

Cooperation of Financial Institutions and Facilities of Nature Reserve Fund: Basic Economy-Theoretic Aspects

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Abstract

Market changes in all fields of the economy of Ukraine demand the creation of new institutions and mechanisms of cooperation between branches, including the sphere of environmental reserve affair, which requires transformations, directed to the development not only of environmentally protected components, but also of its ecological and economic ones. The aim of the article is to represent financial cooperation, as partnership, which can ensure economic privileges of the results of innovation activities. Business entities, operating in the format of reserved business, should form a separate segment of entrepreneurship, which requires a special form of cooperation with financial institutions in the face of banks and credit unions. The credit tool can also become a form of environmentally oriented business activities, a development vector of cooperation of naturally reserved fund institutions and representatives of the private sector who want to carry out their activities taking into account environmental imperatives and produce truly ecologically pure products,

but first of all corresponding a contractual mechanism must be formalized into a legal structure and an independent object of normative-legal regulation.

Keywords: nature reserve fund, business activity, environmental economic, investments partnership, economic development.

JEL: K32, Q38, Q28, Q29, Q39

Abbreviations: NRF: the nature reserve fund of Ukraine, RC: reserve credit, CU: credit union, RB: reserved business, EB: eco-business.

Introduction

Attracting of the investment flows in the industry of reserve affair is one of the most topical issues nowadays, as there are facilities of the nature reserve fund of Ukraine that have a considerable economic and environmental potential for the development of innovative forms of conducting an economic activity. Reserve areas cannot be considered only as a means of reserving and conservation of environmental resources, as thank to the use of ecological oriented methods of management in the territories of the facilities of the reserve fund, an economic

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activity can be provided that will contribute to the economic and ecological development of the region, to the formation of investment flows of the constant character, supporting the balance between bodies of state authority, local communities and representatives of the private sector in economics. Taking into account the above mentioned, what is highlighted is the necessity to find out the essence and role of the facilities of the nature reserve fund in the system of the balanced economically efficient use of nature, their place in the financial and market infrastructures, the definition of the investment potential of reserve areas. That's why our scientific research is devoted to solving the scientific task connected with the determining the essence and role of the facilities of nature reserve fund of Ukraine in the system of using the balanced economically efficient nature and their place in the market infrastructure.

Currently, institutions of the nature reserve fund of Ukraine receive funding due to the State Budget of Ukraine, which ranges from 76,6% of the annual funding sizes of environmentally protected industry, and is 0.036% of the total budget of Ukraine (On the State Budget of Ukraine, 2019). The development of ecological and economic relations in the sphere of reserve affair requires innovative and marketing approaches for the formation of contractual and non-contractual responsibilities and intersectoral connections. As of today, the administrations of institutions of the nature reserve fund of Ukraine have a sufficient limited number of counterparties, which is connected with the insufficient level of development of economic and organizational, normative, administrative and ecological supply, regarding the conditions of mutual obligations. In order to increase investment flows in the field of

nature conservation and the formation of new institutions of intersectoral cooperation, it is necessary to attract new business entities to participate in environmental and economic relations, such as financial institutions. In particular, credit unions, as financial institutions whose activities are aimed at providing lending and other types of financial services, can potentially become a source of extra-budgetary financial revenues for the protected area.

Given the economic and social upheavals of 2020, namely the SARS-CoV-2 coronavirus pandemic, many eco-entrepreneurs need financial support, in addition, a number of forms of economic activity remain outside state support, as regulatory and organizational support for entrepreneurship has many gaps and conflicts. Representatives of the private sector of the economy, providing eco-entrepreneurial activity, and aiming to get financial support, should cooperate with banks and other financial institutions on the general terms of credit.

When providing preferential terms for loans or other mechanisms of cooperation to eco-economic entities, financial institutions first of all, take part in ensuring the ecological well-being of the population, solving important ecological and economic programs, forming innovative forms of entrepreneurship, and only then, obtaining profit. Therefore, the creation of organizational and industrial mechanisms of cooperation for financial institutions and facilities of the nature reserve fund will contribute not only to expanding the intersectoral ties of the national economy, but also to the creation of sources of specialized assistance to innovative and ecological directions in conducting economic activity in the protected sector.

As of today, the most common tool for cooperation between environmental and financial institutions is environmental insurance and lending (Public Procurement, 2020). Because financial institutions operate not only as banking institutions, but also in the form of credit unions (On the Nature Reserve Fund of Ukraine, 1992), which can also be tools to increase financial flows in the field of protected areas.

E. Leishon, Don Burton, David Knights, K. Alferova, P. Signoretta believe that the insufficient level of cooperation between financial and environmental institutions is one of the indicators of financial isolation in the country. The economic development of ecological systems has a direct connection with the mechanisms of implementation and use of financial services (Leyshon *et. al*, 2004). G. Astapova analyzed the structure of the domestic loan portfolio during the provision of environmental loans, and the dynamics of growth of efficiency indicators of the banking institutions when giving eco-loans by the methods of “base rate-plus” (Astapova, 2010), which indicates the necessity for the zoning of eco-loans, as a separate form of cooperation with financial institutions.

K. Smirnova thinks that the creation of environmental banks will ensure a clear segmentation of the financial services market, namely the development of targeted environmental lending tools (Smirnova, 2007). However, it is necessary to consider the fact that during the first half of the 21st century many banking institutions have already appeared, which have a low level of financial and social responsibilities, pursue a “predatory” lending policy and provide services at an unsatisfactory level; that is why, mechanisms of the creation of an innovative

financial segment should be carried out only in the presence of a thorough state strategy (Smirnova, 2007). Considering the abovementioned, some scientists suggest the formation of the tools to commit banking institutions to environmental responsibility, as low-quality fulfillment of own obligations during the cooperation with environmentally oriented institutions or entrepreneurs can have a negative impact on the environment (Zabawa& Kozyra, 2020).

In many EU member states, measures are implemented to form not only separate vectors of providing eco-financial services, but also a comprehensive system of “green financial environment” and “low-carbon economy”. The upper level of such a system will model the tasks in accordance with the world ecological strategy for the development of the services market, and the lower levels should form the sectors of “green” financial markets, institutions and end products (Wanget.al., 2019).

Besides, many international financial institutions also contribute to the positive dynamics for the development of environmental lending, as the proper level of the environmental and economic policy of each country will ensure the formation of innovative and economic strategies for the development of the global market as a whole (Polak, 1991).

The sphere of environmental protection should receive state support in the form of flexible mechanisms of cooperation with financial institutions, the formation of subsidiary support, as it is the sector of the national economy that not only has a minimum level of anthropogenic loading on natural eco-systems, but it also aims to minimize already existing factors of negative impact (Kunz *et.al.*, 2007).

In order to involve representatives of the private sector of the economy in cooperation with the institutions of the nature reserve fund of Ukraine, it is necessary to develop not only mechanisms of proper financial and organizational support, that is lending to entrepreneurs, but also to form quality economic and normative structures for conducting the joint economic activity, for example, an agreement of concession and franchising, etc. (Nikolaychuk, 2019).

The Institute of vouching can also become a quality mechanism of economic and financial support for representatives of business-entities who intend to provide services of ecosystem nature; a source of additional income for financial and credit and banking institutions; the guarantee of the appropriate performing economic and ecological obligations for the state on the part of private entrepreneurs. Protected affair vouching will contribute to the implementation of innovative economic and contractual structures, which will ensure the increase of financial and investment income (Nikolaychuk, 2020).

Scholars such as Robert May, Simon A. Levin, and George Sugihara admit that financial institutions work with environmental institutions, and the expansion of environmental cooperation contributes to the creation of innovative financial networks that can lead to transformational processes in the economy (May *et al.*, 2008). Other scientists believe that the area of financial services is under excessive political pressure, so the expansion of lending instruments is significantly hampered by political and social instability in countries, as well as by the problem of interaction of industrial and natural capitals (Calvet *et al.*, 2015). The erroneous character of the separate consideration of

economic and ecological-social concepts in the field of environmental protection is evidenced by the statement that the field of environmental protection is not economically promising, so financial institutions are not interested in developing such cooperation, but many European economists do not agree with the conclusions (Rohr *et al.*, 2008).

An appropriate level of partnership between environmentally protected and financial institutions will ensure not only receiving income on the part of the latter, but also solving the problems of environmental, ecological and economic, ecological and social ways of the development of society, the formation of innovative economic and organizational structures; will ensure the development of new forms for performing economic activity in the field of the reserve affair, in particular inclusive entrepreneurial activity of ecological and economic nature (Andryeyeva *et al.*, 2019).

In Ukraine, the current law provides for mandatory state or commercial ecological insurance of interested enterprises (Environmental lending, 2014). However all other services of financial nature or instruments of cooperation with financial institutions are not provided by law directly. Financial services in the field of environmental protection are a less developed sphere, as the instruments of encouraging borrowers are weak, and the payback period is much longer than in other areas of the national economy (International overview, 2009). In addition, in many countries, the programs of stabilization are absent for private investors and borrowers who aim to increase the economic efficiency of such cooperation (Carbon markets, 2009).

R. Flandez admits that small business and micro-enterprises are currently in the

financial and organizational trap, as without appropriate credit history, banking institutions do not lend, which makes it impossible to conduct an economic activity in the proper way (Flandez, 2009).

D. Lobb, analyzing the statistics of cooperation of different enterprises and organizations with financial institutions, notes that an excessively rigid position on the part of banking institutions themselves requires to review and expand the area of activity, that is, the cooperation between spheres of the national economy of the country, which are currently outside of such economic relationship (Lobb, 2020).

In order to expand the cooperation between financial institutions and entrepreneurs who aim to carry out an innovative economic activity, it is necessary to form clear criteria for such cooperation, in particular indicators, on the basis of which the credit rating of a private entrepreneur and the mechanism of transparent credit reporting will be established (Best, 2018).

Some modern scientists define eco-lending as a form of currency for the development of an environmentally oriented enterprise, which will provide active ecological - economic processes in the area of business relationship (Olupinyo, 2020). In general, the tendency of greening of the banking innovative activity in the world is becoming more noticeable, which takes various forms of manifestation, supports the formation of the bank image, as a social responsible organization, and thus, attracts clients and partners to it (Walk, 2019).

Austwold G. notes that environmentally friendly cooperation is a reasonable choice on the part of financial institutions, because

this vector of economic activity will be the leading direction in all areas of the national economy of all countries. Despite the large number of risks of innovation and environmental economic activity for financial institutions, it is necessary to take into account the prospects of economic, social and environmental economic impact of this format of economic activity on reforming all areas of the national economy of the country (Austwold, 2020). Therefore, modern entrepreneurs, during the development of environmental economic activity, must rely on state aid, as the relevant direction of entrepreneurial activity is a priority, both for the regions and for the state as a whole (Austwold, 2020).

American scientists determine that eco-lending, which is not only the end product, but first of all, an innovative approach and the principle according to which banking institutions work, aimed firstly at developing the eco-society, and only then – at receiving their own dividends (Illinois Municipal Retirement Fund report, 2000). To date, a number of environmentally oriented projects are being developed, in Sweden in particular, a mobile banking application is being implemented, which carries out fixation of the interaction between banking services and CO₂ emissions, as well as obtaining loans in the “Black” format, that is lending “with a carbon limit” (Banis, 2019).

According to the current law of Ukraine, financial institutions do not carry out the segmentation of market in the part of various areas of the national economy (Banks and Banking, 2000; Financial Services and State Regulation, 2001), that is why the policy of ecological lending is an internal vector of the

financial activity of banks, and thus apart from the domestic policy of the bank loyalty to environmentally friendly entrepreneurs, there are no other mechanisms of cooperation.

Thus, summarizing the research of scholars, it is possible to conclude that: there is a positive experience of cooperation between nature reserves and financial institutions; financial institutions play a significant role in the economic and environmental development of NRF facilities; there are certain forms of providing financial services to eco-entrepreneurs that are mutually beneficial for both counterparties.

Materials and Methods

The issues of the study are to consider the economic and organizational feasibility and profitability of cooperation of financial institutions and nature reserve facilities; the need to form "sectoral" commercial loans for environmentally friendly entrepreneurs, as a separate segment of financial services, the introduction of an innovative financial product in Ukraine - reserve credit. Analyzing the credit policy of all financial institutions of Ukraine, including banks and credit unions, we see that interest rates on commercial loans do not reflect the condition of sectoral provision of economic entities and are approximately at the same level (Table 1).

Table 1: The Information on interest rates by commercial loans (July-August 2020)

Name of financial institution (bank)	JSC Oschadbank	JSC Ukrgasbank	JSC Ukreximbank	JSC PUMB	JSC Megabank	JSC Alfa-Bank	CB Privatbank	JSC Raiffeisenbank Aval	Tascombank	JSC OTB bank
Loan term (in months / years)	5	5	5	5	4	3	3	18 months	3	5
Interest rate	15,5%	15%	16%	19%	10%	15-27,5%	16%	16.10-17%	16.32%	36%

* Source: developed by the author on the basis (Loans: small and medium business, 2020)

The price for credit services of a credit union is in the form of a percent rate on the loan. Percent rates on different types of loans in each credit union depend on the level of competition in the region and the structure of

the loan portfolio. As a rule, loans, issued to credit union members for business purposes have a higher interest rate than for consumer needs lending (Table 2).

Table 2: The ratio of interest rates by non-consumer loans

Name of the credit union								
	CU "Zlet" ("Zlet", 2020)		«Credit Union» (Credit Union, 2020)		CU "Center for Financial Services" (Center for Financial Services, 2020)		CU «UkrainianLeading» (Ukrainian Leading, 2020)	Church CU "Anisia" (Anisia, 2020)
Loan amount (in UAH)	<100000	≥ 100000	<100000	≥100000	<100000	≥ 100000	-	-
Purpose of the loan : Commercial credit	60%-36%	16%	54%	43,7%	78-90%	60-72%	53-60%	58%
Loans provided for the management of peasant farms	60%-40%	16%	-	-	72-90%	60-66%	67%	55-70%
Loans provided for personal farms	55%-40%	16%	-	-	72-90%	60-66%	65%	55-65%

Taking into account the statistics of Table 2, we can conclude that despite the declarations of credit unions, numerous loyalty programs and the profitability of joining the CU, interest rates on loans are quite high. When lending for commercial needs by the actual banking institutions, lending rates are much lower. Members of a credit union receive a loan at a certain interest rate, that is, in addition to the amount of principal, an individual must pay interest. At the same time, a natural person-entrepreneur, or a natural person who is a founder, co-founder or member of another legal entity, has the right to provide financing exclusively in the form of a loan agreement or a loan (Financial calculator, 2020).

That is, depending on the form of conducting a statutory activity of the actual financial person, its mechanisms depend on cooperation with eco-entrepreneurs and the degree of their mutual benefits for both parties. Taking into account the above, we see that there are instruments for cooperation

between financial institutions and eco-entrepreneurs that can have economic feasibility for both parties.

Results and Discussion

It is now an obvious fact that each subject of eco-economic activity aims to receive financial and organizational support, which will not only provide getting a profit by the actual representative of the private economic sector, but will also form new vectors of environmental - economic development management. At the same time, for a full and comprehensive consideration of the institute of reserve lending, as a separate segment of the market service, it is necessary to define clearly the essence and characteristics of "protected entrepreneurship".

Scientists Allen N. Berge and David Humphrey note that the efficiency of the banks' activity and that of other financial institutions primarily depends on their "vectorization" in the sphere, namely the

cooperation of financial institutions with state and non-state institutions of “unpopular inclusion” areas of the national economy, in particular the ecology field, will provide positive results of work (Berge&Humphrey, 1997). According to B. Sholtens, financial institutions have a significant impact on ecosystems, as financial indicators are directly dependent on the environmental and economic and ecological and social factors of the country. Financial institutes and markets should cooperate closely with environmentally oriented institutions, as such mechanisms of cooperation can significantly reduce the level of ecological and social problems (Scholtens, 2017).

According to some scientists, the formation of “ecological entrepreneurship” is impossible without a clear strategy of state-private partnership in all spheres of the national economy. “Environmental enterprise” is not only an environmentally oriented economic activity, but it is first of all a “reasonable conducting of economic activity”, where the balance is maintained between the desire of subjects to get a greater amount of profits and the necessity of observance of the nature protected law, the purposes of sustainable development, the formation of an eco-civil society (Pozdnyakova *et.al.*, 2015). At the same time, an innovative and marketing approach to the development of the environmentally reserve area requires its own mechanisms for the formation ecological -economic relations, and thus the form of conducting the economic activity. The separation of the sectoral type of entrepreneurial activity will allow to form transparent normative requirements to its conducting and provide protection namely to such subjects of ecological and economic relationship.

“Environmental reserve entrepreneurship” as a separate economic and organizational definition. As of today, the mechanisms of conducting an economic activity should be loyal and flexible, should take into account not only formal and marketing requirements, but also assets of the area itself and practically an entrepreneur, especially in such fields of the national economy as nature conservation and nature reserves. The sectoral zoning of forms of entrepreneurial activity provides an opportunity to create an individual instrument that will contribute to the development of the industry market services. The field of the nature reserve affair is considered as a nature protected vector of the state activity, however we propose the adoption of an innovative and marketing approach to its development. The definition of “nature reserve entrepreneurship”(Nature ReserveFundBusiness – reservedbusiness) as a separate economic and organizational definition, and forms of economic activity in the field of the Nature Reserve Fund of Ukraine does not exist according to the requirements of the current legislation and modern market realities.

We propose the separation of the sectoral type of conducting economic activity, and namely in the form *Reserved business*. RB is not a subspecies of ecological entrepreneurship, it is a separate form of carrying out the economic activity that should be considered exclusively within the scope of the environmental reserve industry, as it is closely connected with the legislative state of the facilities of the Nature Reserve Fund of Ukraine. All instruments of environmental and economic, financial and organizational and ecological and social development of such a vector of management also are directly dependent on the essence of RB.

In turn, the economic activity in the field of protected areas (RB) has its own specifics and characteristics, so it is proposed to conditionally zone on:

- “environmentally risky” economic activity with appropriate levels of risk for unique natural complexes and protected objects (for example, by levels of anthropogenic load, volumes of emissions into the atmosphere, etc.);
- “compensatory” economic activity, that is entrepreneurial activity of ecological and economic direction (for example, the greening of the production of existing enterprises, the creation of ecologically inclusive vectors of entrepreneurial activity). It is a “compensatory” economic activity that requires the expansion of the mechanism for cooperation with financial institutions, as it has a longer payback period and a lower level of economic and organizational support, but a greater ecological and social and ecological and economic significance for the regions and the country on the whole. We propose the definition of RB as an entrepreneurial activity, aimed to solve the problems of ecological and economic, ecological and social directions of the development of society, the provision of ecological and economic development of unique natural complexes and facilities of NRF. The main purpose of RB is the symbiosis of protection, preservation and reproduction of unique natural complexes, territories and the satisfaction of the ecological and economic requirements of society, without a negative anthropogenic pressure on them (author’s interpretation). The basic attributes of RB are:

- development of the ecological and economic potential of facilities of NRF of Ukraine;
- formation of the institute of inclusive ecological and economic entrepreneurship (involving and ensuring real opportunities and equality for economic participants of all levels (individual and juridical persons) who aim to carry out ecological and economic, ecologically oriented economic activity, and also to take part (directly or indirectly) in the solution of issues of environmental nature, in particular in relations aimed at the protection, preservation and reproduction of unique and valuable territories and facilities);
- formatting of ecological and economic principles of economic activity in accordance with the requirements of the Law of Ukraine “On Nature Reserve Fund” (Nature Reserve Fund, 1992);
- intensification of cooperation between representatives of the private sector of the economy and NRF institutions within the framework of public-private partnership programs;
- implementation of services within the framework of innovative and marketing approach to the development of protected facilities: “the facility of the NRF – the area of impressions”;
- introduction and development of economic and normative structures in the field of protected areas, namely franchising, vouching, factoring, concession, lending, etc.;
- formation of the principles carrying out of “smart economic activity”, which is a symbiosis of “eco-marketing policy” and actual economic mechanisms of conducting business (Thornhill, 2020);

- provision of services in accordance with the provisions of the Resolution of the Cabinet of Ministers of Ukraine of December 28, 2000 N 1913 "On approval of the list of paid services that may be provided by budgetary institutions of the nature reserve fund" (Resolution, 2000).

Since we have identified the essence of RB, as a vector of economic activity in protected areas, it is worth considering in more detail the tool of financial and organizational support for this format of economic activity. One of the main tools to support the development of entrepreneurial activity is lending to businesses, the subjects of which are banking institutions. The legislator provided for the activities of financial institutions in the form of credit unions, pawnshops, leasing companies, trust companies, insurance companies, funded pension institutions, investment funds and companies, other legal entities (whose exclusive activity is the provision of financial services) (Financial Services and State Regulation, 2001). The system of "reserve lending" (RC) should become not only the loan agreement itself, but also the ecological and economic basis for entities that plan to conduct their economic activity in the RB format and an instrument of cooperation with financial and credit and banking institutions.

In order to participate in RB programs it is necessary to comply with the minimum allowable criteria of environmental and organizational nature:

- remote territory of the NRF facility from large cities or industrial regions;
- long-term infrastructural program of development of the region of location of environmentally protected facility;
- production and sale of products made from raw materials grown in protected areas;
- development of ecological and economic infrastructure in protected facilities, located in territories adjacent with Joint Forces Operation;
- location of the entity of entrepreneurial activity in adjacent to the protected territory;
- participation in the implementation of joint recreational, tourist and health activity with NRF institutions;
- conducting an economic activity within the concept of the development of the facilities of NRF, as "an impression zone", including services in the format "mental-services";
- provision ecosystem services actually in protected territories (for example, in the territory of the economic zone or the zone of stationary recreation of national nature parks).

The minimum allowable criteria of financial and organizational nature include the following:

- participation in the program of public-private partnership with NRF institutions;
- planned cooperation with NRF institutions, that is the presence of a preliminary agreement on cooperation or an agreement (vouching agreements, concessions, franchising, etc.);
- participation in economic and environmental programs for the support and development of NRF institutions (for example, targeted environmental programs);
- introduction of economic activities aimed at conducting eco-educational, cultural, entertainment activities in conjunction with the institutions of the NRF;
- implementing economic activity in adjacent territories, however, part of the funding ($\geq 35-40\%$) will be directed to measures of environmental protected,

recreational, health nature and protection of the facilities of the nature reserve fund.

Taking into account the fact that private entrepreneurs who intend to carry out economic activities in the RB format, have a number of additional restrictions of economic, organizational, corporate, environmental and administrative nature – cooperation with financial institutions, including banks should be more dynamic and loyal. *From the initiatives inherent in the private sector of the economy the following should be highlighted:*

- an independent choice of the scheme of accrual of interest on the loan depending on the term of crediting at the conclusion of the agreement (for example, annuity or standard accrual scheme);
- introduction of the institute of ecological vouching as a guarantee of the proper fulfillment of financial obligations by private entrepreneurs, both in relation to banks and institutions of the NRF;
- introduction of mechanisms for insuring economic and environmental risks of private entrepreneurs during the fulfillment of credit obligations;
- prompt approval and provision of overdraft if necessary;
- formation of mechanisms of cooperation with credit unions on favorable terms (for example, reduction of the average interest rate of credit unions (Credit-Union, 2020; Center of financial services, 2020; Ukrainian leading, 2020).
- individualization of credit conditions depending on the type of business entity: property entrepreneurs or entrepreneurs – donors (Nikolaychuk & Khumarova, 2019);
- providing favorable credit conditions to entities engaged in ancillary economic

activities of ecological and economic nature in protected areas, in the case of economically successful basic economic activities (Nikolaychuk & Khumarova, 2019);

- the possibility of extending the loan repayment period, individualization of terms;
- a combination of different types of environmentally efficient economic activities, and the possibility of “transfusion” of funds, including credit;
- creation of mechanisms of operative cooperation with micro-entrepreneurs and private entrepreneurs who do not have a proper “credit history”.

On the part of the state as a public guarantor, the development of ecological and financial relations, proposes to launch the following initiatives:

- the creation a system of subsidies on loans by other representatives of the private sector of the economy or the state;
- the creation of a system of preferential taxation for private entrepreneurs who have received a loan under the RC program (for example, quasi-TSV refunds, reduction of personal income tax, etc.);
- the creation of an effective pool of financial institutions - environmental factors that will provide environmental factoring services at reduced interest rates and without latent commissions;
- attracting extra-budgetary environmental funds, as tools for environmental and economic support of economic entities;
- the introduction of the principle of “environmental impartiality” when participating in the “protected lending” program (absence of any advantages

for entrepreneurs who have not had violations in the field of environmental protection legislation, over entrepreneurs who have committed relevant violations in the past, if damages were reimbursed in full, and the relevant violations were not systemic);

- the formation of legally defined exhaustive grounds for debt write-off (for example, ecological and innovative activity is aimed at the protection of unique biocenosis, etc.);
- the impossibility to participate in RC programs, in case of import of eco-unfavorable goods (for example, plastic products, containers, pesticides, etc.).

Given the above, we can conclude that protected enterprises can be defined as a separate form of economic activity which takes into account environmental and economic, organizational and normative vectors of development of the environmentally protected industry and the social and ecological need of the population. However, financial and organizational mechanisms of support to eco-entrepreneurs should take into account the specifics of the industry and form the basis for its sustainable sectoral development.

Environmental lending as a tool for cooperation with financial institutions.

Financial and organizational cooperation should be beneficial not only for the administrations of nature reserve fund facilities, but also for financial institutions. We propose considering the algorithms of cooperation between nature reserve fund

institutions and credit unions, as financial institutions that are not currently involved in cooperation in the field of protected areas. One of the tools for cooperation between financial institutions and NRF administrations can be a targeted lending program for entrepreneurs who intend to engage in economic activities in the format of RB in protected territories (RC). In particular, even credit unions, as non-profit organizations (Credit Unions, 2001) can finance private entrepreneurs who intend to carry out economic activities of environmental and economic nature and lending in this area.

Credit unions in accordance with the requirements of the current law have the right to lend to their members and private enterprises owned by them on terms of their payment, maturity and security in cash and non-cash (Credit Unions, 2001). There are several financial mechanisms for cooperation between nature reserve fund institutions and the CU, namely directly as legal entities and in the way of re-lending through members of the CU:

- **“indirect or indirect environmental financing”**: the actual member of the CU intends to cooperate with the NRF institution on credit terms. An individual who is a member of the CU receives a loan for the development of ecological and economic activity in protected territories and lends to a subject of the entrepreneurial activity that intends directly to implement an economic activity in these areas (Figure 1).

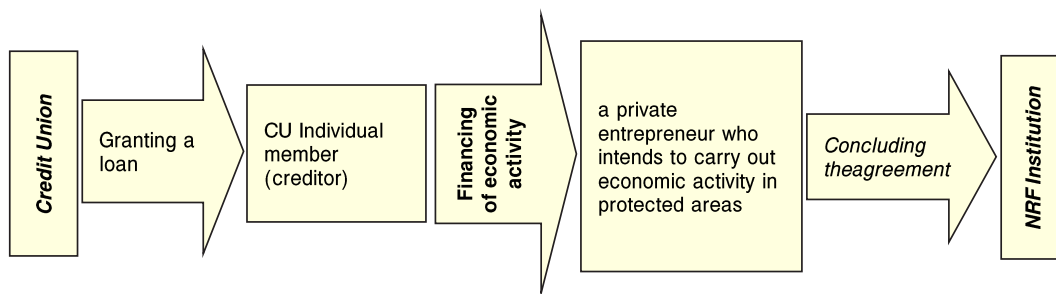


Figure 1: *Indirect environmental financing*

- **“chain” environmental financing:** a physical person-member of the CU is the owner of a business entity, as a physical person-entrepreneur; or a founder (co-founder) or a member of a legal entity that intends to carry out its economic activities in protected areas. The relevant individual receives a loan, as a member of the CU, and continues to finance the business entity that intends to carry out business activity in the environmental and economic direction (Figure 2).

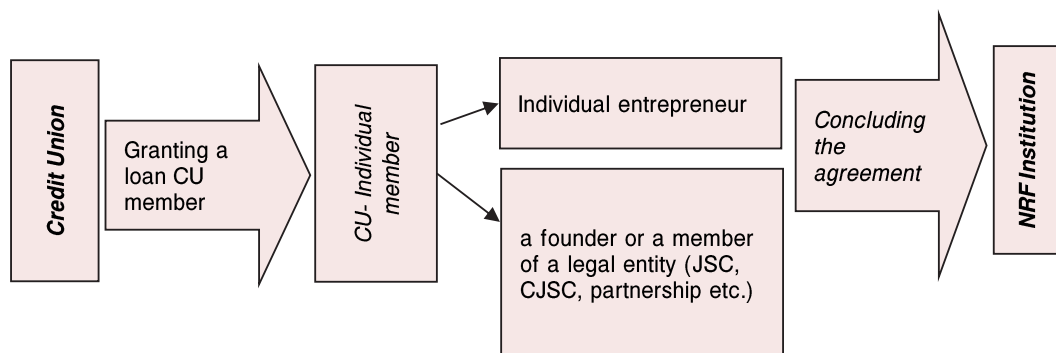


Figure 2: *“Chain” environmental financing*

- **“beneficial” ecological financing:** a member of the CU is the ultimate beneficiary of a legal entity that intends to carry out an economic activity of an environmental and economic nature. A relevant physical person receives lending, as a member of the CU and contributes to the authorized capital of the legal entity, the ultimate beneficiary of which he is, the relevant funds and assets. In the future, the legal entity which receives financing, carries out economic activity in protected territories (Figure 3).

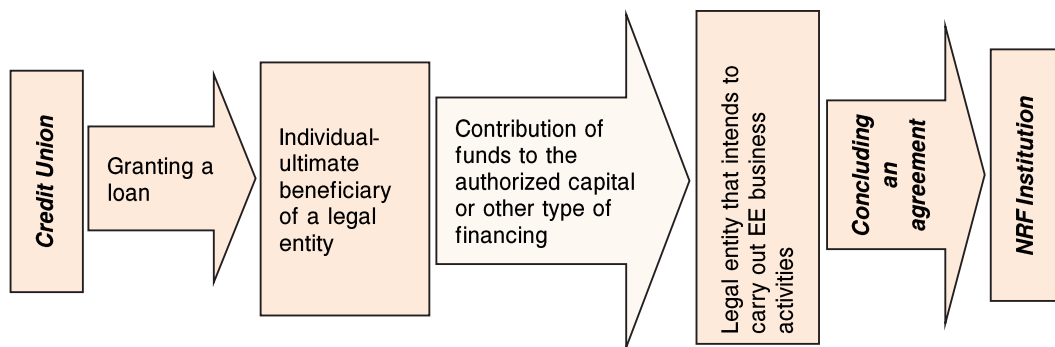


Figure 3: “Beneficial” ecological financing.

- **“environmental factoring”**: physical person-member of the CU, receives a loan at interest rates from a credit union, and in its turn, provides the repayment of debts of a physical person – an entrepreneur or legal entity

that is a creditor of another subject of economic activity, who is engaged in carrying out entrepreneurial activity of an environmental and economic nature (Figure 4).

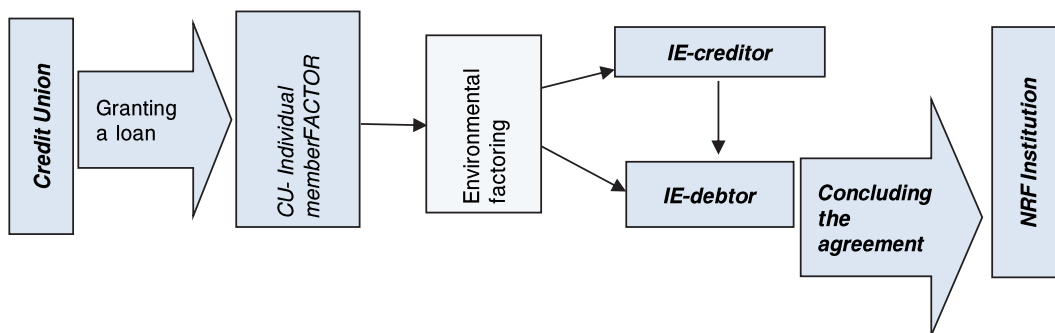


Figure 4. “Environmental factoring”

- **“simple environmental lending”**: a credit union owns a subject of entrepreneurial activity which aims to carry out its economic activity in protected territories.

Actually, the CU, as a financial institution, provides direct financing of such a legal entity in the form of a loan, overdraft, etc. (Figure 5).

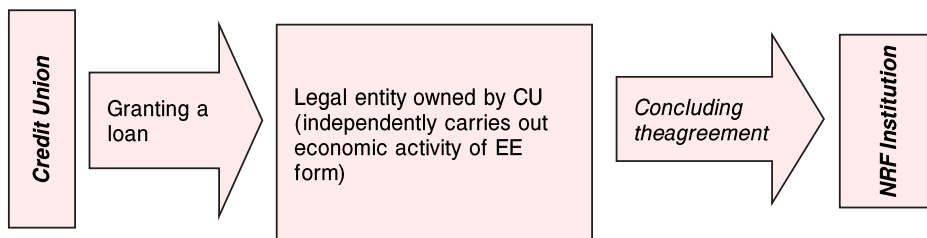


Figure 5: “Simple environmental lending”

- **“reverse environmental financing”**: a legal entity is under the ownership of the CU that is a creditor of a private entrepreneur who carries out its economic activity in protected territories.

A credit union provides lending of a legal entity that is in its ownership, which in turn finances a private entrepreneur that implements ecological and economic activity (Figure 6).

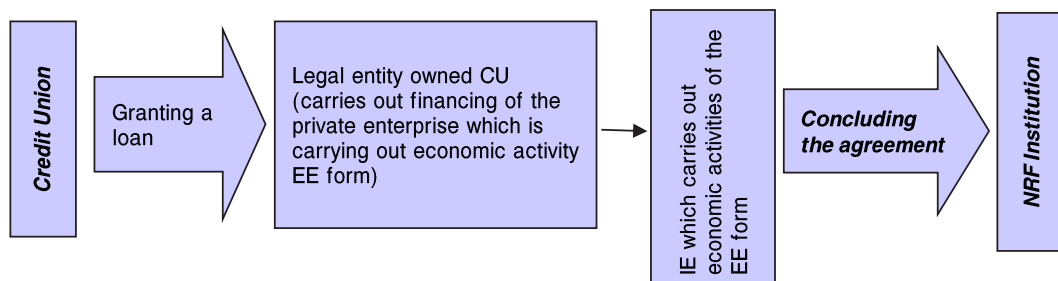


Figure 6: Reverse environmental financing

- **“double environmental lending”**: a legal entity is under the ownership of the CU that a creditor of a private entrepreneur. The relevant legal entity also has the status of a financial institution that has the right to lend to a business entity that carries out its business activity in

protected areas. A credit union provides lending of a legal entity (another financial institution), that is under its ownership. Henceforth, the relevant financial institution provides loaning to a business entity that carries out environmental and economic activities (Figure 7).

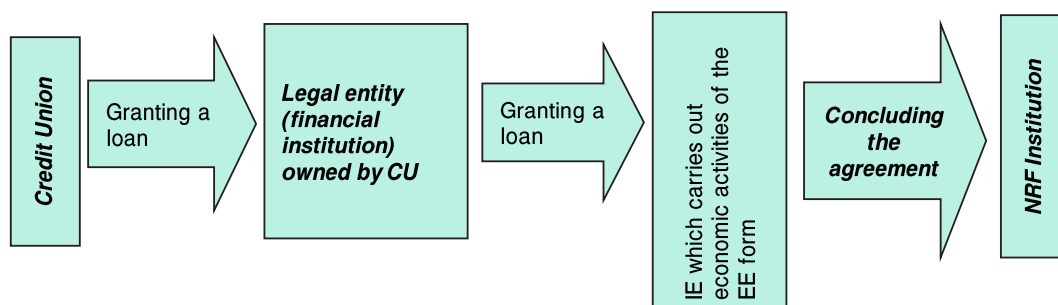


Figure 7: Double environmental lending

- **“bank environmental lending”**: a credit union is the founder, co-founder or member of a cooperative bank which

in turn has the right to lend to any business entities that are not prohibited by applicable law (Figure 8).

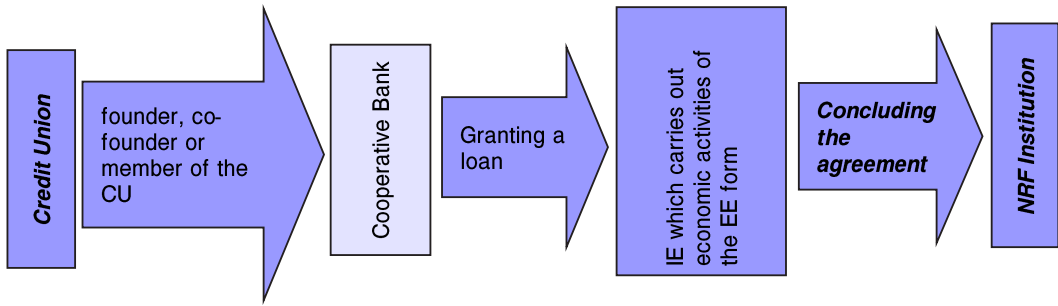


Figure 8: Bank environmental lending

Taking into account the above, we can differentiate the participation of credit unions, as financial institutions, in investment flows, aimed at the development of an economic activity of environmental and economic direction:

1. depending on the form of participation:

- environmental lending (providing funds in cash or non-cash for a certain period of time at interest);
- environmental financing (providing funds in cash or non-cash forms on contractual terms without interest);

2. depending on the subject of participation:

- a credit union itself, as a financial institution;
- a member of a credit union, as a person who carries out an independent economic activity.

That is, in order to receive a profit, an individual-member of a credit union, that is a creditor of a private entrepreneur, or the CU itself (as a legal entity), must provide financing on the following terms:

- provide a loan at interest rates that are higher than those, which on the terms, it received credit for;
- receiving a part of the annual income from the business activity in the environmental and economic direction

(as a percentage), except for the amount of repayment of principal arrears;

- obtaining insurance for the obligation under the loan agreement (for example, collateral), which in case of late payment or inability to repay the debt will pass on the terms of ownership to the lender;
- develop a system of bonuses/certificates that are mutual beneficial, both for the borrower and for the private entrepreneur – a debtor;
- form a system of reducing the tax burden on the private entrepreneur, for example quasi-accumulation of TSV, creating a schedule of tax holidays;
- make a loan agreement only in the presence of a guarantor or a factor.

In particular, for micro-entrepreneurs and individual-entrepreneurs, obtaining loans from credit unions is not a very profitable option for financial cooperation, for example, a natural person-entrepreneur aims to receive loans in the amount of 200000 (two hundred thousand) hryvnias for 12 months from a financial institution:

- (1) in case of obtaining a loan from a credit union (~ 55%) a physical person-entrepreneur has to pay in addition to the body of the loan approximately 59583.80 hryvnias (according to the standard scheme);
- (2) in case of obtaining a loan from a bank

(~16%) a physical person entrepreneur has to pay in addition to the body of the loan about 17754.06 UAH (according to

the annuity accrual scheme) (Table 3); 17333.90 UAH (according to the standard accrual scheme) (Table 4).

Table 3: The payments calculation of the loan according to the annuity accrual way

Basic conditions		Final values (monetary units)			
Loan's term	12 months	Total amount of payments	217333.90		
Total	200000 units	including %	: 17333.90		
Interest rate	16 % per annum (standard accrual way)	loan's body	200000.00		
One-time commission	0 %	commission	0.00		
Monthly commission	0 units				
MMonths	Loan arrears	Loan repayment	Loan interest	Commissions	Monthly payments
1	200000.00	16666.70	2666.70	0.00	19333.40
2	183333.30	16666.70	2444.50	0.00	19111.20
3	166666.60	16666.70	2222.30	0.00	18889.00
4	149999.90	16666.70	2000.00	0.00	18666.70
5	133333.20	16666.70	1777.80	0.00	18444.50
6	116666.50	16666.70	1555.60	0.00	18222.30
7	99999.80	16666.70	1333.40	0.00	18000.10
8	83333.10	16666.70	1111.20	0.00	17777.90
9	66666.40	16666.70	888.90	0.00	17555.60
10	49999.70	16666.70	666.70	0.00	17333.40
11	33333.00	16666.70	444.50	0.00	17111.20
12	16666.30	16666.30	222.30	0.00	16888.60
Total	200000.00		17333.90	0.00	217333.90

*compiled from the materials (Small and medium business, 2020)

Table 4: The payments calculation of the loan according to the standard accrual way

Basic conditions		Final values (units)	
Loan's term	12 months	Monthly payment amount	18146.17
Loan amount	200000 units	Total repayment amount	217754.06
Interest rate	16 % per annum (annuity accrual way)	including %	17754.06
One-time commission	0 %	loan's body	200000.00
Monthly commission	0 units	commission	0.00

Months	Loan arrears	Loan repayment	Loan interest	Commissions	Monthly payments
1	200000.00	15479.50	2666.67	0.00	18146.17
2	184520.50	15685.90	2460.27	0.00	18146.17
3	168834.60	15895.04	2251.13	0.00	18146.17
4	152939.56	16106.98	2039.19	0.00	18146.17
5	136832.58	16321.74	1824.43	0.00	18146.17
6	120510.84	16539.36	1606.81	0.00	18146.17
7	103971.48	16759.88	1386.29	0.00	18146.17
8	87211.60	16983.35	1162.82	0.00	18146.17
9	70228.25	17209.79	936.38	0.00	18146.17
10	53018.46	17439.26	706.91	0.00	18146.17
11	35579.20	17671.78	474.39	0.00	18146.17
12	17907.42	17907.42	238.77	0.00	18146.19
Total		200000.00	17754.06	0.00	217754.06

***compiled** from the materials (Small and medium business, 2020)

Taking into account the calculation data (1) for a physical person-entrepreneur there is a large amount of interest on the loan, and, in the case of low profitability of products or services of an ecosystem nature, at the end of the year, the entrepreneur may go bankrupt.

According to calculation (2), a physical person-entrepreneur who has made a credit agreement with a bank, pays a much lower amount of interest on the loan at the end of

the year, and therefore, has more opportunities to fulfill their obligations to the bank and make a profit.

For a detailed analysis, we should take the example of entrepreneurs who aim to provide services of ecosystem nature and calculate the profitability of their economic activity at the end of 12 months (calendar/reporting year) (Table5).

Table 5: The loan analysis for private entrepreneurs by bank and a credit union (author's development)

Name and form of ownership of the private entrepreneur	PE "Mykytyuk"	PE "Vlasenko"
Loan amount, creditor	200 000 UAH (bank)	200 000 UAH(CU)
Terms	12 months	12 months
The amount of loan's interest	17754.06 UAH(annuity accrual way)	59583.80 UAH (standard way)
Revenue at the end of the year	500 000 UAH	500 000 UAH
CODE's IE (DK)	74.20 Photography	93.29 Leisure and entertainment
The taxation system	simplified (2 group)	simplified (2; 3 group)

To determine the profitability of our economic activity, it is necessary to find a profit from sales. To do this, we subtract the expenses from the received receipts.

$$P(\text{UAH}) = R - C \quad (1)$$

where:

P – profit at the end of the period (12)(UAH, in whole numbers),

R – receipts at the end of the period (12 months)(UAH),

C – costs for 12 months (UAH.), (in this case, to the costs we include only the amount of the loan body and interests on it; we do not take into account current costs (for production, taxes, wages, etc.).

Let us estimate the approximate amount of profit at the end of the calendar year PE “Mykytiuk”, according to the given above conditions, our formula will have the following numerical value:

$$P = 500000 - 217754 = 282246 \text{ (UAH)} \quad (2)$$

Let us estimate the approximate amount of profit at the end of the calendar year PE «Vlasenko», according to the given above conditions, our formula will have the following numerical value:

$$P = 500000 - 259583 = 240417 \text{ (UAH)} \quad (3)$$

In the future, dividing the received result by the amount of costs, we obtain the profitability of activities of private entrepreneurs at the end of the period (12 months), (loan repayment period):

$$Pr = P/R * 100\% \quad (4)$$

where:

Pr – profitability of activity of the private entrepreneur at the end of the period (12 months), (% , with one decimal sign),

P – profit at the end of the period (12 months) (UAH, in whole numbers),

C – costs for 12 months (UAH),

C – costs for 12 months (UAH), (in this case to the costs we include only the amount of the loan body and interests on it; we do not include the current costs (for production, taxes, wages, etc.).

Let us estimate the approximate amount of the profitability of activities of PE “Mykytiuk” at the end of the calendar year (a period of loan repayment by credit)

$$Pr (\%) = 282246 / 217754 * 100\% = 129,6\% \quad (5)$$

That is, PE “Mykytiuk”, at the end of the calendar year, is able to carry out fully credit obligations, receiving from each hryvnyaa profit of almost 1.29UAH. However, from the corresponding amounts of profit PE “Mykytiuk” has also to buy materials for carrying out its own economic activity, to pay a single tax, a single social contribution, rent, and so on.

Let us estimate the approximate amount of the profitability of activities of PE “Vlasenko” at the end of the calendar year (a period of loan repayment by credit)

$$Pr (\%) = 240417 / 259583 * 100\% = 92,6\% \quad (6)$$

That is, PPE “Vlasenko”, at the end of the calendar year, also has the opportunity to perform fully credit obligations, receiving from each hryvnya approximately 0.93copecks of profit. However, taking into account the necessity to pay wages to employees, a single tax, a single social contribution, other mandatory payments, purchasing equipment, materials, repayment of rent; PE “Vlasenko” may go bankrupt .

In 2020, the number of physical individuals-entrepreneurs who are under simplified taxation system, increased by almost 93,8 thousand people (Tax Service, 2021), which indicates a constant positive dynamics of entrepreneurial activity growth and the

necessity to expand their activities according to market needs.

Given the above, a credit union is not an enough beneficial counterparty for a representative of the private sector of the economy, however, in the presence of circumstances of financial and organizational character, a private entrepreneur is not able to obtain a loan from a banking institution. The factors of ecological and organizational nature, in particular:

- the presence of a "bad" credit history of a private entrepreneur at the time of applying for a commercial loan (for example, not repaid consumer or other business credit);
- more loyal attitude to the financing position of clients (for example, providing a large amount of loan without collateral);
- formation of a flexible approach to each client (for example, development of an individual schedule of debt repayment);
- obtaining a loan in the way of entrepreneurial activity, that is either too "risky" on the point of economic profitability or unconventional, innovative;
- a small amount of income of the person who aims to obtain a large credit;
- personal characteristics of the person who intends to receive a loan (age zoning;

too young or elderly; the presence of legal proceedings, unreliable marital status, etc.);

- unfavorable economic and geographical location for carrying out an economic activity (for example, depressed areas, areas that bordering the territory, where the Joint Forces Operation is carried out);
- the absence of a guarantor, on the credit, that requires his attraction.

Given the above, the relevant business entities have the potential character of "economic and marginal" - that is, the business entity has economic-organizational, technical or socio-personal characteristics that could potentially have negative financial consequences for the banking institution (untimely or non-fulfillment on credit obligations). Since the economic activity of ecological and economic direction has its own specifics, so we believe that the relevant type of lending should be separated, for example, as "reserve" loan (*reserve credit*). Such types of loans should have separate programs (conditions) of provision, as economic activity in the industry of reserve affair is not a typical for entrepreneurs in other sectors of the national economy (Table 6).

Table 6: The main sectoral prerequisites for the formation of protected credit

Financial and organizational conditions	Ecological and organizational conditions
unstable dynamics of obtaining profit, due to the specifics of industrial provision	high threshold of "entry into the industry" through the imperative nature of environmental protected legislation
high tax burden (the presence of additional taxes and local fees of ecological nature)	the necessity of greening or complete re-profiling of production for existing private entrepreneurs
absence of developed institute of business insurance of ecological and economic direction	low level of support among local communities (local population) and authorities of the regional level.
high risk of accumulation of arrears of value added tax in the field of protected affairs.	low level of cooperation with administrations of the institutions of the environmentally reserve fund

Financial and organizational conditions	Ecological and organizational conditions
lack of a coherent debt structuring system for such private entrepreneurs, including under state guarantees.	too bureaucratic procedure of public-private partnership in the protected area
lack of a stable pool of guarantors and factors for business entities that intend to work in the field of NRF	low level of normative, administrative and informative provision of the development of economic activity in the reserve area.
low level of implementation of contractual relations by public and private nature (franchising agreements, concessions, vouching, etc.)	formation of so-called "privileged" or inclusive private entrepreneurs, operating in protected areas
lack of instruments for conducting guarantee operations, which are related to the occurrence of cases on debt obligations of economic entities - residents	the need for narrow-profile specialists who are in great demand in the labor market
the need to take into account the difference between market prices and cost estimates, the difference in tariffs	unstable dynamics of formation of the conjuncture of the market services of ecological and economic direction
provision of services of ecological and economic nature at tariffs (prices) lower than the amount of financially justified production costs (creation process) in order to promote them	low level of research and analysis of demand in the market of the services of ecological and economic nature, the services of "impression", which can be provided in protected areas.
lack of a mechanism to insure the deficit of funds and unfulfilled current obligations of the state	presence of specific conditions of using natural resources (a number of imperative prohibitions)
lack of mechanisms for writing off hopeless tax debt, individual conditions for deferment or postponement of deadlines for payment of monetary obligations or tax debt of the taxpayer in the case of innovative environmentally activity in the field of NRF (for example, innovative and intellectual activities, aimed at developing environmentally oriented projects, which is less profitable).	low level of normative-administrative provision of relations between a private entrepreneur and public authorities, as well as the staff of such institutions
the need for a large number of non-current assets, which requires environmentally oriented entrepreneurship, not inherent in other industries of the national economy	unfavorable social and economic climate for implementation of an eco-entrepreneurial activity in remote regions
insufficient level of development of such a form of lending, as overdraft in the field of ecological and economic relations	unfavorable dynamics of labor migration in separate regions of the location of reserve territories (the department is qualified personnel)
formation of an effective institute of environmental vouching and factoring in the field of protected areas	low level of training in higher educational institutions of the relevant profile (lack of sectoral division in economic faculties)
low level of "targeted lending" instruments during the conclusion of public and private partnership agreements	lack of monitoring of the effectiveness of eco-entrepreneurship in the regions
rather high interest rates on loan agreements, the presence of hidden payments	lack of statistical and methodological information to the mechanisms of support to eco-entrepreneurs

Source: author's own development

Thus, the cooperation of nature reserve fund institutions with financial institutions is possible in the following forms:

- reserve lending, in case of cooperation with the actual banking institutions;
- loans, in case of cooperation with credit unions

The conditions for providing credit support on the part of banking institutions are more cost-effective for eco-entrepreneurs, but require them to have strict financial discipline and the presence of a certain amount of material and technical basis (in order to claim constrictions in the event of bankruptcy of an eco-entrepreneur). Mechanisms of cooperation with credit unions for eco-entrepreneurs are less economic-effective, however, credit unions are more loyal to the financial discipline of eco-entrepreneur themselves, and, they have a possibility of an individual approach to each business entity in the part of the main provisions of their cooperation. At the same time, there are a number of circumstances when eco-entrepreneurs do not have sufficient amounts of resources to cooperate with banks or credit unions at all, or have a too unfavorable credit history – in such cases, a mechanism is possible of “operative financial support” on the part of another entity that can act as a so-called “debt buyer”.

Environmental factoring as a mechanism of cooperation with financial institutions. When carrying out environmentally oriented

activities, such circumstances may arise, that the entity is unable to perform its financial obligations in a timely manner or the creditor requires a refund early, or urgently. In such cases, in order to resolve the financial conflict, it is appropriate to involve the financial institution as a factor. Such type of factoring, as ecological, on the one hand, will support a private entrepreneur who implements environmentally oriented economic activity, to realize its production potential, and the primary lender to obtain its own financial benefit. The institute of ecological factoring can also become a potential instrument for a balanced relationship between a business entity, which implements environmentally oriented entrepreneurial activity and the creditor, who aims to obtain a benefit in the way of repayment with interests or other contractual terms.

During the first quarter of 2020, financial companies made 16 264 agreements of factoring for a total amount of 21 992,2 million UAH, executed 6 026 agreements. At the end of the first quarter of 2020, 38 555 factoring agreements remained in force. The number of factoring agreements, concluded during the first quarter of 2020, amounted to 16 264 units, that is 131,0% (9 222 units) more in comparison with that indicator in 2019. The value of factoring agreements amounted to 21 922,2 million UAH, which is to 118,2 (11 913,7 million UAH) more than last year (Natskomfinposlug, 2021) (Table 7).

Table 7: Information on the factoring agreements volume,
by financial companies for the reporting period, UAH mln.

Type of financial service	2018 year	2019 year	Growth rates (2019/2018)		I Qr. 2019 p.	I Qr. 2020 p.	Growth rates (I quarter 2020 / I quarter 2019)	
			Absolute	%			Absolute	%
Factoring services	48 105,0	56 469,4	8 364,4	17,4	10 078,5	11 913,7	11 913,7	118,2

*compiled from the materials (Natskomfinposlug, 2021 January 16)

The legislator defines that the provision of the factoring service has the right for financial institutions, and also, if it is directly provided by law, the entities who are not financial institutions, but have the right to provide certain financial services (Financial Services and State Regulation, 2001). At the same time, given the content of Article 1079 of the Civil Code of Ukraine, we can conclude that factoring services have the right to also be provided to individuals-private entrepreneurs (Civil Code, 2003). However, physical individuals-entrepreneurs who implement an economic activity according to CTEA64.99 (factoring services) (*Order of*

State Committee, 2005) do not have right to be on the simplified taxation system (Tax Code, 2011), which significantly increases the tax burden on them. Currently financial institutions are not active members of economic relations in the field of nature reserve fund of Ukraine, however, such institutions can become donors for entrepreneurs who implement ecosystem entrepreneurship. In general, financial institutions which have the right to provide a factoring activity are generally quite limited, and therefore they are characterized by a high level of commission for the provision of services (Tab. 8).

Table 8: Ukrainian banks' overview by factoring services

Bank's name	Volume of factoring services (ths, UAH)	Terms (months /%)	Commission for management / servicing of receivables (%)
OTP BANK	70%	30 days – 18,25%; 30-45 – 19,25%	0,3 - 3.2% (factoring commission); 0,5-1% (factoring commission, flat-fee)
Raiffeisen Bank Aval	80-90%	1-2 month.- 14-15%; 3-4 month. – 17%	0,5%-1% (factoring commission)
PivdenniyBank	75-80%	10-14 days – 12,25 %; Up 30days- 19-21%	0,5-1,5 % (factoring commission)

*compiled from the materials (Natskomfinposlug, 2021 January 16)

In the frame of factoring services of the subjects of management in the field of the environmental reserve affair, the factor has to monitor not only the payment discipline and business reputation of clients, control the timeliness of payments by debtors, manage

delivery risks with deferred payment, help the supplier to properly build tariff policy, but also to monitor and model ecological and economic risks of nature protected industry, the level of development of a certain direction of the ecological oriented entrepreneurial activity, the

level of tax burden on entrepreneurs in this sphere, the dynamics of employment and the level of demand for relevant services in the market. Environmental factoring should aim not only to satisfy financial interests of the factoring-institution, but also contribute to the ecologically oriented development of regions, support ecosystem economic activity that aims to combine environmental protected and economic interests. At the same time, bank or other institutions have to have incentives to implement their activities in the field of reserve area, as well as preferences from the state, in the face of the National bank of Ukraine or other public authorities, real mechanisms and guarantees of their development in the territories of the future infrastructure facilities which belong to the reserve fund. In turn, the institutions of NRF should receive instruments for ecological and economic development, through expanding directions of cooperation with private entrepreneurs and a list of ecological and economic services, which will enhance investment attractiveness.

We propose to consider the effectiveness of the use of factoring operations in the field of the environmental reserve fund, for example, a private entrepreneur (LLC "Eco-action") provides ecosystem services in the amount of 200 000 UAH per year, provides ecosystem services in the turnover of this debt arrears 12 times a year. To expedite the repayment of the relevant arrears, it was transferred to LLC "Factor-PLUS" on the following terms:

- reservation amount - 15%
- commission fee of the factor – 1 %
- interest rate on factoring loan - 25%.

We determine the average receivable of the company LLC "Eco – action" for a year:

$$R(a) = A_p / T(r) \text{ (UAH)} \quad (1)$$

where:

$R(a)$ - average receivables (UAH);

A_p – the amount of provided services for the reporting period (year/in UAH);

$T(r)$ – turnover of receivables for the reporting year (year/times).

Let us estimate the approximate amount of average receivables of LLC "Eco-action", under the above conditions, our formula will have the following numerical value:

$$R(a) = 200000 / 12 = 16\,667 \text{ (UAH)} \quad (2)$$

In the future, we will determine the amount of reserve deductions of LLC "Eco-action":

$$Ard \text{ (UAH)} = T(ap) \times Ar \quad (3)$$

where:

Ard - the amount of reserve deductions (UAH);

$T(ap)$ – turnover of receivables for the reporting period (year / times);

Ar - the amount of reservation (%);

according to our data, the formula will have the following meaning:

$$Ard = 16667 \times 0,15 = 2500 \text{ UAH} \quad (4)$$

Determine the amount of accrued commissions LLC "Factor-PLUS" on the collection of accounts:

$$A(c) = R(a) \times Cf \text{ (UAH)} \quad (5)$$

where:

$A(c)$ - the amount of accrued commissions (UAH);

$R(a)$ – average receivables (UAH);

Cf – commission fee of the factor (%)

According to our data, the formula will have the following meaning.

$$A(c) = 16667 \times 0,01 = 166,67 \text{ UAH} \quad (6)$$

To determine the amount of accrued interests from LLC "Factor-PLUS" on a factoring loan, we will use the following

formula. If the turnover of receivables is 12 times a year, then the term of the factoring loan will be:

$$T(fl)=360/ T(r), \text{ (days)} \quad (7)$$

where:

$T(fl)$ - factoring loan term, (days),

$T(r)$ - turnover of receivables for the reporting period (year / times);

360 - the number of calendar days per year;

According to our data, the formula will have the following meaning

$$T(fl)=360/12=30 \text{ days} \quad (8)$$

Accordingly, the amount of accrued interests from LLC "Factor-PLUS" for the loan will be determined by the following formula

$$A(i)=(16\,667-2500) \times 0,25 \times 30 / 360 = 293,97 \text{ UAH} \quad (9)$$

where:

$A(i)$ - the amount of accrued interest on the loan, (UAH);

$A(c)$ - the amount of accrued commissions (UAH);

$I(r)$ interest rate on factoring credit (%);

Ard - the amount of reserve deductions (UAH);

$R(a)$ - average receivables (UAH);

$T(fl)$ - term factoring term, (days);

360 - number of calendar days per year;

according to our data, the formula will have the following meaning:

In the future, taking into account the amount of the reserve will be returned to LLC "Eco-action" after repayment of the debt of LLC "Factor-PLUS":

$$A(a)=(R(a)-Ard)-A(i)-A(c), \text{ (UAH)} \quad (10)$$

where:

$A(a)$ - the amount, transferred to the borrower's account (UAH);

$R(a)$ - average receivables (UAH);

Ard - the amount of reserve deductions (UAH);

$A(i)$ - the amount of accrued interest on the loan, (UAH);

$A(c)$ - the amount of accrued commissions (UAH);

according to our data, the formula will have the following meaning:

$$A(a)=(16\,667-2500)-293,97-166,67=13706 \text{ UAH} \quad (11)$$

The total income of the financial institution (factor) - LLC "Factor-PLUS" for the provided factoring service will be:

$$T(i)=A(i)+A(c), \text{ (UAH)} \quad (12)$$

where:

$T(i)$ - the total income of the factor, (UAH.);

$A(i)$ - the amount of accrued interest on the loan, (UAH);

$A(c)$ - the amount of accrued commissions (UAH);

according to our data, the formula will have the following meaning:

$$T(i)=293,97+166,67=460,64 \text{ UAH} \quad (13)$$

Thus, the profitability of the transaction for a financial institution (factor) - LLC "Factor-PLUS" will be determined by the following formula:

$$P=T(i)/(R(a) \times (T(fl)/360)), \text{ (\%)} \quad (14)$$

where:

P - the profitability of the operation for the factor (in%);

$T(i)$ - total income of the factor, (UAH);

$A(b)$ - amount transferred to the borrower's account (UAH);

$R(a)$ - average receivables (in UAH);

$T(fl)$ - term of the factoring loan, (days),

360 - the number of calendar days per year;

Articles

according to our data, the formula will have the following meaning:

$$P = 460.64 / (16\,667 \times (30/360)) = 0.33, \text{ that is } 33\% \quad (15)$$

Despite the fact that LLC “Eco-action”, according to the amount of profit can be attributed to micro-entrepreneurs (Financial Services and State Regulation, 2001), for

the financial institution LLC “Factor-PLUS” providing a factoring operation in the field of nature reserve fund to be quite profitable. At the same time, for LLC “Eco-action”, which has to pay the debt factor, there is a number of obligations of financial and organizational nature, related to the conduct of its business (Table 9).

Table 9: Conditional list of financial and economic obligations of Eco-Action LLC

Type of obligation	Conditional economic equivalent	Frequency of payment (execution)
Income tax	tax base (the difference between income and expenses) – 18%	quarterly
Dividend tax	5%	monthly
TSV	20%	monthly
Single social contribution	22% from the accrued salary	monthly
PIT	18% (for all payments)	monthly
Military collection	1,5	monthly
Environmental tax	The amount of tax is determined separately for each type of pollution and / or for each type of pollutant	monthly
Rent of premises or part of a property complex	determined separately	monthly
Purchase of raw materials (including everything, that is referred to current assets)	determined separately	monthly
Payment of salary to employees	not less than minimum salary (4723 UAH)	monthly
Factoring agreement	credit loan, ~33% overpayment	according to the essential terms of the factoring agreement, but up to 90 calendar days
Credit obligations	credit amount, ~ 16% bank rate	monthly, unless other provided by the loan agreement
NRF franchise	according to the essential terms of the contract	monthly

*compiled from the materials (Tax Code, 2011; State support of small and medium enterprises, 2012; Accounting and financial reporting, 1999; State Budget, 2019)

Thus, LLC “Eco-action”, carrying out economic activity of environmental and economic direction, must pay a rather large amount of taxes, fees and other payments,

in addition, this entity has a number of financial obligations, which are practically related with entrepreneurial activity. Given the above, for LLC “Eco-action”, the repayment of

factoring liabilities is a very important point in receivables, as a level of profits is not high enough, and such entities are usually micro-entrepreneurs (State Fiscal Service, 2021). Environmental factoring is an effective and necessary tool to support eco-entrepreneurs in the field of protected areas, however, it provides a significant financial burden on the relevant business entity. In general, the industry of ecological and economic entrepreneurship has its own specifics, related with facilities of the nature reserve fund and a number of prohibitions of environmental nature, so such entrepreneurs need economic and organizational support, both from the state, and from other representatives of private sector of economy.

Conclusion

(Conclusion) Market transformation in the field of the nature reserve fund require significant investment flows, which the state cannot provide. Involvement of financial institutions in the field of lending to representatives of the private sector of the economy who aim to implement their economic activity in the reserve territories, will reduce the financial and organizational burden on the state part, to form innovative and marketing mechanisms for development relations in this area. During the cooperation of financial institutions and eco-entrepreneurs, it is necessary to take into account the specifics of the actual economic activity and the area of its implementation. Reserved business is the form of carrying out the economic activity that should be considered as sectoral, since it is closely related to the legal condition of the facilities of the nature reserve fund of Ukraine and is aimed at combining economic and ecological and social objectives.

Business entities, operating in the format of reserved business, should form a separate segment of entrepreneurship, which requires a special form of cooperation with financial institutions in the face of banks and credit unions.

Credit unions, as financial institutions, can become tools for the formation of investment flows in the nature reserve fund industry. Involvement of credit unions as financial counterparties requires improvement of the administrative, regulatory and organizational and economic support of such relations.

As of today, credit unions have the right to provide loans in the form of lending (at interest rates), as actually legal institutions, and financing (without interests), by re-lending to their members who intend to establish independent economic activity or financing other representatives of the private sector economy. However, interest rates on loans, which credit unions currently can propose are quite high. The terms of cooperation with credit unions are not economically beneficial enough for private entrepreneurs, at the same time, a number of entities do not have sufficient conditions to obtain a loan from banks. Such category of entities can be conditionally classified as “economically marginal”, and the CU, providing loans at higher interests, are more loyal to potential counterparties.

We propose to create a targeted lending program for private entrepreneurs who intend to carry out an economic activity in the reserve territories - “reserve” credit (reserve credit).

“Reserved credit” (RC) should take into account the peculiarities of the implementation of the economic activity in the reserve areas, and therefore have atypical conditions that will be beneficial not only for financial institutions, but also for the private entrepreneur. Thus,

protected lending (RC) of entrepreneurs, aiming to carry out an economic activity in the protected areas, should become not only an income-creating area of active banking activity, but also an effective support for the development of the environmental and economic format of protected areas.

Improving the banking practice of reserve credit (RC) is connected not only with the improvement of the method of determining interest rates, but also with a number of individual conditions for cooperation with representatives of the private sector of the economy. The implementation of this approach will allow to form an effective mechanism of protected lending to business entities, as a tool for segmenting the market of their services and creating an innovative product (reserve credit / reserve credit-RC).

The system of reserve lending (RC) is closely related to a social corporate responsibility sector, and should protect the enterprise. But therefore it must have a number of individual economic, environmental and financial and organizational tools.

The introduction of environmental factoring will help to increase the amount of investments in the field of protected areas, a faster turnover and a more efficient use, will allow banks to "enter a new area of the national economy", increase profits and diversify risks.

The environmental factoring tool can also be an innovative source for replenishing the working capital of the financial sector, which will clearly help revitalize business processes in the field of the nature reserve fund. However, taking into account the specifics of eco-economic activities, environmental factoring must contain a number of more flexible conditions (e.g., reduction of % on the loan), otherwise, such

cooperation will be economically unprofitable for eco-entrepreneurs. In the field of nature conservation, environmental factoring is not only a source of funds for financial institutions, but is, above all, an instrument to support entrepreneurs that intend to carry out an ecological and economic activity or provide services of ecosystem nature.

The research identifies the following financial mechanisms of cooperation between institutions of the reserve fund and banking organizations, credit unions depending on the investment attractiveness for financial institutions and economic feasibility of cooperation for entrepreneurs: 1) indirect environmental financing; 2). chain ecological financing; 3). "beneficial" environmental financing; 4). environmental factoring; 5) simple environmental lending; 6). reverse environmental financing; 7) double environmental lending; 8) bank environmental lending.

As a result of the research, we tried to find out the essence and the role of nature reserve facilities in the system of balanced economic efficient nature use and their place in financial and market infrastructures, to offer a methodological approach to the formation of protected areas, as subjects of market relations that have investment attractiveness for different fields of the national economy. It is proved that economic and environmental development of reserve territories requires non-state financial and investment flows of constant nature, through cooperation with representatives of the private sector of the economy. The author substantiates that private legal investment tools will provide the development for new vectors of entrepreneurial activity, including an inclusive economic activity in the economic and environmental direction.

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