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### Effective Calculation of Investment Projects in the Conditions of Uncertainty in Azerbaijan

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#### Abstract

In this article, based on the application of interest rates and discounting options during the implementation of investment projects in the conditions of uncertainty and lack of information in the Republic of Azerbaijan, the possibility of reducing investment risks on the basis of correct forecasting in the context of the effective implementation of the project and the creation of large investment opportunities for the development of various sectors of the

economy are analyzed, and the existing In order to reduce all possible risks, make the investment activity more efficient, make the right decisions, achieve the intended goals, and determine the correctness of the investment strategy in the processes going on in the modern world, analyses were conducted based on modern mathematical models.

**Keywords:** Uncertainty Risk, Discounting, Investment Strategy, Foreign Investment Risk, Interest Rate

#### 1. Introduction

Zerbaijan is one of the countries that has attracted attention in recent years with its strategic geographical location, rich natural resources and rapidly developing economy. However, as in every rapidly growing economy, conditions of uncertainty in Azerbaijan create various difficulties in terms of planning and implementation of investment projects. These uncertainties may arise from economic, political, social and technological factors and may pose serious risks for investors. Therefore, effective calculation and management of investment projects in Azerbaijan is possible by correctly evaluating uncertainties and minimizing risks.

This article addresses the effective calculation of investment projects in conditions of uncertainty in Azerbaijan. First, the concept of uncertainty and the role of uncertainties in the calculation of investment projects will be emphasized. Then, the general situation of the Azerbaijani economy and investment environment will be examined, and in this context, the effects of uncertainties on investment projects will be analyzed. Finally, strategies and methods for effective calculation of investment projects under uncertainty conditions will be discussed.

The Concept of Uncertainty and Its Effect on Investment Projects

Uncertainty refers to the lack of certainty of future events and leads to various risks in investment projects. These risks can

affect the costs, schedule, and expected returns of projects. Economic uncertainties include factors such as market fluctuations, changes in inflation rates, and volatility in exchange rates. Political uncertainties arise from situations such as changes in government policies and changes in laws and regulations. Social uncertainties include social unrest, workforce movements and cultural changes, while technological uncertainties are related to the emergence of new technologies and the rapid development of existing technologies.

Azerbaijan is a country rich in energy resources such as oil and natural gas, and the export of these resources forms the backbone of the country's economy. However, fluctuations in energy prices and changes in global energy markets leave the Azerbaijani economy facing uncertainties. In addition, geopolitical tensions and internal political dynamics in the region where Azerbaijan is located also create uncertainty for investors. Therefore, it is of great importance to take these uncertainties into account during the planning and implementation stages of investment projects.

#### General Situation of Azerbaijani Economy and Investment Environment.

The economy of Azerbaijan has undergone a significant transformation since it gained independence in 1991. The economic difficulties and political instability experienced in the early 1990s have been replaced by economic growth and stability since the early 2000s. Especially investments in the energy sector and major projects such as the Baku-Tbilisi-Ceyhan (BTC) oil pipeline have made significant contributions to the growth of the Azerbaijani economy. However, the fact that the economy is largely dependent on the energy sector creates difficulties in ensuring economic diversification.

The Azerbaijani government implements various reforms and incentive programs in order to increase economic diversification and ensure sustainable development. In this context, investments in infrastructure projects, agriculture, tourism, information technologies and manufacturing sectors are encouraged. Various tax reductions, customs exemptions and other incentives are offered to foreign investors. However, more efforts are needed to improve the investment environment and reduce uncertainties.

#### Effective Calculation of Investment Projects under Uncertainty Conditions

Effective calculation of investment projects under conditions of uncertainty requires various strategies and methods in terms of risk management and minimization of uncertainties. In this context, it is of great importance for investors to evaluate uncertainties correctly and plan their projects in the light of these evaluations. Below are some basic strategies and methods for effective calculation of investment projects under conditions of uncertainty:

**Risk Analysis and Management:** Risk analysis in investment projects is the process of identifying potential risks and evaluating the effects of these risks. Risk management covers the measures to be taken to minimize these risks and ensure the success of the projects. In conditions of uncertainty, investors need to conduct a comprehensive risk analysis and implement risk management strategies.

**Scenario Analysis:** Scenario analysis is used to evaluate how project results may change under different uncertainty

scenarios. This method allows investors to be prepared for different situations and minimize the effects of uncertainties. Flexible Planning and Adaptability: In conditions of uncertainty, it is important to plan projects flexibly and increase the ability to adapt to changing conditions. In this context, the timing, budget and other critical components of the projects should be planned flexibly and revised when necessary.

**Information and Data Collection:** Accurate and up-to-date information and data collection is of great importance for the effective calculation of investment projects. In this context, economic indicators, market data, technological developments and other relevant information should be constantly monitored and evaluated.

#### 2. Efficient calculation of investment projects in conditions of uncertainty in the country

Although we are faced with uncertainty and a lack of information in the Republic of Azerbaijan, in order to be free from negative effects and make investment projects more efficient, relevant mathematical calculations should be carried out mainly by applying discount mechanisms<sup>[1. p. 439]</sup>. The analysis of the research of investment projects in the country shows that in such cases, the interest rate is of great importance.

Although the factor that considers the risk of foreign investment is mainly related to correct forecasting and the study of the relevant project, each indicator is required to be carefully examined<sup>[2. p. 32]</sup>. Of course, the tariff rate is heavily influenced by inflation, alternative capital efficiency, risk, and uncertainty, and it can be calculated using the following formula developed by us:

$$r = IR + MRR * RI$$

Here are: r-risks;

IR- inflation rate;

MRR- is the real minimum rate of income;

RI- It is the interest rate that takes into account the degree of investment risk.

Considering that, when working with a specific investment project in Azerbaijan, the loan interest can be taken as the starting price of the risk tariff rate, Of course, if there is no information about this, then we recommend taking the bank rates as the tariff rate. In other words, it is currently recommended not to include tariff rates when analysing investment projects in the country.

It's important not to forget that in international business banking, the rate of private capital is often determined by the rate (or discount rate) of investments based on the rate of deposits<sup>[3. p. 193]</sup>. Therefore, if the entire capital is taken, then the deposit interest rate can be taken to equal the corresponding interest, and this interest can be determined by subtracting the interest given from the interest of the deposit taken<sup>[4. p. 225]</sup>. This interest rate can be taken as the average price of long-term bank loan interest rate.

That is why, in the country as a whole (that is, when the capital is mixed), the interest rate can be determined as the average cost of capital (WACC - Weighted Average Cost of CAPITAL). In another word  $n$  capital stock, if any, the value of each (after tax)  $E_i$  - is equal to, and the total capital share  $A_i$  - if equal then,  $(i = 1, 2, \dots, n)$ , the tariff rate is

roughly determined by us and is found based on the following formula:

$$q = \sum_{i=1}^n E_i A_i$$

This is the matter, for firms or companies operating in the West, it is suggested that this formula be used to calculate the tariff rates:

$$WACC = Wd^*Rd + Wp^*Rp + Ws^*Rs$$

*WACC*- The weight of each source of funds, in the total investment amount;

*Wd^\*Rd*- Interest rates of attracted loans;

*Wp^\*Rp*- Interest paid on preference shares;

*Ws^\*Rs*- Income of private capital;

According to these fundamental principles, in the conditions of the modern market economy, the investment project can be accepted in Azerbaijan:

1. accounting of the time value of money;
2. accounting of alternative costs;
3. accounting of the risk related to the implementation of the project;
4. possible changes in project parameters;
5. correct and consistent reflection of inflation in the modern time frame.

When choosing an investment project in the country, the time value of money can be taken into account, so that the more favorable one of the two identical investment projects is the one that brings income faster [5. p. 536]. It should not be forgotten here that when discussing the investment project, the costs that are not taken into account by the firm or companies (the cost of the investment project), the income should be taken into account. From this point of view, applying the principle of alternative value in the country means giving up the factor of calculating and taking into account the costs related to the investment project. Any investment project, of course, means a risky investment, because any uncertainty about future income creates corresponding risks in itself [6. p. 336]. In addition, all mathematical calculations based on investment projects need to be performed on the basis of real income and expenses, not on the basis of transfer from accounting. This should be done on the basis of real prices.

At this time, the reasons for discounting should be based on the following factors:

- NPV (Net Present Value) - pure discounted income - TDG;
- IRR (Internal Rate of Return) - internal rate of profitability - RDN;
- PBP (Payback Period) - payment period-PM;
- PI (Profitability Index) - profitability index - GI;

We suggest the calculation of pure discounted income in the country as follows:

- the difference between all monetary incomes and costs

related to the implementation of the investment project = NPV. Theoretically, if we consider that B and C are the given values of income and expenses related to the

$$B = \sum_{t=1}^T \frac{b(t)}{(1+r)^t}; \quad C = \sum_{t=1}^T \frac{c(t)}{(1+r)^t}$$

project, then:

Right here:  $b(t)$ -  $t$  They come in due time;

$c(t)$  -  $t$  Expenses in due course;

$r$ - Reflecting the time value of money, the discount rate;

$t = (1, \dots, T)$  - Time period.

In this case, the pure discounted income can be expressed by the following formula:

$$NPV = B - C = \sum_{t=1}^T \frac{b(t)}{(1+r)^t} - \sum_{t=1}^T \frac{c(t)}{(1+r)^t}$$

In the Republic of Azerbaijan, it is necessary to calculate the dependence of the NPV on the discount rate in order to accurately assess the appropriateness of the investment project and its analysis. Because the effect of the discount rate (taken as an interest rate) on the price of NPV is very large, and this issue demonstrates the special effect of the investment project on the generation of cash flows. Of course, the person who is the author of the investment project should have more relevant knowledge in terms of theory and experience than others, and it is also important that that person has a great reputation [7. etc. 37]. Because NPV itself also has its shortcomings, which can be correctly assessed by professionals, and they are mainly:

- Complex mathematical calculations;
- Lack of accounting for efficiency when using capital;
- impossibility of signing the corresponding contract of the same pure discounted income or investment projects with different capital capacity;
- Lack of accounting to compare costs (including initial costs);
- Two different investment projects with the same NPV are equally attractive, although the costs of one are less than the costs of the other;
- Impossibility of dividing investment projects according to their importance in the limited space of relevant resources.

### 3. Scientific basis of using discount rate in the Republic of Azerbaijan

It should not be forgotten that the "Internal profitability (affordability) rate" criterion, i.e., IRR, is such a discount rate, and at this discount rate, the value created by the expected income from the investment project leads to a coefficient equal to its corresponding cost [8. p. 26]. Thus, the obtained income pays the capital invested in the investment project, and from this point of view, in the graph below, in the graph reflecting the dependence of NPV with the change of the interest rate (here, the value of - cannot be negative), NPV - when equal to zero - let's look at the tariff rate:

A graph depicting the achievement of IRR

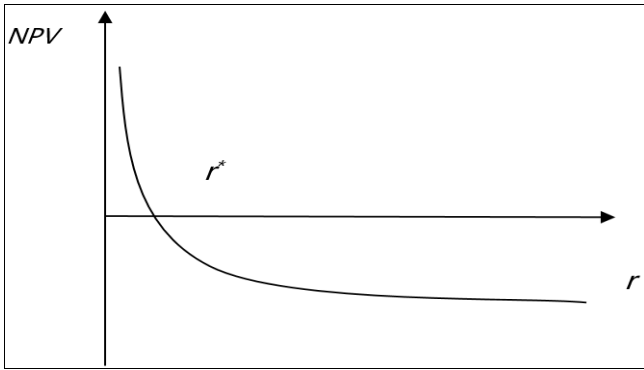


Chart 1:

According to the determination of the internal norm of income shown in the example above:

$$IRR = r^*$$

Thus,  $IRR = r^* : \{NPV(r^*) = 0\}$  and its value can be defined as:

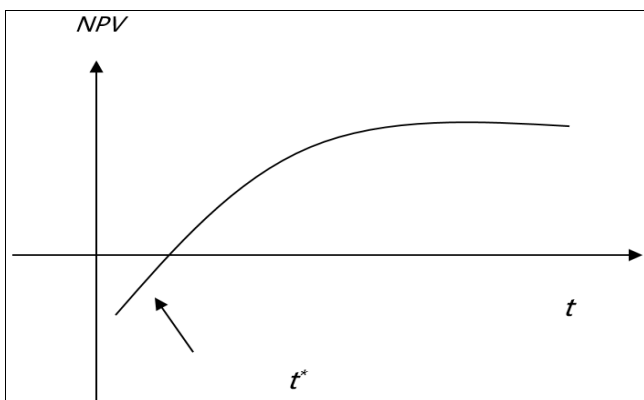
$$NPV = \sum \frac{b(t) - c(t)}{(1 + IRR)^t} = 0$$

Here, the importance of the criterion indicates the maximum possible discount rate. From the point of view of the normative profitability of IRR, it is important to make an appropriate decision after comparing it. The larger the difference between the internal rate of return and the discount rate, the more profitable the investment project will be [9. p. 242]. This criterion is considered an important factor for investors operating in Azerbaijan, and if the payback period of the investment project is equal to the payback period of the initially invested capital (with real income flow), then analytically:

$$PBP = t^* : \{NPV(t^*) = 0\}$$

In the graph below, the time dependence of NPV is described, and as can be seen in this graph, the "blooming" period of the investment project, and  $t^*$  is the income in this relevant time frame. In this time period, the amount of discount costs is fully calculated with the income stream and the corresponding coefficient is obtained. This is the PBP, that is, the project's payback period.

Time dependence of NPV Chart 2



If the self-payback period of the investment project does not exceed the lifetime of the project, then this project is accepted faster [10. p. 86]. Considering that the calculation of the investment payback period is carried out in the first phase of the project implementation, and therefore, this method is criticized in the country. This criterion, together with other discount determinations, plays the same role in the acceptance of the investment project.

The profitability index (PI) shows the relative profitability of the investment project (discount profitability), and this index is equal to the ratio between the discount income stream and the discount expense stream:

$$PI = \frac{\sum \frac{b(t)}{(1+r)^t}}{\sum \frac{c(t)}{(1+r)^t}}$$

This criterion reflects the efficiency of capital investment, and here only one number can be accepted as an upper result. Note that in the economic and mathematical literature, this criterion is called the B/C ratio (the ratio between the discounted income flow and the discounted cost flow) [11. etc. 23].

Considering that when choosing a criterion, borrowers or investors want to be sure of these characteristics of the criterion:

- the criterion should allow to distinguish the alternatives correctly;
- help to make the right decision;
- should ensure the correct assessment of the investment project.

At this point, it should be noted that (a serious approach to the time value of money does not allow accepting a harmful project) according to methodical advice, the correct decision to be made in the end is related to the basis of the development of discount criteria. These criteria reflect the dynamics of the development process of investment projects in the country.

If we take into account that NPV, IRR, PI criteria are different versions of the same concept, then, precisely because of this, we should not forget that their results are interconnected. Thus, for any investment project in the country, it is necessary to wait for the implementation of these mathematical relations: If,

$$NPV > 0, PI > 1 \vee IRR > r$$

If,  $NPV < 0, PI < 1 \vee IRR < r$

If,  $NPV = 0, PI = 1 \vee IRR = r$

Here,  $r$  - is the required rate of return (alternative value of capital).

However, sometimes some specialists working in the country may face relevant problems in connection with the specified criteria [12. p. 219]. These problems can be solved by means of calculations. In addition, the "man-machine" method is also very important in making investment decisions, and this method has its own special tools:

- cash flow model given by time account;

- system of criteria for project efficiency;
- analysis of project risks.

The research of efficiency criteria of the investment projects presented in the country in an "academic" or classical way, which gives us the basis here, is the demand of the global world today. In this direction, several modifications of the criteria shown in the literature can be found. These modifications, of course, help to be effective according to the requirements of those who implement and prepare the investment project based on the criteria, based on the experience based on scientific and theoretical knowledge.

In addition, the method analysed in this article requires not only high accuracy but also knowledge of the limits of technical capabilities. Because not knowing these technological limits can have a negative impact on the result, The efficiency criterion used for the analysis of the investment project in the Republic of Azerbaijan requires additional analysis (research). At the same time, this is considered an important factor in terms of risk analysis for investment projects in the country. That is why the pure discount income method is considered the best method for evaluating the financial status of an investment project [13. p. 29]. From this point of view, when making an investment decision (applied mostly to projects competing in the market), the best method is the NPV calculation method. Analyzing the current situation in the country, we will see that the NPV of projects with certain discount rates and a large internal rate of return is less than that of projects with a low IRR, and this can be explained as follows: Basically, in the first years of implementation of projects with a large cash flow, there is a sensitive reaction to pricing and operations based on the discount rate (cost of capital). For projects with large cash flows, the change in net value (related to the rate change in the cost of capital) that has occurred in recent years appears to be a dominant process. Considering that the application of the internal rate of return method may not be corrected in any case, To analyse such cases, let us make a separate determination that, within the normal (standard) profile of investment projects, only one net cash flow (in the first period) should correspond to the basis of the profile, because a net income flow is possible after this process. In the event that the respective projects envisage the progress of their implementation in this way, then either in the middle of the project's life cycle, at the end, or during the course of the project, there may be several net incomes (flows), and such a profile is considered non-standard.

If we take into account that during the application of RDN criteria to investment projects with a non-standard profile (in particular, making an investment decision), a number of problems may arise, these problems are related to the peculiarities of cash flow, and depending on the interest rate, they should be reflected in the TDG graph. These are often associated with the following relevant situations:

- Reflects real cash flow;
- The flow of real money changing its positive sign, there is no problem with the negative sign of money.

The main issue in the assessment of alternative projects in the country is the assessment of limits based on the role of the RDN. Within these limits, there may be a discount rate (discounting rate), which further increases the relevant probability in the uncertainty of the price of money. If the

projects are executed independently of each other, they should be separated by the more convenient RDN method. But all flaws are still taken into account in light of the needs of the market in question.

Taking into account the problems discussed above, there is a need to create a new criterion, and according to this content, it should be in accordance with the internal payment norm but be flawless [14. p. 309]. Currently, this criterion exists, and it is the modified internal rate of return (MIRR). This indicator is proposed to be calculated in the Republic of Azerbaijan's reality.

$$\sum \frac{COF(t)}{(1+k)^t} = \frac{\sum CIF(t) \times (1+k)^t}{(1+MIRR)^T}$$

Right here:  $k$  - capital pricing;

$COF(t)$  - cash flow (flow), costs of project execution;

$CIF(t)$  - inflow of cash.

On the left side of the formula, the flow value of the flow can be calculated according to the formula, and according to this formula, the flow of the flow can be obtained by discounting  $k$ , the rate of the cost of capital. On the left side, the future value of the income stream (at the end of the project's implementation) is shown. It is assumed that the cash flow is reinvested at the  $k$ -capital price rate, and then the value of the cash flow is called the terminal value (TD) in economic and mathematical literature. The discount rate that equalizes the current value of the flow and TD is called the modified rate of the internal return of the project (MIRR). The MIRR internal rate of return has the following advantages compared to the RDN:

1. The MIRR calculation is based on real-world conditions, which include the fact that income is reinvested in the project at the cost of capital rather than the internal rate of return.
2. This problem can be solved with the help of the modified internal rate of return. The main cause of this problem is that the price of the internal rate of return is higher than it should be.

Analysts are very serious about calculating inflation, analysing efficiency, and researching risk during the formation of cash flow. It is proposed to solve this problem in the Republic of Azerbaijan by two methods defined by us:

- All cash flows can be expressed as real flows (adjusting for inflation), and then the cost of capital index rate must be converted into net income with inflation. The drawback of this method is that it assumes that the rate of inflation from year to year does not change, which is impossible.
- The nominal rate of the cost of capital remains equal to the market rate of the cost of capital, and in this case, the cash flow is constructed in such a way that it reflects the rate of inflation; for example, it is assumed that the costs associated with the selling price of the commodity increase at a certain rate each year, and depreciation allowances do not change.

From this point of view, in the country, methods based on discounting are considered favourable (although they are not universally ideal and also have shortcomings). Changing the

combination of evaluation methods weakens the impact of defects, and therefore more criteria are used in the selection of projects.

If, in the Republic of Azerbaijan, the investment project meets the "Pareto-optimal" vector criterion, that project can be considered effective. The indicator based on the discount rate is considered a factor that causes the uncertainty of efficiency, and the discount rate changes along with the currency market and economic conjuncture <sup>[15, p. 496]</sup>.

The method of income and cost analysis discussed above can be applied to many projects in the country, but in some cases, it is not possible to calculate whether the projects are profitable or not. In such cases, we can evaluate the appropriate version of the project by conducting an effective cost analysis.

For cost efficiency in the country, the analysis option helps solve the problem of choosing the most appropriate project at the most reasonable price. The following projects can be attributed to such projects:

- Healthcare project;
- Food project;
- Project for effective societal management;
- Educational project;
- Housing construction project;
- Water supply project;
- There may be projects in other areas.

In the Republic of Azerbaijan, in many cases, the feasibility of projects is characterised by the aim of achieving certain goals in economic policy. In other cases, it is noted on the basis of a favourable number expressed by means of quantity. Sometimes it happens that favourable factors are expressed in physical form, and therefore they are selected based on financial costs. In such a case, calculations are made on the basis of relevant information about expenses, and a report on income and loss is prepared <sup>[16, p. 253]</sup>. Of course, the main focus is on costs and on the cheapest and most efficient way to achieve the goal.

In the country, it is necessary to analyse the issues of cost efficiency to achieve the set goal, to choose the most efficient way, to conduct appropriate analyses, and to apply appropriate methods. It is such an analysis that, based on the calculations of all costs (capital costs and current costs), includes the received flow at a discount (to calculate the value of all current costs).

Of course, the option that provides the desired result with the least discount costs or achieves the set goal with the least cost per product unit is considered the best <sup>[17, p. 36]</sup>. From this perspective, the specified criterion basically assumes that all compared options are equally good. On the other hand, if there is a qualitative difference in the specified activity (implementation of the project), this difference should be taken into account using the given options for the optimal option.

When analysing the relevant project step by step (sequentially), the problem of sunk costs comes to light, and the costs incurred before the analysis of the project are called sunk costs. These costs cannot be returned (unpaid costs), and in solving the issue of sustainable development of the project, such costs should be subtracted from the project's cost because, at this stage, future costs play a major role.

It should not be forgotten that the cost of another project prepared in order to save the previously started and

unfinished project does not depend on the costs of the previous one, and it is important to take into account the cost of this second project as well <sup>[18, p. 59]</sup>. Similarly, income from an unfinished business is considered income from a new project. Such an explanation of sunk costs can lead to an appropriate return on capital investment for the completion of the project, and such an approach reflects the original decision.

For example, the decision made today may take 5 years to implement, and the positive results of the implemented project may manifest themselves over a considerable time frame. To determine the cost of the project, it is not enough to find the financial source of the expenses paid. It is an important stage to evaluate all the aspects of the project before its implementation, and it should not be forgotten that it is an important issue to make calculations based on mathematical analysis to value the costs during the entire period of activity <sup>[19, p. 266]</sup>. Valuing all aspects keeps the relevant project away from unnecessary sympathy, but such projects bring quick profits but later show long-term unsuccessful results or late development.

#### 4. Projects in contemporary Azerbaijan

In the practise of implementing investment projects in modern Azerbaijan, the justification document for relevant projects is the "business plan." This term was formed in the early 1990s, during the transition to the market economy, and replaced the term "feasibility study" (feasibility study) typical of the planning period. Often mistakenly, some of those who prepare the project think that TIA means "investment project" or "business plan," but they forget that TIA is only the technical and economic part of the entire expertise complex of the project (from a calculating efficiency point of view). At this point, we should even note that "investment project" and "business plan" are not synonyms at all. Translated from English, "business plan" means "business activity plan."

"If we look at the "Investment and Innovation" dictionary, the word "business plan" is explained in this way: "it is the main form of the plan developed by commercial organisations in the space of the market economy." Its standard structure includes 10 sections:

1. entrance;
2. description of the firm or company;
3. product (work, service) description;
4. analysis of the market and competitors;
5. marketing plan;
6. production plan;
7. organization plan;
8. financial plan;
9. investment plan;
10. additions.

If we justify the production of the new product according to the business plan, then other options can be offered in the Republic of Azerbaijan:

1. description of the produced product or service;
2. product sales market;
3. compete;
4. marketing plan;
5. production plan;
6. organization of production;
7. legally justified plan;
8. financial plan;

- 9. financial strategy;
- 10. understanding;
- 11. appendices, documents of a legal nature can be submitted here in the appendix of the business plan.

Analyzing the content of the above sections, it seems that there is a clear connection between the aspects of expertise. From the experience of foreign countries, we see that for the development of business plan principles, a number of business plan preparation methodologies have been developed, and there are examples published in the open press [20, p. 476].

If we consider that one of the main goals of the business plan in the Republic of Azerbaijan is to justify the attraction of long-term investments related to foreign financial sources (for the purpose of producing a new product), then production may be possible with the methods they use or with the method of increasing the production based on the modernization of the objects. That is why the concept of long-term investments in real assets (buildings, machines, and manufacturing facilities) can be used as a foundation in the business plan.

Our research in the Republic of Azerbaijan shows that the business plan there is made up of different parts, which mostly include the following:

- Is used in the main strategy of the firm or company, in the business activity of the general concept;
- Used when necessary for assessment and control in the development process of the main activity of the firm or company;
- Appropriate services are provided for attracting funds to the country;
- Helping to attract companies or partners with business potential.

It should be noted that the creation of a business plan in the country can solve problems both tactical (the foundation of project planning and attracting investments) and strategic (making management decisions at all stages of the project's lifetime) (using the tool).

Therefore, the main goal of the business plan is to attract investments and investors, and this issue can be used

effectively. In modern times, the financial structures of the Republic of Azerbaijan prefer to have their own standards (for preparing documents) for the purpose of lending. The main goal here is to:

- To ensure the financial efficiency of the project based on the business plan;
- To confirm that the money invested in the project will bring income based on mathematical calculations and analysis.

In order to create such projects in a country, it is necessary to first study the income part of the project (product, prices, market, sales), and then move to the cost part (raw materials, wages). Only then, taking into account the legal norms of the business and the options of the financial scheme, is the analysis of the efficiency of the project carried out.

In the business environment, as it is a prospective and strategically important document, the business plan is frequently revised in relation to the changing environment. This is due to the fact that the business plan is considered the main tool of business management [21, p. 339].

Thus, we must not forget that the business plan not only reflects the object statistically but also takes into account the dynamics of its development [22, p. 326]. The analysis method used for project risk management in this process plays an important role in modern times and enables making strategically correct decisions.

Currently, in the Republic of Azerbaijan, the business plan is a model of the project itself, and there are special requirements for its use in accordance with local conditions. Relevant in-country requirements may include:

- Truthfulness (an accurate reflection of the business situation in the enterprise);
- Whether or not there is enough time (availability of information);
- The information should be sufficiently comprehensible and qualitative to understand;
- Clear and logical information;
- Persuasiveness of arguments;
- Being concrete;
- Justification and attractiveness of all clauses.

**Table 1:** Main results of the analysis conducted in this article

S. No	Essence	Short table of contents
1.	Investment project designation is proposed. Here, its essence is described and the factors of project risk analysis are described	The project of financial investments and related activities imposes the following conditions: a) established goals; b) limitation of financial and time resources during the period of activity; c) the influence of a number of students' (political, economic, legal, institutional) environments; d) Investment of various reserves and obtaining results
2.	The basic principles of project development formed and based on methodological guarantees	1. Alternative. 2. Multifaceted aspects. 3. Calculation of net additional income. 4. Use of international criteria of project efficiency. 5. Project risk analysis.
3.	The division of the external environment into zones was applied, established and formed for the first time. In the future, these will be used in risk analysis.	Mega-zone-global systems (society, economy, politics, technology, science). They are real in these areas: labor market, capital, raw materials, land, production facilities market; experience and knowledge in project management and implementation; engineering; law etc. Meso-zone - systems whose data and resources in the mega-zone are transferred to the meso-zone (they are transferred to the project) (business scope, labor resources and finance, production, construction) project boundary elements that are equally exposed to the influence of the external environment and the project.
4.	Aspects of project analysis were determined for the purpose of structural research of project risk.	1. Technical-technological. 5. Institutional. 2. Commercial. 6. Finance. 3. Public. 7. Economic. 4. Ecological.

5.	The fundamental principles underlying the project risk analysis were formed by the author.	<ol style="list-style-type: none"> <li>1. Accounting for the time value of money.</li> <li>2. Accounting for alternative costs.</li> <li>3. Project risk accounting.</li> <li>4. Accounting for possible changes in project parameters</li> <li>5. Calculations based on real money income or expenses, not accounting calculations.</li> <li>6. Accurate and consistent reflection of inflation.</li> </ol>
6.	For the first time, the concept of multi-plan use of the business plan was applied.	<ol style="list-style-type: none"> <li>1) As documents enabling planning of project activities.</li> <li>2) As a model of the project.</li> <li>3) As a document important for investment attraction.</li> <li>4) Project as the main tool of management.</li> </ol>

At present, if we take into account the business environment of the Republic of Azerbaijan and base our plans on it, then here, except for the oil sector, it is impossible to build large-scale business plans or overload the existing business projects. Because the volume of the business plan is determined by its aspects and the justification of investment projects is a process that requires a lot of effort and time, when it is ready, the business plan should include the analytical writings and the reporting part that are related to each other. We should not forget<sup>[23, p. 365]</sup>.

Thus, for investors in the Republic of Azerbaijan, the business plan can be considered a relevant product as it acts as an attraction factor. In addition, the business plan is a very important document for the project manager, and the project execution period and management play an important role. In the event that a business plan is a product, then many factors can be compiled without any basis, and the main role in the creation of such a "product" is played by special software products used in mathematical calculations. Therefore, it is impossible for the Republic of Azerbaijan to operate efficiently without accurately determining the correctness of all of the above and without analysing investment strategies and financial obligations in the market. As a result, effective calculation of investment projects in conditions of uncertainty in Azerbaijan requires comprehensive analysis, strategic planning and risk management. The strategies and methods discussed in this article will help investors accurately assess uncertainties and manage their projects successfully. Considering the growth potential and investment opportunities of the Azerbaijani economy, effectively managing uncertainties is critical for sustainable development and economic diversification.

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