on the real economy from the shift in monetary policy and inadequate implementation of the National Budget. Factor III, related to Continuous Policy Shifts and Regulatory Constraints, stands at the 4th position with a weighted score of 2.579. This factor encompasses challenges like the absence of monetary policy transparency and frequent shifts in monetary policy. Factor VII, highlighting Liquidity Constraints for Government Control in Disguise, secures the 5th position with a weighted score of 2.569. It involves the increased money supply by the central bank and commercial banks' reluctance to provide more credit despite having the capacity to do so. Factor IV, focusing on Monetary Policy Insensitivity, is in the 6th position with a weighted score of 2.470. This factor includes issues like the poor response of monetary policy to unexpected



socio-economic changes and a mismatch between monetary and fiscal policies. Factor II, addressing Macro-Economic Factor Price and Goals Constraints, is ranked 7th with a weighted score of 2.435. Continuous budget deficit financing, low inflation levels, and dissatisfaction with macroeconomic targets are key components of this factor. Factor X, related to Governance Constraints to Inclusive Growth, secures the 8th position with a weighted score of 2.315. This factor involves considerations such as bold fiscal injections for economic recovery and shortcomings in the monetary policy framework. Factor VI, addressing Weak Interest Rate Environment in the Money Market, occupies the 9th position with a weighted score of 2.305. Factors such as weak financial intermediaries and the prevailing interest rate environment contribute to this ranking. Factor I, focusing on Authoritarian Intervention for Ineffective Execution of Monetary Policy, is in the 10th position with a weighted score of 2.196. Elements such as government policy intervention, the central bank's inability to predict the impact of monetary policy, and the absence of consideration for BASEL III requirements contribute to this factor. Finally, Factor IX, addressing Liquidity Constraints to Lending Activities for Private Investment, holds the 11th and last position with a weighted score of 2.019. This factor involves issues such as a liquidity trap in the money market and the central bank's credit easing strategy.

## 5.0 Conclusion

In conclusion, this research has undertaken a comprehensive exploration of the challenges confronted by regulators and commercial banks in the execution of monetary policy within the unique economic landscape of Bangladesh. The intricate interplay between macroeconomic factors and the evolving financial system has surfaced multifaceted hurdles that necessitate careful consideration and strategic solutions. The findings of this study underscore the significance of addressing the challenges faced by regulatory authorities, particularly the central bank, in maintaining economic stability. The delicate balancing act required to navigate the impacts of agricultural dependence, remittance inflows, and the expanding manufacturing sector has been highlighted. Policymakers must recognize the importance of tailoring monetary policy approaches to the specific nuances of Bangladesh's economy, promoting resilience against domestic and global economic uncertainties. Moreover, the symbiotic relationship between regulatory authorities and commercial banks emerged as a pivotal aspect influencing policy execution. Collaborative efforts are crucial in overcoming challenges such as liquidity management, interest rate transmission, and ensuring the alignment of commercial bank operations with the broader monetary policy objectives. Strengthening this partnership is imperative for fostering an environment conducive to effective policy implementation. As the global economic landscape continues to evolve, the insights provided by this research contribute to the ongoing discourse on refining monetary policy frameworks. The adaptability of regulatory approaches and the agility of commercial banks in responding to emerging challenges will play a crucial role in determining the efficacy of monetary policy in Bangladesh. In light of the challenges identified, future research and policy initiatives should focus on developing targeted strategies that enhance the flexibility and responsiveness of monetary policy tools. Additionally, fostering financial literacy and awareness among market participants can contribute to a more effective transmission mechanism, aligning stakeholder expectations with policy objectives. In summary, addressing the challenges facing regulators and commercial banks in executing monetary policy in Bangladesh requires a nuanced understanding of the country's economic intricacies. By embracing adaptive strategies, fostering collaboration, and promoting financial literacy, Bangladesh can fortify its monetary policy framework, paving the way for sustained economic growth and stability in the years to come.

## Ethical Declaration

During the writing process of the study "*Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective*" scientific rules, ethical and citation rules were followed. No falsification was made on the collected data and this study was not sent to any other academic publication medium for evaluation.

## Declaration of Conflict

There is no potential conflict of interest in the study.





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**Appendix-I: List of Selected Listed Conventional Private Commercial Banks in Bangladesh**

SL. NO.	Name of Listed Conventional Private Commercial Banks
1.	AB Bank Limited
2.	Bank Asia Limited
3.	BRAC Bank Limited
4.	City Bank Limited
5.	Dhaka Bank Limited
6.	Dutch-Bangla Bank Limited
7.	Eastern Bank Limited
8.	IFIC Bank Limited
9.	Mercantile Bank Limited
10.	National Bank Limited
11.	National Credit & Commerce Bank Limited
12.	One Bank Limited
13.	Premier Bank Limited
14.	Prime Bank Limited
15.	Pubali Bank Limited
16.	Southeast Bank Limited
17.	Trust Bank Limited
18.	Uttara Bank Limited
19.	United Commercial Bank Ltd



**Appendix-II: Zero Order Correlation Matrixes for Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective**

	x1	x2	x3	x4	x5	x6	x7	x8	x9	x10	x11	x12	x13	x14	x15	x16	x17	x18	x19	x20	x21	x22	x23	x24	x25	x26	x27	x28	x29
Correlation	1.000																												
x2	.411	1.000																											
x3	.220	.228	1.000																										
x4	.031	.161	.224	1.000																									
x5	-.102	-.317	.118	.212	1.000																								
x6	.185	.219	.186	.242	.359	1.000																							
x7	.254	.293	.130	.209	.354	.317	1.000																						
x8	.173	.265	.093	.278	.406	.179	.500	1.000																					
x9	.108	.193	.180	.200	.311	-.023	.201	.384	1.000																				
x10	.239	.213	.107	.020	.069	.118	.060	.258	.169	1.000																			
x11	.152	.388	.133	.153	.070	-.050	.260	.249	.049	.378	1.000																		
x12	.140	.391	.276	.143	.258	.196	.227	.377	.248	.208	.432	1.000																	
x13	-.004	.126	.137	.187	.301	.072	.047	.210	.028	.042	.009	.165	1.000																
x14	.101	.245	.078	.020	.299	-.014	.231	.352	.139	.065	.113	.183	.330	1.000															
x15	.195	.316	-.150	.110	.215	.108	.107	.083	-.175	.048	-.007	.116	.173	.176	1.000														
x16	.191	.367	.040	.066	.246	-.085	.401	.367	.297	-.006	.200	.237	.233	.107	-.016	1.000													
x17	.299	.454	.053	.135	.281	.116	.316	.247	.268	.197	.152	.160	.061	.259	.229	.484	1.000												
x18	.116	.333	.179	-.054	.340	.108	.325	.286	.226	.015	.245	.275	.149	.287	.050	.403	.254	1.000											
x19	.180	.251	.243	.233	.139	-.075	.273	.230	.039	-.055	.326	.233	.056	.233	.208	.095	.192	.166	1.000										
x20	-.046	.158	.244	.278	.009	-.060	-.105	-.002	.148	-.087	.107	.231	.179	-.012	-.006	.225	.153	.218	.257	1.000									
x21	-.107	-.024	.071	-.130	.093	-.012	.043	.084	.095	-.008	.044	.247	.200	.032	-.134	.210	.139	.210	-.081	.104	1.000								
x22	.235	.282	.070	.166	.462	.352	.151	.351	.052	.135	.195	.324	.311	.136	.118	.191	.144	.279	.071	.095	.117	1.000							
x23	-.223	-.215	-.078	-.180	-.201	-.103	-.120	-.056	-.119	-.036	-.178	.008	.148	.070	.045	.004	-.035	.113	-.243	-.008	.178	.128	1.000						
x24	.161	.144	-.162	.060	-.013	-.057	.016	.080	-.122	-.022	.089	.082	.132	.131	.288	.025	.095	.068	.311	.079	-.033	.124	.054	1.000					
x25	.248	.167	-.036	.164	.100	-.087	.138	.211	.148	.101	.117	.023	.002	.369	.088	.037	.097	.198	.241	.071	-.100	.126	-.016	.011	1.000				
x26	.089	.365	.024	.131	.194	.135	.338	.397	.239	.014	.236	.109	.119	.158	.012	.365	.339	.365	.108	.227	-.043	.145	-.075	-.014	.249	1.000			
x27	.278	.337	.070	.027	-.057	.138	.162	.096	.175	.127	.167	.181	-.021	.065	.120	.218	.430	.213	.175	.148	.1012	-.005	-.054	.091	.205	.293	1.000		
x28	.328	.320	.070	.062	.208	.077	.231	.104	-.041	.003	.142	.308	.135	.119	.331	.290	.219	.128	.154	.002	.150	.265	-.180	.165	.178	.025	.039	1.000	
x29	.034	.087	-.055	.044	.106	-.043	.177	-.044	.165	-.200	-.039	-.106	.005	.054	-.180	.135	.198	-.006	.087	.225	.108	.141	100	.111	.197	.073	.115	.141	1.000

Source: Survey Instrument and Data Output (SPSS Version-23)

Notes: Data have been Compiled by Researcher.





**Appendix-III: Analysis of Total Variance Explained for Monetary Policy Challenges in Bangladesh:  
A Regulatory and Banking Perspective**

№	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			Extraction
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	5.561	19.177	19.177	5.561	19.177	19.177	2.249	7.755	7.755	.646
2	2.023	6.976	26.153	2.023	6.976	26.153	2.218	7.649	15.403	.623
3	1.899	6.549	32.702	1.899	6.549	32.702	2.099	7.239	22.642	.806
4	1.868	6.440	39.142	1.868	6.440	39.142	1.850	6.381	29.023	.699
5	1.614	5.566	44.708	1.614	5.566	44.708	1.849	6.376	35.398	.692
6	1.533	5.285	49.993	1.533	5.285	49.993	1.815	6.260	41.659	.806
7	1.434	4.946	54.938	1.434	4.946	54.938	1.779	6.133	47.792	.711
8	1.243	4.287	59.225	1.243	4.287	59.225	1.755	6.050	53.843	.709
9	1.205	4.154	63.380	1.205	4.154	63.380	1.697	5.853	59.696	.693
10	1.069	3.685	67.065	1.069	3.685	67.065	1.693	5.836	65.532	.812
11	1.024	3.531	70.596	1.024	3.531	70.596	1.468	5.064	70.596	.778
12	.901	3.106	73.702							.643
13	.841	2.901	76.603							.617
14	.812	2.798	79.402							.738
15	.746	2.572	81.973							.735
16	.675	2.327	84.300							.729
17	.615	2.122	86.422							.717
18	.529	1.825	88.248							.685
19	.505	1.743	89.990							.705
20	.456	1.573	91.563							.728
21	.429	1.481	93.044							.599
22	.370	1.276	94.320							.777
23	.344	1.185	95.505							.684
24	.315	1.086	96.590							.559
25	.277	.955	97.545							.737
26	.260	.895	98.441							.676
27	.181	.623	99.063							.664
28	.157	.542	99.606							.709
29	.114	.394	100.000							.796

*Extraction Method: Principal Component Analysis.*

**Sources: Survey Instruments**

**Notes: Data have been Compiled by the Researcher**



**Appendix-IV: Rotated Factor Matrix for Monetary Policy Challenges in Bangladesh: A Regulatory and Banking Perspective**

Variables	Component										
	1	2	3	4	5	6	7	8	9	10	11
X <sub>26</sub>	.717										
X <sub>7</sub>	.612										
X <sub>18</sub>	.587										
X <sub>16</sub>	.534										
X <sub>27</sub>		.746									
X <sub>17</sub>		.682									
X <sub>1</sub>		.567									
X <sub>2</sub>		.547									
X <sub>6</sub>			.827								
X <sub>22</sub>			.707								
X <sub>5</sub>			.549								
X <sub>11</sub>				.803							
X <sub>10</sub>				.666							
X <sub>12</sub>				.541							
X <sub>15</sub>					.719						
X <sub>24</sub>					.710						
X <sub>21</sub>						.739					
X <sub>13</sub>						.520					
X <sub>20</sub>							.758				
X <sub>3</sub>							.624				
X <sub>19</sub>							.583				
X <sub>14</sub>								.782			
X <sub>25</sub>								.703			
X <sub>4</sub>									.582		
X <sub>8</sub>									.514		
X <sub>23</sub>										.763	
X <sub>28</sub>										.511	
X <sub>9</sub>											.635
X <sub>29</sub>											.854

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Sources: *Survey Instruments*

Notes: *Data have been Complied by the Researcher*

# Grounded Theory Research in Economics and Business Literature: A Review

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## Abstract

Science, rooted in the intellectual endeavors of early civilizations, has grown into a discipline characterized by systematic data collection to explain phenomena. This evolution manifests in two primary research methodologies: quantitative and qualitative. The quantitative approach, grounded in positivism, employs numerical data to analyze and present relationships in measurable terms. Conversely, qualitative methods prioritize the exploration of social phenomena through a flexible framework, incorporating diverse designs such as action research, case studies, ethnography, and grounded theory. Although economics and business administration traditionally favor quantitative analysis, there has been an increasing openness towards qualitative, and at times, mixed-method approaches. This study focuses on the utilization of the grounded theory method within economics and business research, aiming to ascertain its prevalence and implications for future inquiry. The importance of the study is to understand how frequently grounded theory is used in economics and business studies and to shed light on the future researchers who intend to work in this field. Through a systematic literature review leveraging the Web of Science (WoS) and Google Scholar databases, findings indicate a predominant use of grounded theory for data analysis, with frequent references to Strauss and Corbin, and a preference for interviews as the primary data collection technique.

## Keywords

Grounded Theory, Economics, Business Studies, Content Analysis, Qualitative Research Methods.

## 1.0 Introduction

Qualitative research describes social events in their natural settings, aiming to understand the "why" behind human and group behavior without manipulating variables as quantitative research does. It focuses on subjective data, including experiences, opinions, feelings, and perceptions, to offer a descriptive and realistic picture of the investigated topic (Ilgar & Ilgar, 2013). Its main purpose is to present a descriptive and realistic picture to the reader in relation to the topic under investigation. Among the primary qualitative research designs—action research, case study, ethnography, and grounded theory—this study focuses on grounded theory.

Grounded theory methodology, which is the focus of the study, is a qualitative research approach that consists of a repetitive, rigorous data collection and analysis process to gather data in an organized way, with the aim of making sense of the data and ultimately developing theory (Lawrence and Tar, 2013). According to Martin and Turner (1986), grounded theory is "an inductive theory discovery methodology that allows the researcher to develop a theoretical explanation of the general characteristics of a topic and at the same time ground the explanation in empirical observations or data." (Myers 2013).

The grounded theory approach, as a qualitative research method, typically obtains data from a combination of sources such as observations, interviews, and document analysis (documents, video

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recordings, written materials such as newspapers, letters, and books) and subjects them to analysis immediately following the data collection process (Ünlü, 2019). In the context of grounded theory, researchers select, code and compare phenomena and evaluate the concepts that emerge in the research process in a specific way. The main purpose of coding in grounded theory is to examine and conceptualize data to identify patterns or events within it (Belfrage & Hauf, 2015). The major contribution of this theory is that it allows researchers to interact intensively with the data (Charmaz, 2006). Another methodological contribution is its compatibility with various data collection methods. Grounded theory is known as a qualitative research method created by Barney Glaser and Anselm Strauss. This method developed in the mid-1960s following the publication of Glaser and Strauss' "The Discovery of Grounded Theory". Grounded theory attracted attention especially with Glaser and Strauss's study "Awareness of Dying", which dealt with the processes of facing death of individuals struggling with terminal illnesses and their relatives (Teke, 2023). In their book, Glaser and Strauss challenged the idea that the stages of data collection and research analysis differ, the belief that qualitative methods are impressionistic and unsystematic, the arbitrary division between theory and research, the idea that qualitative research leads quantitative methods, which are considered more precise, and the assumption that qualitative research cannot form theory.

Grounded theory is different from other qualitative research because it has an analytical procedure. Grounded theory initially emerged as a result of two researchers with different perspectives coming together. The theory emerged as a synthesis of the positivist perspective represented by Barney Glaser and the interpretivist approach of Anselm Strauss. The quantitative method emphasized by Glaser and the qualitative perspective emphasized by Strauss have been influential in determining the methodological approaches in theory building (Bulduklu, 2019). However, this theory was later revised and applied by researchers from different academic schools such as "Glaser and Strauss," "Charmaz," "Corbin and Strauss" and diversified by using both qualitative and quantitative data together.

Grounded theory methodology is used to construct theoretical frameworks that explain the collected data through a systematic inductive data collection and analysis approach. This practice is based on common core principles and can be summarized in six key points. The first principle is that data collection and analysis take place simultaneously, so that the data are examined in detail at each stage of the analysis using constant comparison. Secondly, there is no specific research question or hypothesis at the outset of the research, which offers researchers flexibility and an exploratory approach. Third, data collection and analysis take place simultaneously and theory is developed at each stage of data collection and analysis, which contributes to the fourth stage of transforming the data into meaningful categories and creating a theoretical framework. In the fifth stage, creating categories and presenting information for each category, the characteristics are described in detail and the relationships between these characteristics are identified and noted. Finally, in the sixth stage, after the data analysis process is completed, a literature review is conducted and an opportunity is created to understand how the theoretical inferences can be related to the existing literature (Glaser and Strauss, 2006; Teke 2023).

During the data collection and analysis process, the researcher discovers new concepts or theories hidden in the data and can reach new concepts and theories in the research process. The main goal is to deduce the theory from the data in an inductive way. A researcher using the Grounded Theory method believes that reality exists directly and is treated independently of the participants. No predetermined theory is used at the beginning and hypotheses are not formulated prior to the research (Corley, 2015). The research is started with the aim of theory development and theory is generated from the data.

Many qualitative researchers in economics and business consider grounded theory not only as a method of data coding but also as a comprehensive theory building tool. In fact, one of the most valuable aspects of grounded theory for economics and business researchers is its potential to help build new concepts and a solid theoretical foundation specific to business phenomena. Therefore, it can be argued that the true potential of grounded theory will emerge when researchers take this method beyond data coding and develop theory (Myers, 2013). It can be said that the main purpose of grounded theory research in the field of business and economics is to develop new concepts and



theories specific to business-related phenomena and to be able to ground these concepts and theories strongly with qualitative data.

Considering Glaser's statement that "everything is data", this research focuses on the use of grounded theory, which is in line with the perspective that social reality is constantly being reproduced hidden in data (Bulduklu, 2019). Accordingly, the purpose of this article is to synthesize existing knowledge, identify gaps and shed light on future researchers by conducting a literature review on the use of grounded theory methodology in economics and business studies. The research question of the study is "What is the state of use of grounded theory in the field of business and economics and how has research with grounded theory been designed and applied in the field of business and economics?". The study is important because it will contribute to determining the current status of grounded theory in economics and business literature, revealing the shortcomings and guiding researchers who intend to study in this field in the future on how to use the grounded theory approach.

In the next section of the study, the emergence of the grounded theory approach, the processes it has undergone, the components that should be taken into account in the process and the literature review on its application are included. In the third section, the advantages and disadvantages of the use of grounded theory in economics and business are presented. The fourth section presents the findings of the systematic literature review (using WoS and Google Scholar databases). Finally, the sixth section presents the conclusions.

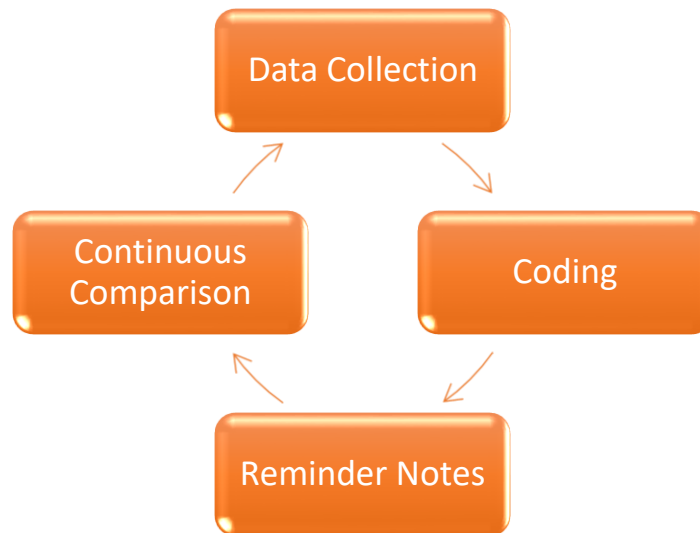
## 2. Grounded Theory and its Main Features

In grounded theory, the processes of data collection and analysis are inherently intertwined. Analysis commences immediately following the initial data collection phase, with the results directly informing subsequent phases of data collection. This iterative process involves a continual evaluation of the phenomena under study for similarities and differences, leading to the assignment of labels to concepts. These labeled concepts are then compared and grouped with previously identified concept (Ilgar and Ilgar, 2013).

Theoretical exploration within the realms of economics and business often centers on the meticulous collection of data to examine specific issues or phenomena. Researchers approach this phase with an open mind, postponing the literature review to later stages in anticipation of the emergent concepts and theories derived directly from the data. Once qualitative data has been acquired, the focus shifts to analysis, emphasizing the development of new concepts, relationships, and theories grounded in the empirical evidence (Boadu and Sorour, 2015).

This methodological approach enables a profound understanding of complex subjects, such as intricate business processes, leadership models, or market behavior. Grounded theory provides researchers with the flexibility to achieve a unique and comprehensive insight, which offers a broad potential for applying theory in economics and business (Green, 2013).

Upon determining the sample selection, researchers engage in simultaneous data collection and analysis, navigating through various coding phases—including data collection, coding, memoing, and constant comparison. This process of theoretical sampling persists until the emergent categories reach a satisfactory level of explanatory power (Chun Tie, Birks, and Francis 2019). Figure 1 succinctly illustrates the data collection and analysis phases inherent to grounded theory, encapsulating the method's cyclical nature and its emphasis on depth and rigor in qualitative research.



**Figure 1:** Grounded Theory Data Collection and Analysis Process

As can be seen in Figure 1, grounded theory consists of four phases in total, namely the data collection phase and analysis processes. The process initiates with the determination of a purposive sample, critical for guiding the coding process and ensuring that selected participants can effectively contribute to answering the research questions (Teke, 2023). This step underscores the importance of purposive sampling in allowing researchers to select participants who are most relevant to the grounded theory process.

During the data collection stage, both quantitative and qualitative data may be gathered, marking the beginning of an integrated process of collection and analysis characteristic of grounded theory. Among the methodology's core components, the coding stage is paramount, facilitating the classification of data obtained. This categorization involves dissecting the data to develop concepts and form abstract ideas, thereby defining the nature of the data (Muchira, 2023). The researcher uses various coding methods in the data analysis process. The choice of grounded theory approach significantly influences the coding methods employed in the analysis, highlighting the methodology's adaptability. A crucial aspect of grounded theory is the practice of continuous note-taking during the reminder note-taking phase. This process enables researchers to maintain a comprehensive record of their evolving thoughts on the emerging theory and the conceptual interactions between categories. Such note-taking is integral to the entire grounded theory process, often described as the writing of theoretical notes (Teke, 2023). Finally, in the constant comparative analysis stage, constant comparative analysis is used to create codes and categories. Continuous comparative analysis, which continues from sample selection to theory development, is an iterative process of comparing data sets with each other (Glaser and Strauss, 2006: 108). The aim is to facilitate as much interaction between data points as possible, thereby fostering the construction of theoretical concepts. This iterative cycle of data collection and analysis persists until the study achieves its requisite outcomes.

Creswell (2015) and Birks and Mills (2015) identify three principal approaches to grounded theory applications: Classical Grounded Theory, as developed by Glaser; Systematic (Straussian) Grounded Theory, formulated by Strauss and Corbin; and Constructivist Grounded Theory, introduced by Charmaz (Teke, 2023). These approaches are distinguished by their unique coding processes, as detailed in Table 1, which outlines the coding stages employed by Classical, Straussian, and Constructivist Grounded Theory.



**Table 1:** Coding Types Used in Grounded Theory Types (Chun Tie et al. 2019; Teke 2023)

Types of Grounded Theory	Kodlama Aşamaları		
	First Coding	Intermediate Encoding	Advanced Coding
Classical (Glaserian) Grounded Theory	Open Coding	Selective Coding	Theoretical Coding
Straussian Grounded Theory	Open Coding	Axial Coding	Selective Coding
Constructivist Grounded Theory	First Coding	Focus Coding	Theoretical Coding

Table 1 categorizes the coding processes utilized in different grounded theory methodologies. It outlines the progression from initial coding stages to more advanced ones across three grounded theory types: Classical (Glaserian), Straussian, and Constructivist. In Classical Grounded Theory, the process moves from Open Coding through Selective Coding to Theoretical Coding. Straussian Grounded Theory follows a similar initial step with Open Coding but then diverges into Axial Coding before concluding with Selective Coding. Constructivist Grounded Theory starts with an initial First Coding phase, progresses to Focus Coding, and ends with Theoretical Coding, indicating a distinct approach in each grounded theory type towards developing and refining codes towards theory construction.

### 2.1. Classical (Glaserian) Grounded Theory

The classical (Glaserian) grounded theory was developed by Glaser and Strauss in 1967. In the following years, due to differences in understanding of the principles of analysis between Glaser and Strauss, Strauss collaborated with Corbin on this variant and developed the Straussian grounded theory with Corbin. The Classical approach advocates for commencing research with minimal preconceptions, focusing solely on inductive reasoning. It posits that theory is embedded within the data, necessitating a researcher's passive stance to unearth it without bias (Myers, 2013). Glaser emphasized that the goal of Classical Grounded Theory is to formulate a conceptual theory that elucidates individual behavior, grounded directly in data, thereby avoiding the influence of prior constructs (Glaser, 1999).

This methodology unfolds through two primary analysis stages. Initially, the independent coding stage involves open and selective coding. Open coding entails generating concise codes from fresh data, systematically naming and categorizing observed facts line by line to conceptualize the data without predetermined categories (Myers, 2013; Ilgar and Ilgar, 2013). Following this, selective coding interprets these categories to identify a core category that guides the integration of earlier categories towards developing the intended theory, aiming to form a comprehensive, abstract representation of the data (Glaser, 1999; Ilgar and Ilgar, 2013). The picture that emerges here is the focus of the social structure and should be inclusive and clear.

The concluding stage, theoretical coding, signifies the culmination of coding efforts where established categories are deemed saturated, and the theory's formulation begins. This final phase allows the researcher to generate inferential and predictive hypotheses, integrating and relating codes to the emergent theory (Teke, 2023; Myers, 2013). This structured process underscores the evolution from data collection to theory generation, highlighting the methodology's commitment to deriving theories intimately linked to empirical observations.

### 2.2. Straussian Grounded Theory

The theory posited by Strauss and Corbin (1990) draws upon symbolic interactionism, which delves into the subjective meanings attributed to objects, phenomena, events, and behaviors by individuals. This iteration of grounded theory, known as the Straussian approach, underscores the preliminary step of conducting a literature review to frame the research with a foundational understanding and posits the formulation of hypotheses as essential. It integrates induction, deduction, and verification as core to its methodology (Glaser and Strauss, 2006). Diverging from the positivist and objectivist stance of classical grounded theory, Straussian theory adopts a structuralist,



interpretive, and subjectivist perspective, advocating for the active participation of the researcher and an interpretive role for the observer (Myers, 2013).

Strauss (1987) outlines three distinct coding methods integral to this approach: open coding, axial coding, and selective coding. In open coding, akin to its classical counterpart, the initial data analysis involves labeling to elevate themes from the data's core (Corbin and Strauss, 1990). This stage employs the constant comparison technique to ensure thorough analysis.

Axial coding, the subsequent analytical phase, seeks to enhance the interconnections among categories identified during open coding. This process redefines categories and subcategories by linking them, concentrating on the underlying causal relationships, communication strategies, and the broader context of the findings to elucidate the embedded phenomena (Teke, 2023; Corbin and Strauss, 1990). Unlike open coding, axial coding is tasked with refining these connections and further developing the represented concepts. This stage involves a meticulous examination of the data, allowing for the refinement or rejection of hypotheses based on continuous comparison (İlgar and İlgar, 2013).

The final phase, selective coding, involves a comprehensive review of the data to distill the principal categories of the research. This phase encompasses five key activities: crafting a narrative, establishing a hierarchy among categories, forming dimensional connections between categories, validating the findings with data, and enhancing the robustness of the findings by integrating additional data as necessary (Corbin and Strauss, 1990). This structured approach facilitates the systematic exploration of the research phenomenon, marking the culmination of the Straussian grounded theory process.

### 2.3. Constructivist Grounded Theory

Constructivist Grounded Theory, akin to the Straussian model, advocates for initiating research with a literature review to establish a foundational understanding. This approach emphasizes the interpretive processes of participants, focusing on how they construct meaning from their experiences within the study context (Robson and Cooksey 2014). It involves two primary coding stages: primary and focused coding. In primary coding, the researcher categorizes data based on similarities and differences, employing an inductive approach to generate a broad range of codes. This facilitates a thorough evaluation of the data, promoting the emergence of new concepts aligned with the objectives of grounded theory (Charmaz, 2006: 48). The first coding phase focuses on the data obtained from the in-depth interviews. In this process, two main questions are asked on the information obtained from the interviews: "What is the main problem for the participants?" and "How do the participants try to solve these main problems?". With these questions, the researcher aims to capture participants' actions and possible theoretical clues.

During the focused coding stage, the emphasis shifts to codes identified earlier that recur in subsequent data, highlighting their significance in the theory-building process (Charmaz, 2006). This phase requires the researcher to engage deeply with the data and previously identified codes, grouping recurring codes to advance towards theoretical coding. This culminates in the formation of distinct categories that underpin the analysis. Upon completing the analysis, findings are articulated not merely as explanations but as narratives that offer interpretative insights into the studied phenomena (Urquhart, 2016).

Critical and creative thinking is essential throughout the grounded theory analysis, ensuring the methodology's potential for standardization and rigor is fully realized. However, the mere application of grounded theory techniques does not inherently lead to novel or compelling outcomes. Researchers must meticulously adhere to grounded theory protocols while simultaneously fostering their analytical and imaginative capabilities (Myers, 2013).

### 3. Advantages and Disadvantages of the Use of Grounded Theory in Economics and Business

Grounded theory is particularly valued for its effectiveness in exploring regular, repetitive processes. Its intuitive nature appeals to novice researchers by facilitating a meticulous examination of data, fostering systematic analysis, and offering a structured methodological approach. It equips researchers with substantial evidence to substantiate their findings while promoting an ongoing





interplay between data gathering and analysis (Myers, 2013). As a versatile research methodology, grounded theory allows for adaptability in constructing theoretical frameworks and gathering data, enabling the exploration of new concepts and theories. This approach supports the development of theoretical explanations and concepts concurrently with data analysis, allowing theories to emerge organically from the research setting. Consequently, it affords researchers the ability to derive more meaningful and valid insights within real-world contexts, thereby facilitating a profound comprehension of complex social phenomena through focused data analysis.

However, grounded theory is not without its drawbacks. A significant challenge is the potential for misinterpretation of the developed theory by researchers, leading to variability in its application. Moreover, the method can be notably time-consuming due to the need for ongoing data analysis and theory development (Evans, 2013). It demands from researchers a high degree of knowledge, experience, expertise, and interpretative skill in formulating and refining the theoretical framework, which may introduce subjectivity into the analysis and diminish the objectivity of the research. Additionally, as grounded theory typically focuses on theories contextualized within specific settings, issues with generalizability may arise, with findings often applicable only to particular contexts (Şener, 2019).

#### 4. Methods and Results

This chapter addresses the query, "What is the current state of grounded theory within the realms of economics and business, and how has grounded theory research been conceptualized and implemented in these fields?" To investigate this, two distinct searches were conducted between November 23 and 25, 2023, utilizing the Web of Science (WoS) and Google Scholar databases. The searches employed the keywords "grounded theory" AND "economy" as well as "grounded theory" AND "business," focusing on literature published between 2013 and 2023. The retrieved data underwent a content analysis to discern relevant trends and applications.

Following the searches, the inclusion criteria were that the studies were conducted in the fields of economics and business administration and that the grounded theory method was used, while the exclusion criteria were that the studies were conducted in other fields, that they were review studies and that the full text could not be accessed. After removing the duplicates from the articles obtained from the relevant databases, only 14 articles were included in the study, 6 of which were in the field of economics and 8 of which were in the field of business administration, among the studies evaluated within the framework of title, keywords, population, sample and methodology. These articles were then analyzed separately and the methodology part was analyzed in terms of certain variables.

The examination revealed that grounded theory is more commonly utilized in fields such as psychology, education, and sociology than in economics or business. Some studies professed to use the grounded theory approach, yet a closer inspection indicated the methodology was not effectively or appropriately applied to the issues at hand. Furthermore, it was noted that a few studies mentioned "grounded theory" merely as a keyword without substantial application within the research. The findings and the extent of grounded theory's application in economic studies are detailed further in Table 2.

**Table 2:** Grounded Theory Studies in Economics

Studies Conducted	Grounded Theory Studies in Economics			
	Data Source Used	Grounded Theory Method Used	Reason for Using Grounded Theory	How the Selected Grounded Theory is Used
<b>Belfrage and Hauf (2017)</b>	Case Study	Unspecified	Specified	Unspecified
<b>Phuthong, (2023)</b>	Interview	Unspecified	Specified	Unspecified
<b>Penu et al. (2021)</b>	Interview, Text Analysis	Unspecified	Specified	Unspecified
<b>Shafia and Loghman (2019)</b>	Text Analysis	Strauss and Corbin	Specified	Specified
<b>Mishra et al. (2014)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Qatiti et al. (2023)</b>	Interview, Observation and Archive Search	Unspecified	Unspecified	Unspecified



Table 2 provides an analysis of six studies within the field of economics, evaluated based on four criteria: the data source utilized, the specific grounded theory method employed, the rationale behind using grounded theory, and the application of the selected grounded theory method. The article abstracts of the studies in the table regarding the methods of using grounded theory are given below.

Belfrage and Hauf (2017) demonstrate the usefulness of Critical Grounded Theory through the competing bailout projects of the Icelandic financial crisis, highlighting the practical benefits of combining the theoretical framework of critical realism and cultural political economy with the grounded theory method. However, no information on which grounded theory process was used is provided in the study. The data source used is a case study of rival bailout projects in the Icelandic financial crisis. At the end of the article, the author proposes a critical methodology for organizational studies and demonstrates this methodology through the Icelandic financial crisis.

Phuthong (2023) conducted semi-structured in-depth interviews with techno-entrepreneurs as a data source and used the data obtained from interviews with 15 techno-entrepreneurs. In the article, it is stated that grounded theory approach is used, but it is not clearly stated which grounded theory approach is used. The reason for using grounded theory in the study was to create a theory to identify the sources of meaning in the commercialization research process of techno-entrepreneurs and to identify the common characteristics of this process.

Penu et al. (2021) stated that a grounded theory approach was used in their research to understand the conflicts occurring in the sharing economy in Ghana, a developing country, but did not specify what the specific subtype of the theory method was. The data collection techniques used in the study were interviews and text analysis. Although the article provides general information about how the grounded theory approach is intended to be used, there is no explanation about its stages. This research aims to understand and make a theoretical contribution to the understanding of actor conflicts by focusing on the leading sharing economy platforms in Ghana using a grounded theory approach.

Shafia and Loghman (2019) used textual analysis of various Islamic sources, particularly the Holy Quran and the *Nehj al-Balagha*, as data sources in their research. The researchers used quotations and relevant texts from these sources, deriving the core values and principles of the resilient economy directly from Islamic thought. The reason for using the grounded theory approach is to build a model based on Islamic sources in the data collection process. The data analysis stages of the study were conducted using Corbin and Strauss's grounded theory method, which consists of open coding, axial coding and selective coding. The findings reveal a model of resilient economy based on infrastructure, superstructure and stabilizing factors. In conclusion, the article provides a theoretical framework for understanding the concept of resilient economy based on Islamic ideas and emphasizing people's participation in the economy.

Mishra et al. (2014) collected data through 24 in-depth interviews with middle management level employees of consulting, IT and FMCG firms in India. Data analysis was conducted using a systematic coding procedure including Strauss and Corbin's (1990) open coding, axial coding and selective coding methods. The reason for using grounded theory method in the study was to examine the phenomenon of enrichment from work to family in a holistic way. The results obtained from the article reveal that perceived work-family culture is a precursor of work-to-family enrichment. Work-family enrichment has a positive effect on employer brand attractiveness and organizational citizenship behavior, and a negative effect on turnover intention. The study contributes to the literature by defining psychological capital as a result of work-family enrichment. It provides practical recommendations to managers by emphasizing the importance of appropriate work-family culture and other factors for the successful implementation of work-family policies.

Qatiti et al. (2023) stated that they collected various data from higher education institutions and relevant stakeholders in Oman using a multifaceted qualitative research design and enriched this data collection process by using interviews, observations and archival literature. It was seen that grounded theory method was used in the article, but no information was provided about which grounded theory method was used and why this method was used. As a result of the research, a theoretical perspective is presented by using the theory of academic capitalism and stakeholder theory, where higher



education institutions have shifted from focusing on education to focusing on the creation of multifaceted values.

The summary of the application of grounded theory in economics research showcases the method's versatility and its potential to uncover deep insights into complex phenomena, despite variations in specificity regarding the grounded theory approach and its implementation. The articles obtained from the literature review on the use of grounded theory in the field of business administration are given in Table 3.

**Table 3:** Grounded Theory Studies in Business Administration

Grounded Theory Studies in Business Administration				
Studies Conducted	Data Source Used	Grounded Theory Method Used	Reason for Using Grounded Theory	How the Selected Grounded Theory is Used
<b>Bi and Zhang (2016)</b>	Interview and Survey	Strauss and Corbin	Specified	Unspecified
<b>Huang et al. (2022)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Tian et al. (2019)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Wan et al. (2015)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Boadu and Sorour, (2015)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Nezhadkian et al. (2023)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Niknam et al. (2021)</b>	Interview	Strauss and Corbin	Specified	Specified
<b>Rahimi et al. (2021)</b>	Interview	Strauss and Corbin	Specified	Specified

As can be seen in Table 3, information on the 8 studies on the subject in the field of business administration, the data source used in the study, which grounded theory method they used, the reasons for using grounded theory, and how they used the selected grounded theory were compiled under four headings. Below are the article summaries of these studies on the methods of using grounded theory.

Bi and Zhang (2016) utilized interviews and questionnaires as data collection techniques in their study. It was seen that Strauss and Corbin grounded theory method was used in the article, but the method stages were not mentioned in detail. The researchers stated that they focused on C2C (Consumer-to-Consumer) electronic business logistics and service quality and tried to develop a new understanding of this issue by using grounded theory. As a result, they emphasized that with the popularization of online shopping, the importance of logistics service quality has increased and improvements need to be made in this area.

Huang et al. (2022) collected data by interviewing 56 participants with different profiles from 53 companies. Strauss and Corbin's grounded theory method was used in the article and data analysis was conducted using a systematic coding procedure including open coding, axial coding and selective coding methods. The grounded theory approach mentioned in the article was used to create a competency model of "mega-individuals" and to gain an in-depth understanding of this issue. The study concluded that "mega-individuals" break the traditional employment relationship, create individual unique value and collaboratively enhance organizational performance. The contribution of the study to the literature is to define the concept of "mega-individuals" and understand their role in supporting business development and shaping future work environments.

Tian et al. (2019) used the interview method for data collection in their study and interviewed 18 people. Strauss and Corbin's grounded theory method was used in the article and the open coding, axial coding and selective coding stages of the theory were applied. The article attempts to understand the factors affecting business model innovation by using grounded theory method through a case study that examines the business model innovation of Shaanxi Blower, a Chinese high-end equipment manufacturer. The conclusion of the study is that business model innovation is a complex process and multiple factors affect this process, and that Chinese high-end equipment manufacturers can improve their competitiveness and performance by better managing their business model innovation.



Wan et al. (2015) focused on the study of five Chinese information technology business incubators and used interview as the data collection technique. Strauss and Corbin's grounded theory method was used in the article and data analysis was applied using a systematic coding procedure including open coding, axial coding and selective coding methods. The reason for using grounded theory in the article is stated as understanding and explaining the factors affecting the performance of information technology business incubators. At the end of the study, a framework was created to understand the internal and external factors of incubators, network operation capability, incubation service capability, organizational system protection and the effects of entrepreneurship on incubator performance.

Boadu and Sorour (2015) used semi-structured interviews, focus group discussions and interviews with boards of directors and senior managers of public sector organizations in Ghana as data collection techniques in their article. Strauss and Corbin's grounded theory method was used in the article and open coding, axial coding and selective coding stages were applied. In this article, grounded theory is used to provide theoretical richness and in-depth meaning to doctoral level researchers in their research, using the study of a public sector enterprise in Ghana as an example.

Nezhadkian et al. (2023) used in-depth interviews with experts for data collection. Strauss and Corbin's grounded theory method was used in the article and a systematic coding procedure including data analysis, open coding, axial coding and selective coding methods was used. The reason for using grounded theory in the article is stated as providing an in-depth understanding of the new product development process in commercial companies and managing this process more effectively. The article concludes that qualitative and technical improvement is an important factor in identifying the critical components of new product development in commercial companies.

Niknam et al. (2021) conducted data collection by conducting semi-structured in-depth interviews with 25 employees working in ICT-related jobs. The analysis of the collected data was carried out in three stages: open coding, axial coding and selective coding according to the Strauss and Corbin paradigm model. The reason for using grounded theory in the article is stated as designing and explaining the sustainable belonging model of new employees. The results revealed that the belonging of new generation employees is the ultimate outcome of their experiences at the workplace.

Rahimi et al. (2021) interviewed 13 managers using a semi-structured method as a data collection method and analyzed the data collected using Strauss and Corbin's grounded theory method of grounded theory approach with open coding, axial and selective stages. The reason for using grounded theory is stated as designing a business intelligence model in petrochemical companies in Mahshahr Special Economic Zone. As a result of this research, it was concluded that the successful implementation of BI in petrochemical companies affects the transition to a smart business and optimized decision making in all areas.

The summary of applications of grounded theory in business research has shown that the grounded theory approach and its applications are effective in creating theoretical richness and improving understanding in different business contexts.

## 5. Conclusion

In the limited number of articles reviewed in our study, it is seen that grounded theory is generally used as a data analysis technique in economics and business studies. In some of the studies, although it was mentioned that the grounded theory method was used, it was observed that which method was preferred and the coding processes applied were not included. It is possible to infer that the method is not fully understood. The limited number of studies in economics and business administration also shows that grounded theory method is not frequently used in these fields. The reason for this may be that research based on quantitative data and statistical analysis is more common in the field of economics and business administration, and the grounded theory approach remains in the background in these fields.

It is seen that Strauss and Corbin's grounded theory method is widely used in the analyzed articles. By using this method, researchers have tried to gain in-depth insights on various topics and provide theoretical richness. For example, Bi and Zhang (2016) tried to develop a new understanding





using grounded theory by focusing on C2C electronic business logistics and service quality. Huang et al. (2022) adopted grounded theory to understand how "mega individuals" support business development by building a competency model. Tian et al. (2019) analyzed the business model innovation of a Chinese equipment manufacturer with grounded theory to understand the factors. Wan et al. (2015) used grounded theory to examine Chinese information technology business incubators and created a framework to understand the factors affecting the performance of these incubators.

On the other hand, there is a lack of detailed information about grounded theory processes in most of these studies. Although the authors usually state the data collection methods used and the reasons why they prefer grounded theory, detailed explanations of the grounded theory stages are not given enough space, which reveals the need for more emphasis on the theory stages. Grounded theory is a research philosophy, not an analytical approach or an ordinary data analysis technique that aims to gain methodological validity. Since there is no positive attitude towards the qualitative research paradigm, it is an academic responsibility to understand grounded theory methodology and to produce flexible and creative studies in accordance with this philosophy. In this context, research planning should be done effectively and the methodology used should be examined in depth.

The main purpose of coding in grounded theory is to examine and conceptualize data to identify patterns or events within it. In the context of grounded theory, researchers select, code and compare phenomena and evaluate the concepts that emerge in the research process in a specific way. In the analyzed articles, grounded theory method is used with various disciplines and topics such as economics and business. However, there is a lack of detailed information on the grounded theory processes used in the studies, the specific sub-types of the method, the reasons for using it and the data sources. This reveals a lack of process standardization in the application of grounded theory methodology and may pose a challenge in providing guidance for future research. Furthermore, there is a need for more methodological detail and explanation on how grounded theory can be applied more effectively. Considering this gap in the field, there is an important need for a more comprehensive methodological framework to guide researchers who will use grounded theory in future research.

To address this need, we propose several steps to enhance the use of grounded theory in business and economics literature. Research should commence without predefined questions or hypotheses, embracing simultaneous data collection and analysis, thorough data examination through constant comparison, and clear reasoning for the choice among the three main approaches—Classical, Straussian, and Constructivist Grounded Theory—acknowledging their differences in coding processes. After selecting an approach, researchers should aim to develop theory through analysis, transforming data into meaningful categories to construct a theoretical framework. Detailed category descriptions and their interrelations should be documented. Concluding the analysis with a literature review can tie theoretical deductions to existing scholarship, enriching the field's knowledge base. Adhering to these principles ensures a robust methodological foundation for grounded theory research, facilitating profound insights into the study subject and enhancing research outcomes.

### **Ethical Declaration**

During the writing process of the study “*Grounded Theory Research in Economics and Business Literature: A Review*” scientific rules, ethical and citation rules were followed. No falsification was made on the collected data and this study was not sent to any other academic publication medium for evaluation.

### **Declaration of Conflict**

There is no potential conflict of interest in the study.

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