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Sustainable financing of innovative technologies in Georgia: challenges and prospects

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Abstract. The scientific article, basis on the newest literal sources and actual materials studies the important question regarding the theory of fiscal policy as sustainable financing of innovative technologies in Georgia. There are examined global tendencies in direction of sustainable financing. In connection to this, sustainable financing is presented as unity of two important parts: (1) leading finances to such projects which would support sustainable and inclusive growth; (2) improvement of financial stability in the process of decision making by taking into consideration environmental, social and managerial factors. There is investigated course of support of sustainable financing in Georgia, besides, there is documented that National Bank of Georgia supports strengthening of the role of financial sector in sustainable development of the country and develops green, social and sustainable financing frame for this purpose. There are analyzed actions planned by National Bank of Georgia for development of sustainable development- guideline of sustainable development including four basic directions: (1) improving of consciousness and qualification; (2) flows of sustainable financing; (3) ESG risk management; (4) transparency and market discipline. Besides, there is made a conclusion on the necessity of creation of working group of sustainable development by the National Bank for successful realization of sustainable development guideline and provision of timely inclusion of interested parties in this process.

Keywords: *sustainable financing, physical risk, transient risk, market failure, financial supervision, green credit, green obligation, long term cost, obligatory care.*

1. Introduction

various countries worldwide, in order to support sustainable development, developed UN Agenda for Sustainable Development at UNO summit of 2015 (UN Agenda for Sustainable Development, 2015). In the same year there was achieved Paris Agreement on Climate Change (Paris Agreement, 2015). All the mentioned became basis of new beginning for sustainable development. UN agenda of 2030 unifies 17 basic aims, which, from their own part, serve to creation of such future that

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is aimed to stability, healthy environment, inclusive, sustainable and equal society and economy.

Paris Agreement that was signed in 2015 by 195 countries is the first initiative unifies by many countries under one general purpose. And the latter supposes making of some ambitious steps serving to the growth of sustainability toward climate change and reduction of global warming up to 2°C. By signing these initiatives countries selected such way of development which will not meet requirements of nowadays generation on account of interests of future generation (Report of the World Commission on Environment and Development: Our Common Future, 2015).

Georgia is participator of both initiatives. Georgian government realizes a range of actions for achievement of sustainable development purposes (SDGs) selected by consideration of national circumstances and thus makes its own contribution in provision of global sustainable development (Vanishvili & Lemonjava, 2016).

According to the requirement of Paris Agreement, Georgia has made national level contribution in United Nations Frame Convention on Climate Change (UNFCCC), what means taking of such measures which will reduce emission of greenhouse gases and processes that negatively affect environment. These international obligations comply with the national policy of the country and social-economical development strategy of Georgia "Georgia 2020" (Shanava, 2021).

Challenges of sustainable development faced by our country need urgent response in order to suit public policy to new reality (Vanishvili et al., 2021). And this all requires conduction of such reforms which will provide support of mobilization of financial resources for green, stable and inclusive economic growth (Shanava, 2022).

Important role in this process is imposed on financial system, because one of the essential factors for sustainable development is sustainable financing. This is necessary condition for achievement of more sustainable economic growth, provision of stability of financial system and supporting of transparency and long-term vision in economy (Shanava & Vanishvili, 2022).

2. Research Results

According to EU Commission, "sustainable financing" unifies two important components: (1) leading of finances to such projects which will support sustainable and inclusive growth; and (2) improvement of financial stability in the

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process of making of investment decision, by taking into consideration environment protection, social and managerial factors (Final Report, 2018).

Climate change is current factor, which is also characterized by long-term risks and correspondingly, needs strict political intervention. Therefore, it is distinguished among other environment protection problems. Although, climate change is also connected to other environment protection and social issues. Correspondingly, detailed study of risks connected to climate change creates a basis for analysis of other environmental and social risks.

It is already generally confessed that problem connected to sustainability can become a source of financial risks. These risks are created by two basic channels: physical damage caused by climate change; and structural changes needed for moving to low emission economy. Physical and transiency risks affect macroeconomic environment and can cause important financial losses (Merab et al., 2020).

Physical risk is considered to be acute when it is caused by events connected to weather and climate, such as drought, flood, windstorm and increasing of sea level; physical risk is chronic if it is caused by stage-by-stage changes such as global warming. Source of physical risk can be direct consequence of above described events, such as, for example, damage to property or decrease of productivity. Although, it can also be indirect consequence of such subsequent event as breaking of supply chain. In case of realization of physical risk they will be followed by important financial damage which can affect as at micro so at larger systemic level.

Influence of physical risks on financial instrument can be direct. Example of this will be reduction of cost of assets and pawn, increased insurance losses or delays of business operations (Ramaz & Merab, 2020). In case if losses are insured the damage will be reflected directly on insurance companies, and in case of non-insurance the whole load will be beared by internal economies, corporations and state (Stenek et al., 2010).

Transiency risk is such financial risk which can occur after realization of changes needed for moving to low emission economy. In result of changes of environment protection policy, technologies and market moods there can be reevaluated such assets as stocks, obligations, derivatives and other forms of capital existed in the economy (Vanishvili & Katsadze, 2022). It is still unclear at what rates

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reevaluation will be made, but it can greatly influence on financial stability and sustainability of financial institutes (Merab et al., 2020).

Evaluation and study of influence of physical and transiency risks over financial stability and individual financial institutes is responsibility of central banks and financial supervision. More central banks and financial supervisors make concrete steps for overcoming these challenges in developed and developing countries. Within the last four year quantity of actions and policy conducted for support of green and sustainable financing significantly increased (United Nations Environment Program-me, 2018).

Except of argument of financial risk, UN Environment program focuses attention on more two arguments why central banks shall response to challenges of sustainable development (On the Role of Central Banks in Enhancing Green Finance, 2017):

- *Market failure*- availability of bank credits to harmful for environment businesses can be considered as failure of credit market. Environmental regulations and carbon pricing are priority policies for correction of the mentioned failure of the market. Although in case of absence of environmental policy and its non-effective execution, it is wishful for central banks to support creation and distribution of credit within the frameworks of their authorities. Although, different form of market failure is "non-existed markets" - situation, when effective, free market, which provides "pareto" effective distribution of resources, does not exist. In this case, central banks can play certain role in formation of "non-existed" segment of the market for supporting development of green financing, for example, such as green obligations market.

- *Role of central bank, as of reliable and authorized institute, especially in developing countries.* In general, provision of issues connected to environment protection in the analytical frame is an obligation of all central banks or financial supervisor. Although, role of central banks and financial supervisors are more important in developing countries where environmental regulations are being executed comparatively weakly. In developing countries central banks and financial supervisors belong to advanced and authorized public institutions. Even more, within frameworks of supervision of financial sector they can pay proper attention to the risks connected to environmental social issues, what

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will be reflected on private investment solutions. Even more, central banks, by the use of expertise of financial markets and international contacts can support conduction in financial sector of reforms corresponding to the best international practice.

In many countries central banks and financial supervisors as well as financial institutes study these risks more deeply. Although, because of insufficiently developed tools and methodologies a lot of challenges exist. For example, availability and quality of services are limited, taxonomy and explanations are still at development stage and process of transformation into information, needed for evaluation of financial risk of theoretical knowledge shall be still improved (Shanava & Vanishvili, 2021b). Correspondingly, successful switching to sustainable development requires simultaneous realization of a range of subsequent and suitable actions.

Georgian National Bank supports strengthening of the role of financial sector in sustainable development of the country and for this purpose develops the frame of green, social and sustainable financing. This frame means consideration of social and environmental issues by participators of financial sector and capital market and management of related risks, and this is important as for financial stability so for sustainable development of the economy. National Bank makes concrete steps for support of sustainable development.

The first step from this standpoint was membership in Sustainable Banking Network, SBN in September 2017. From this time National Bank actively works with various international organizations such as SBN, International Financial Corporation (IFC), Organization of Economic Cooperation and Development for development of sustainable financing frame in Georgia. For the purpose of improvement of consciousness about sustainable financing, the National Bank of Georgia by cooperation with private sector has translated into Georgian language the principles of green, social and sustainable development obligations of International Capital Markets Association, which were published on the website of ICMA (Green Bond Principles, 2017).

On September 26, 2018 the National Bank, together with IFC/SBN has hosted working meeting of sustainable financing. At the working meeting there were participating experts of IFC, representatives of SBN member countries and central banks of region. The meeting was also attended by representatives

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of the ministries of Economy and Sustainable Development, Finances, Environment Protection and Agriculture, presidents/executive directors of financial institutes and other interested parties.

At the working meeting participants examined existed challenges of sustainable financing, possibilities of development of social and green obligations market and green credit and significance of disclosure of environmental issues. Special attention was focused on the role of financial supervision, existed regulatory experiences and initiatives. After discussions and consultations conducted within frameworks of working meeting the National Bank has decided to create guidance of sustainable financing.

Guidance on sustainable development for Georgia was created in result of cooperation with IFC/SBN. This is based on the best international practice and complies with EU Commission Action Plan (EU Commission Action Plan, 2018). For the following four years the guidance is an action plan of development of sustainable financing.

Sustainable Financing Guidance is the list of actions planned by the National Bank of Georgia for development of sustainable financing. Guidance unifies all those possible changes which are planned for realization in direction of sustainable financing by the National Bank for the next three – four years. Main purpose of the guidance is creation of reliable, predicted and stable regulator frame which will prepare the market for switching to the sustainable financing. By conduction of subsequent and suitable actions and by giving of time for adaptation the Guidance supports consideration of issues of sustainable development in decision making process.

Sustainable financing is one of the important supporting factors of sustainable development. Correspondingly, this Guidance is compatible with the plan of sustainable development of the Government. The Guidance examines as problems connected to environment protection such as climate change and air pollution, so social and governing issues. Guidance will be renewed periodically, together with development of the market.

Sustainable financing Guidance includes four basic directions:

- Improvement of consciousness on sustainable financing, development of guiding principles and improvement of market qualification in direction of sustainable financing;

- Supporting the growth of capital flows and investments

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in sustainable direction for achievement of green and socially inclusive economy;

- Consideration of ESG factors in the frame of financial institutes and corporations risks management and in the process of decision making;

- Increasing of transparency and market discipline by regulation of minimal requirements of disclosure of ESG for financial institutes and corporations.

Improvement of consciousness and qualification: One of the reasons causing low consciousness on sustainable financing in Georgia is only short term analysis of risks and deficiency of information on advantages of sustainable financing. Correspondingly, it is important to improve the consciousness and qualification for solving of this problem (Shanava & Vanishvili, 2021a).

For implementation of sustainable financing, participators of financial market of Georgia can be guided by various international standards. For the purpose of improvement of consciousness about sustainable financing, the National Bank of Georgia by cooperation with private sector has translated into Georgian language the principles of green, social and sustainable development obligations of International Capital Markets Association, which were published on the website of ICMA. ICMA principles are renewed annually and National Bank plans to make renewed translations constantly available for large society.

Initiation of conduction of workshops, working meetings and trainings, their organization and support are one more means for improvement of consciousness on sustainable financing (Vanishvili & Chelidze, 2017). On September 26, 2018 the National Bank, by cooperation with SBN/IFC has hosted working meeting on sustainable financing. Within frameworks of this meeting there were examined actual issues of sustainable financing and current challenges and there was made a decision on developing of guidance. And also there is planned to conduct various trainings and working meetings in the future by cooperation with international organizations. This will assist not only to improvement of consciousness but will enable National Bank to consider more characteristics of Georgian market during planning of future steps in direction of development of sustainable financing.

Flows of sustainable financing: Sustainable financing plays an important role in sustainable development. For making the capital flows compatible with aims of sustainable

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development and climate change, it is important to explain the term "sustainable". Definition of what type of investments/credits are qualified as "sustainable" will help market participators to better make their activities compatible with sustainable development. Taxonomy compatible to international interpretations will support growth of international investments. Compliance of taxonomy with local requirements will assist the local institutes with making of their own contribution in achievement of purposes of sustainable development of Georgia. Therefore, National Bank plans to introduce taxonomy of sustainable financing compatible to international practice and corresponding to the taxonomy of EU. This can include interpretations of green credit, green, social and sustainable development obligations and other products of sustainable financing.

One more important document development of which the National Bank is planning is Guidance on Sustainable Financing. This document will unify all existed interpretations of sustainable financing products, among them on green, social and sustainable obligations and green credit; guidance of issuance of green obligations; reviews ESG risk management requirements; and summarizes consideration of ESG issues in the Corporate Management Code, together with corresponding principles of reporting and information disclosure.

ESG risk management: ESG risk management means consideration of ESG risks during issuance of loans, in order to avoid or reduce financial losses, reputation risks or damages to humans or environment caused by projects financed by banks. Increase number of markes recognizes the risk of climate changing as separate factor which affects condition of debtor and lender. In the recent decade there is realized approaching of ESG risks management standards used by public and private financial institutions. These international standards include IFC standards: IFC's Performance Standards, Equator Principles and guidance on risk management of European Bank for Reconstruction and Development.

ESG risk management is one of the main components of the guidance on sustainable financing. National Bank has already begun working in direction of consideration of ESG factors in the Corporate Management Code of capital markets and commercial banks. According to the Corporate Management Code, ESG shall be part of the company strategy, and inclusion of ESG risks shall be realized in the risks management system.

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Besides, Corporate Management Code provides reporting and disclosure of ESG issues. All of the mentioned provides adequate evaluation and consideration of sustainability risks by the companies. At initial stage, in the Corporate Management Code for capital market ESG part will be based on “do and explain” principle, what will prepare the market for stricter requirements of disclosure of information on issues of sustainable development. There shall be mentioned that for commercial banks it is already mandatory to disclose information on ESG issues.

The next step is development of technical guideline on ESG risks management and tools. ESG risks management guideline will be compatible to the best international practice, which, as a rule, requires estimation of due diligence of environmental and social issues, study of ESG risks containing credits and continuation of supervision over ESG risks after crediting. Definition, estimation and management of social and environmental risks during making of decision about the credit are still new for banks and other financial institutes. Correspondingly, in order financial institutes could provide ESG risks, inclusion and guiding by National Bank is very important (Nanuli et al., 2022).

Transparency and market discipline: Transparency is one of the important parts of sustainable financing development. Corporate Management Code regulates requirements for commercial banks and capital markets regarding ESG reporting and information disclosure, what will make markets more oriented on environment protection (Vanishvili & Shanava, 2022). National Bank of Georgia, by cooperation with Economical Cooperation and Development Organization, is working on principles of reporting and information disclosure for financial institutes. These principles is based on such international standards of disclosure of information on sustainable development issues as: Sustainability Accounting Standards Board, SASB, Task Force on Climate-related Financial Disclosures, TCFD, UN Principles for Responsible Investment, PRI, Reporting Frame 2018, Global Reporting Initiative, GRI.

3. Conclusion

and finally, as conclusion there shall be noted that successful realization of sustainable financing guidance requires close cooperation and coordination between various interested parties. For successful realization of action plan and provision of timely inclusion of interested parts into

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this process the National Bank shall necessarily create working group of sustainable financing. Group members shall be representatives of corresponding ministries and other public institutions, financial institutes and other interested parties working in this direction. Working group will meet regularly in order its members could share ideas, inform each other about novelties on current events in the sphere of sustainable financing and examine role and responsibility of each of them in realization of plans defined by guidance.

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