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Financial Crises' Optimization*

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Abstract

This paper is about events where one or more banks face difficulty ruling over their short-term liabilities and perhaps fail. It is natural to think of these events as occurring where some agents have some benefits from creating the risk of these kinds of events, and perhaps do not bear all the societal costs. It is natural to think of these as inefficient outcomes, such as a straightforward way of thinking about that is coming from implicit bank guarantees, for example. What is surprising is that they may happen. This article is about challenging this view. The goal is to try to persuade the reader that there may be some, not just private values but judiciary values to set up a financial system that is subject to these kinds of events where multiple banks will fail at the same time and face difficulty ruling over their debt. In that sense, this article is not trying to convince someone that financial crises may have some efficiency problems. So, it leads very naturally to the question that has been studied already. And this article is going to try to contribute to the understanding of why individual banks per se find an optimal to finance themselves in a fragile way where they are subject to these inefficient terminations. And more generally, why might there be an optimal to have a system that is subject to these kinds of shocks? It is that kind of a question that is under discussion here in this article.

Keywords: optimal financial crises, banking system, bank solvency, information friction, Pareto improvement, renegotiation contract, optimal capital incentives

JEL Classification: F37

Introduction to the Optimal Capital Structure in a Bank

The topic is motivated by an observation which is banks, and other financial institutions seem to rely very heavily on short-term debt to finance their assets. It is the debt that has to be reviewed or repaid in very short-time horizons. And very naturally this exposes them to roll over risk or possible events that resemble bankrupts, where they are officially terminated or liquidated in some way. These financial crises are pervasive. It is known from Reinhart and Rogoff, who said that that is a common occurrence in advanced economies (Reinhart, Rogoff, 2011). It is believed that there are important events in understanding that kind of large depressions in economic activity. Perhaps they played an important role in the most recent recession (Schenk, 2002).

Here is an attempt to develop a theory of the optimal capital structure of banks. And mechanically here is an idea about this as a large number of depositors who have to finance an investment project which offered by a bank. And it will be run by a bank manager or a banker. And these depositors are going to have to design compensation contracts to provide the banker with incentives. In some sense, there must be a resolution to some agency friction within this bank (Lin, Sun, Jiang, 2009). The key result of the research is that one optimal capital structure is fragile. Specifically, there will be events when banks earn low returns, and which bank will be inefficiently terminated or liquidated. This situation resembles a bank run. These depositors will be giving up future profits from a continuing operation, but they are going to

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try to find a way to commit to this kind of inefficiency (Chen, Milesi-Ferretti, Tressel, 2012).

In particular, it is shown that implementing this fragile capital structure necessarily requires contracts that resemble short-term debt. In that way, the short-term debt will be essential for a fragile capital structure. We will see the role that short-term debt will play. These first three bullet points are really in a model with a single bank, in a single group of depositors. And it is clear in this model what happens in a banking system with multiple banks. This model will imply that systemic crises are optimal, in a sense that economic agents are all better off when all banks face difficulty at the same time (Legg, Harris, 2009).

There is also a bit of a flavour of these results before getting into the model. Let us start with thinking about the mechanism with a single bank. And here is an idea by Colliners and Kon and Diamond Roger, where bank runs, or a threat of bank runs can be a useful discipline device in resolving agency frictions. When you think about these depositors designing compensation schemes for the banker, and in a world with their full commitment to long-term stay-contingent contracts providing incentives will require them to commit to ex-post inefficient liquidations. That will be optimal for them; this will be the optimal way for them to provide incentives to the banker (Dorrucci, McKay, 2011).

It introduces a natural time and consistency problem. When they get to a day where they are trying to commit to these ex-post inefficient liquidation, given the opportunity to renegotiate and reap off the contract, they would love to do so. So, in a world with limited commitment, the optimal contracts would have no ex-post inefficiencies, but, of course, they will provide worse incentives to the banker. So, there's going to be a cost of limited commitment in this environment (Gourinchas, Obstfeld, 2012).

What is argued here is when there is a limited commitment with additional private information friction, depositors are subject to private discount factor shocks. They can attain their commitment outcomes. They can effectively get around the limited commitment constraint. To replicate commitment, to get around it, they will have to use contracts that resemble short-term debt (Jordà, Schularick, Taylor, 2011).

And the idea here is they are going to create something that resembles a public goods problem. At time zero, they are going to choose contracts at such a time run when they would want to renegotiate. The renegotiation problem will be very difficult. Short-term debt and private information will make it very hard for them, even if they coordinate, renegotiate and rollover their debt. And that will let them get back to kind of the first bullet point, i.e. the commitment outcomes where they are providing optimal incentives with these ex-post inefficiencies (Lane, Milesi-Ferretti, 2011).

So, the whole game is how to obtain the commitment and how it translates to a world with multiple banks. What does it say about the financial system? There must be a consensus about the world where the returns are independent across banks. It is a one-bank model to replicate. And the banks are effectively completely separate. What can be seen is that short-term debt will no longer entail its commitment to outcomes. And a simple way to think about that is that if there is a rich bank and a poor bank, and they receive independent shocks, for commitment reasons the central bank will still like to liquidate the poor bank, the bank that earns low returns, but now the depositors of both banks can get together and kind of share the future returns in their current resources and make themselves better off by financing both of the banks. With independent returns, they are no longer going to face the same renegotiation problems in a world of limited commitment. Though there must be a way to continue both banks, that is going to worsen incentives of the banker and yield worse outcomes. How to get around this?

If returns are correlated across banks, and one bank is doing poorly, the other bank is doing poorly as well. A client might face the same hard renegotiation problems he/she will meet with the single bank. And that is what it is argued here. What this means is an obvious strict preference to live in an economy where returns across banks are perfectly correlated. The optimal financial system will feature banks that earn perfectly correlated returns. When both banks are in high returns, the system looks fine. Everything gets ruled over. Banks continue their projects (Ostry, 2012).

When both banks are in low returns, they will end up liquidating all of their business. The systemic risk here is going to come from X-any investment choices, and it will be optimal. The value of having this financial system subject to systemic

crises comes from obtaining a commitment to provide optimal incentives to bank managers. Mechanically, it can be seen the problem is going to be solved in a mechanism-design framework. A planner subject to the same constraints is the depositor, so to speak. It will not be able to improve its outcomes, and thus, this will be a financial system with systemic crises that are going to be efficient (Lee, Rhee, 2012).

Single-bank Model of Optimal Bank Capital Structure

Let us again start with the single-bank model and a large group of depositors. And effectively, what the researchers try to show here is those few results. And in a full commitment, it is possible to liquidate the bank after low output is realized. With limited commitment, a bank will face a timing consistency problem. With a limited commitment in private information, it can somehow get around that. The key ingredients in the model include, first of all, one that must be paid attention to. It is just a repeated moral hazard environment by Alan Holmstrom. Here it should be thought of a banker who has to exert some unobservable effort. And this effort will affect the distribution of future returns to the bank (Pisani-Ferry, Sapir, 2010).

The crucial thing of all this will be a constraint on what kind of contracts that can be written down, which will be limited commitment. And there will be a version of renegotiation improvements. And then the last element which is also very important is this kind of classic moral hazard problem, something that makes this look like a Diamond–Dibbing bank.

This project will be financed by a large group of depositors, each subject to idiosyncratic and private discount factor shocks. They will affect how much they enjoy the future. And so, this friction means a kind of contracts that will have to satisfy incentive constraint which induces these depositors to report their types truthfully. These discount factor shocks are truthful. So, those are the three key ingredients in this model. The model itself is fairly compact.

Writing down contracts is where things get complicated. So, let us try to focus on what are the key things in this model, and then there will be a few words on the results. We have got A+ agents. This is the easiest way to think of this. We shall call the first N of them depositors because it is known at the end that they are going to look like short-term debt depositors and set of investors. And there will be the N+ banker. That is a three-period model, dates zero, one and two. Although it is believed the model generalizes that an arbitrary number of periods, there is production technology here. Investment in period zero is I, the one that will require a fixed scale of resources I. We can also talk afterwards about the importance of that assumption, and investment will also require an effort of the banker (Robleh, Haldane, Nahai-Williamson, 2012).

So, how do investment and effort turn into future output? All efforts denote is that we want to think of the banker just directly choosing a probability over future outcomes. It can be a low probability π_o or low probability π_h. Manager suffers, or the banker suffers disutility of effort denoted by q. So, we will set the cost so to speak of the high effort for the banker q (bar) and the cost of low effort all normalized to zero. And so, let us start in time zero. If I resources are put into this production technology, and the banker exerts effort e_0, then in period 1 the output is $i+y_1$, where y_1 is stochastic. And y_1 is high, y_h with probability e_0 and at 0 with probability $(1 — e_0)$. So, if the banker exerts high effort, he/she will likely get high output. The banker is likely to get high output. In this example, all the risk is over the net output. So, the crucial thing that is worth remembering for later here is getting lower output, whereas aggregate resources are still I. A bank under consideration has just enough funds to finance the project to gain the kind of a client wants to choose. If reinvestment is required in period 1, it is necessary to put I in again, and the manager's effort would be e_1. And when we get (i+a), this, in turn, depends on period 1, which is an output for moments to be supposed at zero. That means the result of $(i+z_2)$. So, it is exactly a repeated version of this game.

What is worth introducing here is a bit of persistence into these projects. One condition which is unseen here is high output projects that look a little bit better than conditional hidden low output. Let us introduce that persistence is not dependent on the previous effort level of the banker. This period 2 has a moral hazard problem. The only role it is playing is conditioning continuation utilities of the banker and nothing else. It could be almost ignored. All of the action is going to

depend on how the banker is to exert high effort in period 0. And the concern here is about outcomes in period 1. That is the situation focus on in this moral hazard problem. Just to finish roughly the model it is worth thinking of this as having a large number of small depositors.

What is meant by small? Each of the depositors is initially endowed with I over N resources. So, at time zero all of them will need to know that they are willing to participate in financing this project. And though they have nothing in periods 1 and 2, in terms of preferences this banker has linear preferences over consumption streams c_0, c_1, c_2. Then the disutility of effort again is indexed by q. And this banker discounts last period utility or consumption which is rated later. In terms of the depositors, they again have linear consumption. And in period 1 they will learn their discount factor shock is v_i, again in period 1 they will know how much they discount is period 2 consumption. It should be assumed this v_i-s is independent across depositors. They are distributed according to some distribution G_i which will be identical.

The support is actually critical here. They go from some range v (lower bar) to v (upper bar). The most impatient depositor v (lower bar) is critical. What also should be assumed is with all the linearity after pinned on the timing the payments between the banker and the block of depositors are to be pinned down, which means that the banker is more impatient than the most impatient depositor.

These counter shocks are private. For notational v there is just the vector of all discount factor shocks across the agents. And then there is a limited liability constraint. For the depositors, this is important. That means that each depositor is small. They cannot bring in the outside resources. For the banker, this is also important, because it is a limited liability constraint. It will even say something about continuation utility of the banker. That is the content of that assumption.

So, that is the model in three periods. It is essential to think about designing optimal compensation schemes for the banker and the optimal payments between all of the depositors. The analysis should be focused on direct mechanisms. It is important to think about an investment contract. What is a long term investment contract? It is just specifying recommended effort levels of the banker, transfers out of the returning remaining resources to the banker and all of the depositors and the continuation rule. Should the project be continued in period 1? All of these functions are in real history and realisations of the stochastic shocks Y. This is simplified a bit relative to the research so that here there is no answer on notations in the model. But it should be clear that a p_t^i is a payment to depositor I. What is meant to say is they can only make payments in period 1 conditional on Y_1.

It is because they paid before they realised their discount factor shocks. It will be a result that the optimal contract has that feature. So, it is not incorrect to abstract from being able to make payments after they were included in their discount factor shocks. And then payments in period 2 the depositor again is a function of the output history, and the whole vector of the discount vector shocks is v, which says that the project must be continued.

There are, of course, payments to the banker that are similar. And then there is a continuation rule — here it depends on the discount factors, but again that is not critical in terms of the optimal long-term investment contract and recommended effort. So, it needs a work-through. The results in characterising the optimal contract are got by slowly bringing in additional friction. It should be started with full commitment and full information of the depositors' types. There is the optimal contract which is maximising X-any depositor's welfare subject to these constraints.

There are resource constraints, non-negativity constraints and the banker's incentive constraints. The goal is to show why it is optimal to liquidate this project inefficiently after a low output. This shows up in lots of optimal contracts. Optimal provision of X-any incentives requires ex-post inefficiencies. It should be governed by the intuition here. What is the idea behind all this? As in most moral hazard problems, there is a spread in the utility of the banker in period one following high and low output to provide the banker incentives to exert effort in period zero.

There are two ways to create a spread. The payment could just be changed to the banker in period one or the continuation utility to the banker could be changed in period one. As it is a dynamic model, the project continues in period one, or the mechanism calls for continuation from one to two periods. The banker has to get strictly

positive utility in continuation. That is effectively the incentive rent the banker is getting from the combination of moral hazard and limited liability (Rousseau, Wachtel, 2011).

Any continuation contract yields strictly positive continuation utility to the banker. What this means that if it is a promise, or the mechanism promises to liquidate after low outputs have been realised, the banker can be deprived of that continuation utility (The Economist, 2009). More spreads could be effectively created this way. Stricter punishments are exerted by promising or committing to liquidate the project. That could be beneficial in relaxing the incentive constraints. That means the banker could be paid less after a high output has been realised.

It should be assumed that this promise to liquidate this is costly in a sense that it is ex-post inefficient. Knowing all of the depositors' discounter factors, it could be strictly better for depositors and the banker to continue the project. This promise must be somehow committed to. One problem is that it can be optimal when this promise to liquidate relaxing incentives dominates the cost associated with foregone profits from the project. It is when the moral hazards are severe.

Optimal Renegotiation Contracts

Going forward, what happens in this state is to realise low output in the optimal contract which should be liquidated repaying out whatever is left, which is I in that state. Paying the banker nothing, I must paid out over each of the depositors. It is as if anyone starts period one exactly like in period zero. But now, they all are going to have these private discount factor shocks. They look different. What happens if a limited enforcement constraint is added? This is the constraint not to renegotiate the contract in period one. Mechanically, after they learn discount factors, let them renegotiate. So, renegotiated contracts have to satisfy some constraints.

The resource constraints, non-negativity constraints again have to provide the banker incentives to exert effort. And the investment contract is enforceable if all parties cannot gain from renegotiation. In the paper, this is a bit more saddle because there are richer sets of contracts in the market, but it must be thought of as whether there is an operating improvement or not. Not surprisingly, under an assumption that liquidations are ex-post inefficient, the commitment outcomes are not enforceable. It would just be renegotiated that away. And this is the classic time and consistency problem. Strictly speaking, this model is worse off in a world without commitment. Why does adding private information fixe this somehow? We have additional constraints. After these depositors are included in the report, their type is truthful. And here is one more important question to ask: Could anyone actually enforce a liquidation contract? There is low output.

Can anyone design a renegotiation contract that gets all to participate and roll over a debt so to speak? What do renegotiation contracts have to satisfy? There should be picked an arbitrary one: X-hat and P-hat. So, someone is going to roll over some probability X-hat. There happens a pay-out according to the reports of the type p-hat. These renegotiation contracts have to satisfy the incentive constraint of the depositors. They have to be Pareto improved, and they have to be resource-feasible. The total payments in period two have to be less than what can be earned, the net of what could be paid to the banker.

What is the incentive constraint? This top line is what a depositor gets in expectation if they report their type v_i truthfully. The bottom line is what they get if they misreport and report at different discount factor v-hat. They are taking an expectation over the other depositors' truthful reports. Now, what do they get? With probability X the depositor continues to get p_2 which he discounts at v_i. With (1-X) he gets a status quo I over N. If he lies, what does he affect? He affects the probability that the project continues, and he affects the payments he receives. What is Pareto Improvement? Itis this top line which is bigger than equal to I over N. So, there's a constraint there. The incentives have to be satisfied. These Pareto improvement constraints in the resource constraints are in any renegotiated contract.

So, now, it is the heart of the paper in terms of the single-bank model. The time can be resolved and consistency problem as well in this setting. For example, suppose a depositor of the most impatient type is sufficiently impatient affectively. Then for N there is sufficiently large incentive feasible renegotiation contracts. The set of all possible renegotiation contracts is considered to converge to the set with the probability of continuations going to zero. What it is saying is when

N is large, it is difficult to construct mechanisms which satisfy the constraints which get ever into agreed and put them I over N back in this project and role over the bank. Mechanically one is applying the results that came out of a theory on the literature on public goods provision from Robin, Mailath and Postlewaite. So, this debt role over a problem is looking like a public goods problem.

It is not a rule over the problem. They are allowed to coordinate and design the best renegotiation contract, and the outcome is they do not roll over anything as N gets large. The consequence of this is that they resolve the time and consistency. This is all said of renegotiation contracts that do not have to be rolled over the project. So, the project can effectively be committed to liquidation. How does this result work mechanically? What is the economics behind all this? It is assumed that the most impatient type would not want to participate, given a Pareto share. Suppose, the returns to the bank are just split up in period two evenly. What is assumed here again is that the most impatient type would not put up their I over N for just a Pareto share? But this most impatient type should be motivated to participate. How is it done? There is a larger share of future returns than ever and anything else. But now, concerning the incentives of patient types, by misreporting or underreporting their type, they can get a larger share of the future returns. There is also a private benefit which is really their incentive rent. What is the cost? They might lower the probability the banks rollover. If they stay all impatient, the mechanism is going to run all over again, because it would be inefficient in that state. So, there is a trade-off for a fixed N.

A larger share of future returns can also be generated, but there might be a lower probability of the roll-over. Now, as N gets large, the probability or pivotal are converging to zero, the effect on the probability of roll-over is disappearing. But this positive gain can always be captured off-line, and this is going to misreport the type. So, because their benefits do not go to zero, the renegotiation contracts cannot be constructed. In that sense, when N is sufficiently large, liquidation is actually time consistent. But of course, it is ex-post inefficient by assumption. Under full information, this is known to be a bad outcome. And that is why it must be said that these events resemble runs or panics.

A planner looking at this world or a government will say, "I know I can make you all better off if we can just roll over." It looks kind of crazy the way a sun's bet type banker does. But it is much more severe in terms of a coordination problem. It is worth introducing these ex-post public goods problems, actually resolving the time and consistency problem that is faced under full information. This optimal contract does resemble short-term debt. These depositors put I over N (I/N) in period 0. They get a right to effectively withdraw I/N in period 1. And if not enough of them agree the bank is liquidated. Now, in this talk, it is quite good to consider a much richer contract base where there is a choice when to give out of these rates, and when not to give out these rates. And it must be shown that contracts that do not give depositors the right to demand I/N in period 1, they do not commit to liquidate the bank.

Effectively, if there are more slack participation constraints in the renegotiation problem, the liquidation is renegotiated right away. These contracts provide worse incentives than short-term debt does, and it is sensible to argue these contracts resemble long-term debt. That is the result of the model. It is worth thinking of them as just saying the depositors are going to leave all the money in the firm, knowing that it is the individual right to withdraw something which is promised to liquidate, but when someone gets there, they know they can all be made better off. And it is possible to design better contracts and do so. This is the sense in which short-term debt is not only sufficient but also possibly necessary. Release contracts will give out the same rights in short-term debt or if that is necessary (Kose, Prasad, Rogoff, Wie, 2009).

The Multi-bank Model of Optimal Capital Structure

So far, that is all about one bank. And these claims have been made that crises are efficient. And crises or in a model, there are all the values of how the commitment has been gotten to provide optimal incentives. So, let us see how it works in a model with multiple banks. What should be done here is compare two stark economies. The first is going to be a replica of all that was just seen. Think about 2N banks and two N depositors. And they are completely independent. Income across banks is uncorrelated, and

individual banker's effort only affects a return at their own bank. And if that kind of an economy is considered for a minute, it is as if there are two separable problems. In all the commitment outcomes, any bank to be liquidated when they earn low output, or they are going to be the same. And it is necessary to compare that to an outcome where returns have perfectly correlated the risk in returns increases. Two things are going to be changed here: correlated risk across banks and risk in the returns. And they both play an important role. Formerly what was done, when there were correlated risk and effort, banks might be worried about moral hazard in terms of type problems. And actually, it is worth abstracting away from all that with the production structure.

What needs to be assumed is the probability that both banks realise the same income in one of these two economies. Either both banks get higher, both banks get low. It has been said that there is an increase in risk. What should be kept in mind is low output for a single bank in a perfectly correlated economy that will now be negative instead of zero. And the high output will be higher than it was in the replica economy. And then what is the probability of either bank that has a high output, it is good to assume it is the minimum of the efforts of the two bankers.

This production structure so to speak means a banker has to provide the same incentives, or a planner has to provide the same incentives to an individual banker, to both of them, because they have to make something to exert effort. What that means is under full commitment a planner would be completely indifferent between these two cases. There are no incentive benefits from using a correlation structure in the production structure, in the production function to get the advantage of the incentive constraints. What should be argued is the limited commitment economy which implies that there is a strict preference for the correlated risky return economy.

Agents are all the better off when they live in a perfectly correlated world versus the independent world. And in that sense that will imply the optimality of crises. What is the basic idea behind all this? Here is an example of an independent case. And there are really two problems here. There must be an enforced liquidation for either bank when they earn low returns. The first problem is simple. Suppose both banks get low outputs. That means both banks are to be liquidated. What are the aggregate resources when both banks earn low output? They have 2I resources. And what should be claimed here is it is possible to make at least N depositors better off by continuing one of the banks. What should be done effectively is take the N most patient depositors and, say, give enough resources to roll over one bank. So, depositors should be coordinated in one of the banks. When can that be done? As long as the medium depositor is happy to take a Pareto share for one bank, then N is sufficiently large to just call out Vilfredo Pareto shares that the banks will get N people to sign them (Kiyotaki, Wright, 1989). If there is a banker who contemplates whether he/she shall exert high or low effort, if they exert low effort, they are likely to get low output. And the other banker is assumed to exert high effort to get high output. But if they both get low output, that is okay with the probability of a half they are going to coordinate and rollover. So, the incentives are stricter there. Increasing the riskiness of returns can fix that. Suppose when they both are in low output, there is only I-resources left. The only I-resources that are needed to all 2N depositors to finance even a single bank, and then a public goods problem shows up again. So, it is impossible to roll over even a single bank if there is an increase in risk. It is, of course, a preliminary result. What happens when there are high and low outputs? So, say, bank A earns high returns and bank B earns low returns. It is argued now that 2N depositors, all of the depositors can be made better off with the private information by continuing both banks. And the idea now is they both have more resources because they got the high amount of resources from bank A that did well, although you have low resources from bank B. So, you can combine all of those, but you can also share the future returns. It is as if these two banks can aggregated.

And if there is enough surplus, and in some sense, the average depositors are very different from the most patient one, that will Pareto improve. So, even with these constraints if there are independent returns, this commitment to liquidate can be renegotiated away. Correlation can result in that time consistency. Those states of the world should just be eliminated by having them taken any correlated risk. And this is a

proposition when returns are perfectly correlated and sufficiently risky. Commitment outcomes can once again be attained with short-term debt. While there are strictly higher and perfectly correlated banks, this happens because obviously there is no real insurance motive here. So, it suggests it is robust, introducing some insurance motive. And just to be clear, there must be kind of the equilibrium outcome in that world of the optimal contracts as when all banks earn low returns they are all liquidated.

So, this optimal financial system features *'systemic crises'*. In conclusion, it must be said that there is a model which was developed in conditions under which a fragile capital structure of debts is not only privately but socially optimal. Along the equilibrium path, bank runs do actually occur, along with the equilibrium path of the optimal contract. The short-term debt is essential to allowing a commitment to these exposed inefficient runs as they are called in the model. And that long-term debt or equity may not attain that same level. And lastly, the same limited commitment frictions imply correlated risky outcomes in the financial sector or the financial sector is going to be subject to systemic crises and may be efficient.

It must be argued, though, that there is a little bit bias in the idea that these things are of a commitment device. It was never thought of that systemic crises could be a good thing before this model was developed. However, there are a lot of questions to be asked here. So, financial crises are part of the ex-ante optimum. It is just like Franklin Allen and Douglas Gale who have a paper that argues something like this. This goes a little bit further. A short-debt commitment device is on board for that one. And through a slightly different mechanism, it must be said about the different staff. It is a totally new part of the paper.

The systemic, the system-wide, systemic crises are important to implement under efficient allocation. The highly correlated risks lead to systemic-wide crises which are a good thing ex-ante. It must be taken a while, taken till the very end of the discussion to talk about exactly how that gets into the model because it must be understood what is going on along the way first. These are all of the good things. This is why short-term debt is used here, and things like that. And so, this is a model where the only role that the short-term debt and financial crises have is that this commitment device provides the punishment. And there is nothing really too bad about them. They just provide an efficient punishment, and financial crises are nothing, they are ex-post inefficient, but they are not that bad. So, there is long-term debt or equity because there is no unanimous consent about what happens simultaneously. There should be some time for renegotiation. They are prone to do ex-post efficient things which people in the banking industry do not like.

Once it is clear that there is a world where things are exposed in an efficient way, that takes commitment away, and the time consistency of the punishment goes away. And then, effort incentives are reduced. So, this is obviously related to the staff that is done on runs as a commitment device. But it also strikes one that it is really close to a paper that essentially makes the same point in a different setting. It is the paper by Chari and Kehoe *Bail-outs, time consistency and optimal regulation*. It is not exactly the same model. They have a model there where there are right private contracts. It is like towns and crosses stated for a vacation that can be essentially committed to having the court inefficiently intervene and verify the state and then give essentially a zero continuation to the agent. And that private contract which does not have to be short-term in their model is what short-term debt is here. And then they have this thing called the government who likes to do bail-outs. And they cannot stand things that are ex-post inefficient, so they step because of limited commitment at the government level. They step in and provide the bailout. And so, this model is almost the same model, but it has a different name.

It is worth thinking about the possibility that there might be a government in this model that could cause some problems for this story. The basic idea of the model is a very nice job presenting it. It is worth going through it again, just so that there can be a focus on the part that is quite important here. There is a standard moral hazard effort problem, and the optimal contract imposes a zero pay-off after a poor performance in a two-state three-day model. There must be inefficient liquidation after a poor performance in its middle state because it is good to keep the agent around for incentive purposes. The agent should be given a rent in that continuation. So,

even though the agent is kept ex-post around, if it is known he/she is going to get there rent, punishment is like not so bad because they keep getting profits. They do not get a ten million dollar bonus, but they get a five million dollar bonus. So, early liquidation again at the middle date is not in the ex-post interest of the principles. The lenders require some commitment. So, how does this mechanism work?

What can be seen here is a contract that requires the unanimous consent of all of the lenders. In the US, there is a law on bonds called the Federal Trust Indenture Act that says if the issuer is going to change principle interest to maturity in a bond, they do need unanimous consent. It is not a crazy thing. And the lenders are ex-post heterogeneous in their impatience. So, some people get preference shocks; some do not. And they vary in their intensity. The ability to misreport that they are highly impatient, and launch their money today is the way they get the commitment in here. And the way it actually works here is through something that can be called an aggregate liquidity shortage. There is nobody around that that has funds to inject to the outside of the original set of the depositors. There is no specificity of assets or relationship. There must be somebody to inject the money to implement a supplement that is ex-post efficient. They would be able to do it, and the whole goal of designing a contract is to make sure there is nobody out there on the outside who is sufficiently patient, who can inject this money. That is the particular reason that systemic financial crises are good because everybody will be broken in the end. So, they are to be liquidated.

Unanimous consent in this assumption that impatience is private information leads to a problem that is very standard in sort of the bank work-out of bankruptcy, work-out of debt-default outside the bankruptcy; the thing called the hold-out problem that the people who hold out sometimes do better than the people who make concessions. If someone of punishes them, if someone rewards the people for holding out, then they will hold out. Holding out here is essentially misreporting the impatience as high. And it is important; there are actually no runs in this research. This is just simultaneous, the people report about their impatience, and then if enough people report that they are impatient, the government goes ahead and liquidates. So, there are people who implement runs or implement the commitment of short-term debt which is done through something where there is either some lottery simulation or no simulation, either a lottery or literal real-time first come, first served, which rewards the people who report that they want to get paid. There are multiple equilibria, things like that, all kinds of bad stuff happens sometimes. Here nothing really bad happens. There is nearly no rollover risk. There is something which is like rollover risk, and it is worth thinking this has the good but not the bad side of commitment here.

The Outcomes of Debt Contracts Providing Optimal Capital Incentives

Whatever one says something is optimal, it does not really matter since nobody knows when a bank is supposed to be closed down. It is a similar kind of wanting to commit to close the bank down. Nobody knows. It is not verifiable, but if someone sets up first a runnable deposit, when the time comes to close the bank, people will run to the bank, and then it can be found out it is time to close them down. This story can be believed. But there is still something good about these runs, these crises, and if something bad happens to the bank, and the people need to know something, they learn something that they would not learn otherwise.

The basics of the model here is that debt contracts provide optimal incentives. This is a non-robust part of the model, because there are two realizations to the state or nature. It can be seen if there are more than two realizations; there is nobody to get debt contracts. And there is a lot of evidence in that model in the paper comparing the capital structure of firms with banks. Firms do not issue much; corporations do not issue much short-term debt; banks do. It is still needed to see whether this model can explain that. The results are interesting. There are several papers on the subject. In one of them effectively, loans are hard to collect financial assets. There is an ex-post hold-up problem because only the banker can collect the asset. So, people need to commit the banker not to renegotiate down the loan. If then there is the threat of a run, they ask first come, first served, but it could be done exactly the way they did it, committing the banker not to do that (Financial Times, 2011). The other paper published

in 2004, which takes that mechanism to a corporate setting. And then there is no liquidation, but there is a commitment device called a court, that if someone goes to court and says, they defaulted on one's contract, now they the right to liquidate. The court is a commitment device.

The commitment problem is getting the depositors to report to the court that now is the time they want liquidation. And the first come first served element of this thing basically builds in commitment to do that. So, in this sense, neither of these things explicitly do this as a mechanism design problem. There is built in this institutional thing called court here or called first come, first served which present both of them. And that becomes a little bit messy here. It is as if there are very clean and no distracting details. Standard effort problem under the staff of the bank means loan specificity. It can be seen on a very clean basis that this is really what the stuff is about. It is trying to commit to preventing something here from happening. Here it is shocking, followed by renegotiation continuation. It is an interesting and different take on this kind of stuff.

There are two points of view. One, from the financial intermediation banking literature point of view, the banking set of ideas, and second, from corporate finance. From the point of view of banking, there is really under the banking model, because there are no firms in this. That is the last thing people think it is hard to be a banker and easier to be an entrepreneur. There is an effort problem here. That this does not much explain the difference between them. In fact, this should be treated as saying if someone looked at this evidence that that does not seem to apply to firms unless they would think well, the banks would diversify. They are the only ones which could have just systematic or systemic risk in them. They could say they should better have conglomerates then or something like that. So, really, what is missing in this — if someone is really going to take this seriously about banks, about systems like financial crises is thinking about the difference between firms and banks, and then from just as a minor little detail, from the corporate finance point of view, debt contracts are not the optimal way to provide an incentive to a risk-neutral agent.

Basically, what is the general point? The regulators want to punish low outcomes and reward high outcomes. But that is not debt contracts. They give everything to the principle for low outcomes, and they give everything to the agent for high outcomes, and that has a jump in it. And then it makes the principle's contract not monitor, and because of the jump. So, that is not a big deal. But in any case in some sense, the way this is set up to deliver short-term debt as opposed to short-term weird staff requires two outcomes.

Let us get back to the key thing here. What is giving the people the commitment here? It is the key element of the model. So, again, it is what is called the aggregate liquidity shortage. The inability for any outsider to inject funds to buy assets of the banker or deposit in the bank to remove the need for unanimous consent to continue in the bad state. It, in a certain sense, requires that there is the only bank in the world, or this is the whole financial system. That is sort of a reason that this thing pushes to start thinking about system-wide crises. If there is one particular bank failing, one tiny little bank failing, probably there would be plenty of patient people out there who would be willing to pick up these assets at, below, utter below their fair market value, if it is efficient to continue them, they will continue them here. So, whether this sort of aggregate budget constraint is the right way to motivate the stuff is very suspicious.

The way this thing works like again all banks are in trouble, and the losses are huge, that is an important thing, their end losses are huge, the people see how that is coming in. There is nobody else to lend to any bank, and this provides commitment. Perfectly correlated risks are good because it makes it more likely to get into this sort of circumstance where they cannot afford to say even one bank. Then if the regulators can commit banks to take actions that are either all good or all like this, that will prevent from shocking. If only a few banks were in trouble, obviously this would not happen.

What about the details of how it gets modelled? So, what is the case that all of the banks in the world that everybody is in deep trouble, that is exactly the time they would think the government is going to step in. So, there is no president in this model because there is nothing particularly bad that everybody is in trouble versus one bank in trouble. They are just doing this. Everybody is risk-neutral here. They are just doing this inefficient liquidation several times over. And it is all linear

utility, so it is done once, but they do it twice. It is like twice as bad if someone does it two times.

So, if someone believes that maybe it is actually not great to liquidate the entire financial system as a whole and there might be bigger costs, in that sense if there is no financial system at all, then it is not even obvious that if everything else were right, that if there is a government, the banks could commit to doing this because there is going to be exactly one government that would come in.

What can be done to commit the government to not intervene in this case? Things might play differently. And lender of last resort is a very bad idea because systemic crises are exactly what the central bank wants to make sure that other banks have (Sachs, 1995). But nobody thinks like this. This is like there are people who say while the only reason they have so many financial crises is because of anticipated bailouts. And the reason that Lehman did these things because they knew that they are going to get bailed out. Well, clearly they did not get bailed out. They somewhat made a mistake there. But this would be a micro-foundation for this view that financial crises and bad stuff are caused by anticipated bail-outs. And if they just knew the punishment would be so bad, the banks would work hard, and this would not happen very often.

There is the last comment to make here. It is definitely worth thinking. It is definitely empirically possible, possibly true, and it is a really interesting idea. But the way that the result that systemic crises are good in this model, there are complications with this. What is the basic idea? Suppose there are one or two projects that are doing well, then the banks are randomly going to continue one of them. That is not good. And when they both do poorly in the original set-up in the model, then if both do poorly that is fine. They continue one of them. But if losses were bigger, then depositors are let both fail. It is not when they are going to more correlated risks and less correlated risks; they do not just change in the correlation, they are saying, if they choose the more correlated risk, the loss per project is bigger.

Then if the banks can get it so, the maximum loss per project is so big that they cannot afford to continue even one of them, then they get this commitment to let the stuff go on. There are situations when that is true, and when it is not true. It is not positive if the model can be changed a little bit, just having lots of projects that would otherwise be of the same scale of losses if the banks just made them all good down at the same time. It can be believed it could be very hard to refinance them all. So, this is needed. So, this paper, all of a sudden, gets way less general than everything else.

The other thing is one can just think about this in terms of implementation. The banks would each prefer to have independent projects. So, if they happen to do poorly, they get refinanced and do not get punished. This is exactly the opposite of the stuff that is an interest rate, illiquidity interest rate policy paper (People's Bank of China, 2014). In both of those papers if a lot of people get in trouble, then they get bailed out. Therefore they want to take correlated risks. This is sort of the opposite because if everybody gets in trouble, you are not going to get bailed out, then they want to take independent risks. If there is also in addition an effort choice, they could privately choose the correlation. This would not decentralise because the last thing they want to do is be in trouble when they get punished for getting in trouble. This is the point that could be addressed, as well. So, overall, a bunch of very interesting and new ideas are in here. Without further development or thinking about the type of data to look at or to see if these were relevant or not. They can be trustworthy. They are very creative.

The main point of the systemic crisis issue is understanding if it is really a response to a lot of people who view this all as a result of bad government policy, who think if people could just somehow commit the government not to act, they would not see these outcomes, which even just thinking about banking history it seems it is hard to think many earlier episodes, they are all predicting implicit bail-outs to the national government, and people still see systemic crises. There are efficiency properties here. They can be taken seriously in the same way as saying, it is hard to say that because there are no external costs to these crises, nothing else is going on. There are still losses. They are giving up future values. It is not like everything is free to shut down these banks, and those costs can be significant. People still choose them as long as these events are rare enough. It is hesitant to say the losses are peanuts, but it also suggests there are forces pushing these banks to do this independent, which

is a bad policy in the view of some people. And that is relevant here.

Understanding that at least the banking system's incentives go in this direction, what would they do in an equilibrium gain if they choose their projects? It is absolutely right. It is quite clear which mechanism is better. And there is an agreement depending on how the modelling goes. It is fairly certain that there could be a model where they also choose correlated risks. It is not obvious, but they can privately choose these projects and knew then all that is better off. But there is sure this project selection — correlated or not correlated. They are observable; then the banks can write down a standard game form and equilibrium as they choose a correlated risk outcome. It is positive that can be expanded on, but it is right that some of these results are coming in, and they can be figured out.

In terms of debt being sensitive to just two states, it is absolutely right. That is a point taken. As can be seen, the model is a complicated mess already. And so, the idea is that maybe literally debt is probably too severe. And as might be said, the idea is to allocate the right to ensure commitment. How is it done that is going to be sensitive to the environment, this can be trustworthy in terms of the aggregate liquidity shortage (Sales, Barroso, 2012). In some sense, it was the whole purpose of writing a model with multiple banks. And that led to these ideas. It is the first path to think of that as just having Warren Buffett in the model in period one. There is someone with deep pockets. And this comes back to the assumption of a fixed scale in terms of the project.

The question is, how many people can be brought in, and how patient are they? If there is an approximation of this fixed scale with a come's back production function, then it is a horse race between how fast the returns are going up, and how many impatient types there are to pull in. In that sense, there is the model it that way. The results would go through. It is just different assumptions in terms of having the most impatient person not to value it or the medium person. It is meant by saying to get into the order statistics of it, and as a theoretical point it is robust in that case, but it becomes messier (People's Bank of China, 2012b). It would not be interesting to take this data on how patient people are, and what is their wealth in these different events. It can be thought of as helping people think about what is driving these crises. Can it be really believed that there is a loss in wealth in those states? That is a useful suggestion on those margins. Dealing with internalising effects of policy what happens in the private sector, and clearly, there is no role for policy here (People's Bank of China, 2012a). Almost in some sense, this is because that is the point that can be made very strongly that deposit insurance may be a bad idea, and these models were committed to disciple. But the point is that in earlier versions of this paper what is largely missing is this difference between financial and non-financial firms — it is one of those striking facts in the data of how different they are. And there is some more work to be done to try to tease out because just looking at short-term versus long-term is a bit crude because there are worries about deposit insurance, and how much is uninsured long-term, but these differences still exist. And this is absolutely right that this model of face value just does not speak to those differences. Except on one margin really which is N, how many people there are to finance a project. Clearly, none of this is going to work if there is a small firm that one person can always finance.

So, at a minimum, it is going to tell something that these effects are important for large-sized firms. Those banks are firms; that is an interesting question. Earlier versions of this paper try to take attack similar to other works. Is the moral hazard problem different for banks versus firms? Is there a sense that one should think of it as being more severe for banks and less severe for firms? And there are ways to write that in a model, and it comes right out that there is something to commit to these costly liquidations ex-post. It depends on how much the firms are saving on the incentive rent, and how much the ex-post losses are. Maybe that points away from data to think about that of as a way to try to tease that out. There are earlier versions of that model, and there are people who modelled it but cannot be convincing so that it can be scrapped because that is not what this model is going to help understand. But there is a lot of challenges for a lot of this literature because they are so different on these margins. There is not the same variation in maturity that is seen for corporate firms. That is like two starkly different sets of firms that are in very different businesses, and it is kind of an avenue for the future to try to

figure that out because it is important to understand whether these moral hazard problems are more severe if this story can be believed.

There are still the questions what is going on here? Are banks investing in the housing stock? Or they are investing in corporate equity? Right, that is observable what they are invested in, where they can see their assets are holding. The idea is if depositors can get a niche in their loans on the kind of assets the banks are holding, then they can provide incentives in a way in terms of the loans, the kind of rate on the loans that will actually be different. They will get better terms. Even if there is an outcome they are getting driven down from outside options where they could change exactly which point on parade often tiers are selecting.

There is no need in changing the feature of a contract. To some extent, their assets are observable. But it can be seen in the lens of a model that if that is observable and the types of investments they are doing, then there is conjecture. It can be understood as being able to get them in a condition of their loans on that. It is the same thing here. The simplest way of modelling it, which is in a paper on short-term debt, and when there is a decentralisation, it is non-contingent short-term debt implements the optimal contract, where it is just the banker issuing short-term debt claims. Here effectively, a way can be assumed of some sun-spot-like events. And if there is the discretionary model here, these sun-spots are still in existence. So, there again can be added some kind of escrow accounts where an account sits in escrow until enough people put in, then it goes, just like a kick-starter campaign (Jeanne, Subramanian, Williamson, 2012). So, that is what is said here which can be written down in a game form, that is going to yield some of these outcomes. It will all work if there is an assumption that these investments are observable if they are private, all that is off. That is an interesting problem to think about.

When there is a worry about these ex-post incentives plus their private incentives to choose a different margin of moral hazard, that is a calling, but it is interesting. And in terms of countries, in terms of the details of how the law should apply or not, it still remains an interesting question. So, finally, there is a question of whether it is possible to use variation in maturities either in terms of aggregates or across countries. It is worth thinking about in a future research paper.

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Оптимизация финансовых кризисов

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Аннотация. Статья посвящена анализу событий, в рамках которых банки сталкиваются с проблемами урегулирования краткосрочных обязательств и потенциального банкротства. Эти события происходят в случае образования выгод в результате создания рисков наступления того или иного страхового случая, с учетом того, что не все подобные события предполагают социальные издержки. Поэтому достаточно представлять эти события в качестве неэффективных или неоптимальных результатов, последствий некачественного управления ликвидными средствами без подкрепления гарантиями коммерческого банка. Данная статья выдвигает противоположную точку зрения и ставит перед собой цель — убедить читателя в том, что в процессе функционирования банка учитываются не только частные интересы, но и правовые аспекты, связанные с формированием финансовой системы, в которой могут существовать несколько банков, подверженных негативному влиянию крупных долгов. В этом отношении автор не пытается убедить читателя в том, что финансовый кризис затрагивает проблемы экономической эффективности или рациональности. Напротив, результаты статьи исходят из предыдущих исследований по данной проблематике, не основе чего сделан вывод, что конкретный банк должен найти такой оптимум, который позволял бы ему продолжать работать в условиях финансового кризиса. Также в статье выявлены особенности существования подобного оптимума в условиях финансовых шоков. Именно этим вопросам и посвящена данная статья.
Ключевые слова: оптимальный финансовый кризис; банковская система; платежеспособность банков, информационно-фрикционные издержки; Парето-эффективность; переговорный контракт; оптимальная структура капитала банка

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Interim Management as a New Approach to the Company Management

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Abstract

The article presented the importance of employing interim managers in the conditions of rapid changes in the business environment. The significance of interim management as a modern approach to management was highlighted. The author also pondered on how the companies of the future should be managed. Furthermore, the author presented his own experiences and findings acquired from projects he had carried out as an interim manager. The readers' attention was drawn to the impact of the interim management on the organisational entrepreneurship.

Keywords: interim management; interim managers; knowledge management system; paradigms of awareness and intelligence

JEL Classification: M12, M14, M52

Introduction

What management style, approach or system should be applied in order to adjust to dynamic changes in the business environment?

The interim management is a new phenomenon, frequently interpreted in different ways by potential clients as well as by interim managers themselves. The matter is getting even more complex owing to deeply rooted standards of work and management, employed in the organisations where many-year commitment to one company is regarded as an asset[1]. Nowadays, working within the scope of project management is becoming more and more popular. Interim management involves employing a highly skilled manager for a determined period to solve a complicated problem in the company. The interim management was established in the 1970s in the Netherlands where managers, being self-confident about their value in the labour market, agreed to work for higher salaries during determined periods, resigning at the same time from the employee protection as outlined in the provisions of law. They obtained greater salaries for their high competencies and participation in the business risk which their employer had to face[2].

The author can boast his many-year experience in managing large and medium-sized companies. He received a prize at the Polish Nationwide Competition for the best-managed companies in Poland. The author's scientific interests focus on management- and reorganisation-related issues, and particularly those problems and aspects of the reorganisation process, whose extrapolation, in the broad sense, allows to improve the organisations' performance. The author highlighted herein the significance of employing interim managers under the conditions of change in the business environment. In the article, the author also tried to present his own experiences and findings acquired from projects he had carried out as an interim manager.

Managing Companies of the Future

Designing an organisational model of the company of the future requires from each employee,

[1] Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K. Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 17.

[2] Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K. Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 21.

task-related teams or the entire organisation to be able to re-create themselves. Companies of the future should change their approach and ways of thinking about the future, both rooted in the reality of the previous century. The activity of the company should be based on short-term undertakings, often arising in a new form from accumulated capitals, and making use of external resources and tasks performed preferably by external entities than by the company's employees[3].

The emergence of a new economic reality triggers the creation of a model organisation of the future, boasting its abilities to learn, think creatively and manage to utilize lean organisational structures. The ability to cope with changes brought about by the future depends on one's willingness to attempt to develop new ways of perceiving the future of management[4].

It should be highlighted that transformations in the management science occurred as a result of the application of certain paradigms, namely:

- **process thinking:** it refers to resigning from structural thinking, which used to be traditionally employed throughout decades, and shifting to process thinking which resulted in the development of a new management philosophy manifesting itself, in particular, in the ability to change[5],
- **creative processes of the mind:** in this aspect, creativity refers to a single employee, a team or the entire organisation, viewed as a collective mind. Within the scope of the human mind, the role of these corresponding similarities — creating the homogeneous entirety along with the creative mind — is played be **paradigms of awareness and intelligence**[6].

The integration of intelligence and awareness does not just mean achieving new opportunities; it also refers to implementing them into a new context of the mind's creative processes. Their development can be an essential element of transformations related to this modern philosophy of company management. In this context, one can regard the knowledge management as a set of "processes which allow to create, disseminate and use knowledge to meet the organisation's goals"[7]. The knowledge management system should be viewed as a systematic process of creating, organising and disseminating the enterprise's intellectual capital[8].

The knowledge area within the organisation cannot be overburdened with information of little usefulness. Thus, the main tasks of the executives involve assessing qualitative knowledge. An intelligent, i.e. learning organisation is an idea of the knowledge-based management, while the knowledge in question is enriched and made available to the enterprise[9]. The model of integrated common imagination process also reflects the already mentioned concept of the organisation of the future perceived as an integrated mind, involving creative processes of minds of individual employees and entire teams. The phenomenon of transferring and integrating individual processes of the mind into collective processes of the higher level brings about the creation of informative fields of the team and the entire organisation. This model of organisation is characterised by interactions between teams and the environment in the form of informative processes. In this case, particular process channels will connect information flows, giving thus rise to the evolution of specific teams and forms of the whole organisation. Information flows in the systems in question develop informative fields which are created and organised by task-related teams at specific levels of the management[10].

Modern management should take into account a proprietary and organisational nature of the enterprise and its market-related behaviour. It should determine current conditions in which the enterprise is forced to operate within a given period. Selecting a manager and his/her manage-

[3] Dźwigoł H., Unternehmensmanagement im 21. Jahrhundert. Edition Winterwork Borsdorf, Niemcy 2014.

[4] Brzeziński M. Innowacyjne dylematy przyszłości, [in:] Idem (eds.): Zarządzanie innowacjami technicznymi i organizacyjnymi. Difin, Warszawa 2001, p. 221; Grudzewski W.M., Hejduk I.K. (eds.): Przedsiębiorstwo przyszłości..., p. 137.

[5] Durlik I. Reengineering i technologia informatyczna w restrukturyzacji procesów gospodarczych. WNT, Warszawa 2002, p. 78.

[6] Brzeziński M. Kreatywność w nowoczesnej organizacji. Ekonomika i Organizacja Przedsiębiorstwa, no. 8, 2003.

[7] Murray P., Meyers A. The Facts about Knowledge. Special report, www.info-strategy.com. Accessed 31.11.1997].

[8] Grudzewski W.M., Hejduk I.K. Dlaczego należy zarządzać wiedzą? In Hejduk I.K., (Eds.). Teoria i praktyka modelowania systemów logistycznych. Politechnika Koszalińska, Koszalin 2004, p. 13.

[9] Grudzewski W.M., Hejduk I.K. Przedsiębiorstwo wirtualne. Difin, Warszawa 2002, p. 59.

[10] Dźwigoł H. Bussiness Management. Alpha Science International Ltd. Oxford, U.K, 2015.

ment style is one of the fundamental problems of the companies' owners[11].

Managers of Modern Companies

Due to changes currently taking place in the business environment, managers have to face new challenges. Thus, it is necessary to find an answer to fundamental questions about a new way of working and thinking.

A. Grove, the President of Intel and one of the top managers, says that both directors and managers of the enterprises should currently devote most of their attention to what the future holds for them. He believes that this is the highest time to activate one element of human nature — people's tendency to become paranoid. This feature has already been and will be the best motivational drive. Managers need some hazard (e.g. of losing their key employees or customers) more than having optimistic plans on becoming successful. K. Droń, A. Jacaszek, S. Kolarz and K. Nowakowski describe the company of the future using the following words: apprehensive, afraid of disasters, but also decisive and ready to make use of a given opportunity. Owing to the said paranoid behaviour, the line responsible for alertness is always as tight as possible. The enterprise whose underlying essence embraces fear can feel safe[12], provided that it maintains its ordinary sense and ability not to be panic-stricken. Thus, quick adaptation is enhanced. Concerning the preceding, the contemporary manager is obliged to relentlessly put into practice new concepts and management methods, e.g., the transformation of the enterprise from functions into processes, or development of key skills for knowledge management. New concepts and management methods allow the manager to help his/her enterprise to achieve competition edge, mainly because the concepts arrange and facilitate the execution of the business activity[13].

Nowadays, there occurs the necessity to develop a new dynamic approach to strategic and operational management, which approach would allow shifting from the industrial era into the knowledge era where strategies are formulated in line with opportunities and innovations[14]. The current concept of strategic planning needs to be supplemented by processes to achieve and maintain a competitive advantage. Effective fulfilment of the adopted strategy requires to unite three main elements: the organisation's strategy, its employees and management systems. It is possible to reach complete harmonisation as a result of strong leadership. Each of the elements mentioned above is a necessary but insufficient condition which determines whether a given strategy is fulfilled effectively. Combined, they form a kind of a basis which enables to create an effective management process[15].

New development and the organisational trend is to be created, covering the rules shared by scientists and managers. The rules are to pertain to recognising and defining the organisational reality, to formulating cognitive and pragmatic methods and principles designed to shape managers' competencies.

However, it does not change the fact that in the worldwide economy, one may find respected concepts connected with the management of the company, among which one can distinguish[16]:

- Sustainable development and sustainable enterprise
- Responsible business
- Partnership
- Flexibility, adaptability of behaviours and organisational solutions
- Intellectual capital and knowledge
- Entrepreneurship.

Continuous changes occurring in the environment, the fixed and hierarchical management system oblige us to create a new paradigm based on new guidelines, principles and operating rules of the enterprise. To construct an enterprise of the future, one needs to remodel the management structure, principles of data gathering, and more

[11] Dźwigoł H. Unternehmensmanagement im 21. Jahrhundert. Edition Winterwork Borsdorf, Germany 2014.

[12] Płoszajski P., (Ed.). Przerażony kameleon. Eseje o przyszłości zarządzania. Fundacja Rozwoju Edukacji Menedżerskiej SGH, Warszawa 2005, pp. 12–18.

[13] Morawski M. Metody zarządzania. In Morawski M., Niemczyk J., Perechuda K., Stańczyk-Hugiet E., (Eds.). Zarządzanie. Kanony i trendy. C.H. Beck, Warszawa, 2010, p. 229.

[14] Rokita J. Dylematy stojące przed zarządzaniem strategicznym. In Rokita J., Grudzewski W.M., (Eds.). Strategie korporacji działających w skali ponadnarodowej. Górnośląska Wyższa Szkoła Handlowa, Katowice 2006, pp. 93–103.

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[16] Nogalski B., Rutka R. Kluczowe kwestie współczesnego rozwoju nauk o zarządzaniu w Polsce. Współczesne kierunki nauk o zarządzaniu. Księga jubileuszowa z okazji 50-lecia pracy naukowej i dydaktycznej profesora Jerzego Rokity. Górnośląska Wyższa Szkoła Handlowa, Katowice 2007, pp. 47–48.

and more effective use of resources[17]. It is also necessary to employ managers having defined competencies and explicitly determined tasks in order to meet the set targets. Nowadays, enterprises' survival and development are determined by[18]:

- Ability to stay ahead of changes
- Focus on function processes
- Adjustment of management methods to new fulfilment conditions
- Effective management of the process of change, focus on creating effective attitudes or behaviours of employees
- Focus on creating effective processes.

Enjoying the status of the modern enterprise equals achieving skills to operate in the world of uncertainty and continuous, dynamic, and leap changes. What does the notion of a 'modern enterprise' means nowadays? What is now perceived as a tradition, used to be viewed as a novelty[19]. The management of the enterprise, some techniques, methods or concepts are subject, within the scope of 'modernity', to certain popular trends. By yielding to them, both scientists and practitioners give proof of their lack of foresight[20].

Interim Management as a New Concept of the Company Management

Interim management is an answer to changes taking place in the business environment. The following are the reasons underlying the occurrence of the said approach or concept[21]:

- More and more cut-throat competition, arising from the globalisation of markets, combined with the removal of entry barriers — e.g. in the European Union, to name just one
- An aggravating uncertainty of tomorrow, being a consequence of the increased risks: operational, financial, political risks, etc. A loss of economic security in the business
- Growing influence and role of consumers — access to information employing the internet
- A more and more essential role of innovativeness and flexibility of economic processes
- Dynamic changes occurring in the companies' economic and business environments.

The interim management is a notion having numerous interpretations and definitions, e.g[22].:

- It is to make use of the top executives to achieve considerable results in particular areas or within the scope of the fulfilment of defined goals, for fixed remunerations and based on a fixed-term contract
- It is a temporary provision of the management-related resources and skills. The management is also treated as supporting an experienced interim manager in managing during a transition period, crisis or a change inside the company
- It is a form of the application of managerial competencies; it involves the permanent employment of top managers to deal with a particular problem
- It is temporary management of the company or its part by a selected interim manager
- It is a temporary activity within the company, defined as to its purpose and scope, carried out by a natural person, destined to achieve defined and determined business results, and based on the co-operation and participation in risks and profits concerning the achievement of desired results[23]
- It is a temporary handing-over of the company or its part to be managed by a selected interim manager, to introduce changes in particular or all areas of its activity — Henryk Dźwigoł.

The interim management makes use of the tools elaborated within the scope of the project management, i.e. the project's duration and budget, as well as the company's resources.

That is why the entrepreneurs have more and more frequent recourse to the solution in question. One can enumerate some factors, namely:[24]

- Focus on key competencies

[17] Malara Z. Przedsiębiorstwo w globalnej gospodarce. Wyzwania współczesności. PWN, Warszawa 2006, p. 11.

[18] Nogalski B., Rutka R. Kluczowe..., pp. 43–44.

[19] Zieniewicz K. Od Taylora do postmodernizmu. „Współczesne Zarządzanie", no. 1, 2007, p. 25.

[20] Dźwigoł H. Zarządzanie przedsiębiorstwem w warunkach XXI wieku. Wydawnictwo Politechniki Śląskiej. Gliwice 2013.

[21] Rytka E. Nowość w zarządzaniu. In Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 22.

[22] Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, pp. 18–19.

[23] Wendt R. Zrozumieć interim management. In Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 19.

[24] Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 22.

• Growing demand for efficiency and effectiveness of actions being taken
• A drive to reduce risks connected to the achieved profits
• An emphasis on innovativeness.

The interim managers can boast their many-year, proven experience in the chosen sector and selected area of their professional activity. The company hires an interim manager to conclude a given project in a given time. The interim managers are held accountable for a potential success or failure of the project, as well as the achievement of anticipated results. The interim management is a solution found useful in critical situations where difficult decisions, mainly about the reorganisation of the company, need to be made.

It should be highlighted that interim managers assume direct responsibility for the effects of works being carried out. Furthermore, they take risk related to the fulfilment of the anticipated goals, as their remuneration depends on the goal achievement.

However, there may occur some factors on which the interim manager will have no influence. Therefore, his/her agreement with the employer has to provide for some flexibility in that respect.

Experience has shown that a lack of co-operation or incoherent actions taken by the company's management board is the greatest threat to the successful completion of the project by the interim manager. This problem may be solved by providing the interim manager with respective authorisations as to the management of the company. Indeed, it is not a sheer consultancy service provided by a hired entity; it is but purchasing a person and his/her knowledge and experience to obtain an added value.

It needs to be highlighted that to operate as an interim manager; one should not focus only on carrying out management-related projects. One should re-evaluate one's approach to a professional career, conducted tasks and one's employer who, from now on, play the role of one's client. It is also necessary to be financially independent, to be able to support one's family and oneself. Not everyone can act as an interim manager, due to, at least, the risks to be taken. Everyone knows that the profit made on risk avoidance is often smaller than the profit that might be achieved, provided that a person is willing to accept the risks. Bear in mind: it is better not to achieve your goal than never leave your home[25].

The interim managers should be characterised by the following features and achievements:[26]

• Have relevant experience, which allows them to make use of proven methods when dealing with clients
• Lead a stable life, which guarantees that they are less prone to be influenced by various behaviours
• Seek challenges since interim managers are hired where competences of an ordinary manager do not suffice
• Are open to new tasks and goals, which allows improving their performance
• Are proud of achieved effects, hold positions not just because they seek power
• Have been successful in their professional life.

Desired qualities of interim managers (the Author's enumerated the qualities according to their importance):[27]

• Communication skills
• Belief in themselves and their abilities
• Resistance to stress
• Ability to embrace changes
• Self-discipline
• Project-based approach
• Knowledge and expertise
• Effectiveness in action.

In needs to be underlined that the market of interim management in Poland has been developing slowly. This situation has been caused, in particular, by:[28]

• Potential clients are unaware that such a service exists
• A lack of standards determining the principles for co-operation, as well as expectations of both the interim manager and the principal

[25] Rytka E. Nowość w zarządzaniu. In Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, p. 23.

[26] Wendt R. Zrozumieć interim management. In Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, pp. 32–35.

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[28] Wendt R. Zrozumieć interim management. In Buchajska-Wróbel M., Wenddt R., Rytka E., Gasparski J., Gajda K., Menedżer do zadań specjalnych. Czasowe zarządzanie przedsiębiorstwem. Helion, Gliwice, 2011, pp. 39–40.

• A lack of interim managers offering high-quality services.

Due to the economic development of the country, the said type of service has started to develop, mainly as a result of:[29]

• Structural economic changes
• Strict labour law
• Heavy fiscal burdens
• A growing interest in project-based work among employees and employers.

The following are some factors that hinder the development of the interim management: lack of information and lack of awareness that such a service exists, lack of readiness to accept an innovative product, a complex legal system, unclear tax provisions, high risk that needs to be accepted by both sides.

The experience and knowledge of the interim managers allow them to evaluate the employees' competencies, and chances whether the company can complete the project on its own. The interim manager's wide competencies as to project management, controlling, cost budgeting, finances and cash flows allow to adopt a more flexible approach and guarantee that needs arising from new tasks will be anticipated more quickly. The project management is strictly connected with the management of an interim project. A permanent monitoring of the performance of the project is an important part of interim management.

Will the interim managers be appreciated in the company? They will, provided that they are duly authorised, regarding the nature of a given project. Interim managers are usually employed based on civil-law agreements, i.e. mandate contracts. An interim manager is a person who does the "dirty work"; thus, the company's management board can shift on him/her some responsibility for unpopular decisions, such as, for instance, staff reduction. It is extremely important, within the scope of projects being executed, to train a successor. Training the successor guarantees that the chosen direction will be maintained; especially because the successor poses no threat to the interim manager, since the latter's role is but temporary. Hence, the interim manager may simultaneously bridge a competence gap in the company[30].

Conclusion

Interim management focuses on innovativeness. It creates *value innovation* — a strategy that encompasses the entire system of companies' activities, whereas any improvements might also be introduced in particular areas of the activity.

The interim management of the company is based on the project management method that involves perceiving the company as a set of "autonomous" projects, enjoying full effectiveness.

A modern approach to the company management should be based on short-term enterprises, recreating themselves in other forms from accumulated capitals, making use of external resources and activities performed by persons from the company's environment and not from the inside of the company in question.

It is becoming necessary to seek a sort of more dynamic management. Present circumstances, laid with factors of highly uncertain character, result in the fact that strategic planning, especially in its scenario version, has become of significant importance[31].

Achieving a competitive edge will be dependent on sound knowledge management and a selection of information critical for a company. The success of a company is nowadays determined by outstanding individuals, able to make use of opportunities, and skilled at managing resources.

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Промежуточное управление как новый подход к управлению компанией

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Аннотация. В статье представлена важность привлечения временных менеджеров в условиях быстрых изменений бизнес-среды. Было подчеркнуто значение промежуточного управления как современного подхода к управлению. Автор также размышляет о том, как следует управлять компаниями будущего. Кроме того, автор изложил свой собственный опыт и выводы, полученные в ходе реализации проектов, которые он осуществлял в качестве временного управляющего. Акцентировано внимание читателей на влияние временного управления на организационное предпринимательство.
Ключевые слова: промежуточное управление; промежуточные менеджеры; система управления знаниями; парадигмы осознания и интеллекта

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The Analysis of Financial Stability and Profitability of British Petroleum (BP) for the period 2014–2019

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Abstract

Any commercial organization tends to make a profit in the course of its activity. As a result, these enterprises may be risky since they take different risks in pursuit of generating a profit and achieving other goals. Taking various risks might make a company less financially stable. In other words, the level of financial stability of a company is likely to be decreased. The importance of the given topic is that analyzing the financial stability and profitability of an entity enables us to determine how financially stable and profitable a company is. Moreover, this analysis allows finding out how particular indicators change from year to year and to prevent a decrease in financial stability and profitability indicators. This paper may be considered as an attempt to analyze the financial stability and profitability of one company from the oil and gas industry, specifically, British Petroleum (BP) for the period from 2014 to 2019. Besides, some recommendations may be developed in terms of increasing the company's performance indicators if necessary.

Keywords: financial analysis; financial stability; profitability; company; financial coefficients
JEL Classification: L71

Nowadays, all companies need to operate and run their business in uncertainties. As far as the financial stability of an entity is concerned, it is essential for a company and its creditors. It is a vital aspect of any enterprise since it has a considerable impact on the ability of an entity to pay off its debt. The higher the level of financial stability, the higher the probability that a particular company will meet its obligations, for example, a bank loan. If an enterprise is not able to pay back its bank loan, it may lead to negative consequences. Firstly, such a company might go bankrupt. Secondly, a bank which provided a loan for a company may not receive the principal amount and interest on a loan. As a result, such a bank may incur losses in this case. That is why financial stability plays a great role for a company and a creditor as well. As for the profitability of a company, this aspect is primarily important because it exists and conducts its activities with a view to generating profit. Furthermore, the profitability of an entity is crucially important for its potential investors and creditors [Eskindarov, 2018, p. 245]. Investors are interested in the profitability of a company as they need to be sure that they will get a return on their investments, for instance, when putting money into shares of a company or implementing any mutual project with a particular company. The profitability of a particular company also may mean a lot for creditors [Corazza, 2016, p. 18]. This aspect might be considered as a sign of the ability of a company to pay off a bank loan. Taking into account these facts, there arises the need to regularly monitor, check and control financial indicators characterizing a particular company from the point of view of its financial stability and profitability. Economic agents have an opportunity to make more reasonable decisions concerning whether it is expedient to collaborate with a particular entity or not, depending on the results of this analysis. In other words, such an analysis is of great importance since a company

and all of its stakeholders, especially creditors, are interested in it.

We will analyze the financial stability and profitability of the company called BP. It will be possible to make detailed and objective conclusions regarding its financial stability and profitability based on this analysis.

The analysis of financial stability and profitability of a company has its own goal for the sake of which it is implemented. This analysis may be regarded as a systemized set of analytical procedures with the help of which we can obtain some conclusions in respect of the aspects aforementioned. Subsequently, specific recommendations are supposed to be developed with the aim of increasing levels of financial stability and profitability of the enterprise under study.

Taking into consideration the fact that the given research paper is devoted to the analysis of financial stability and profitability of the company, namely, BP, we will calculate the main indicators characterizing the company's aspects in question.

We will start from the coefficients reflecting short-term solvency of BP for the period from 2014 to 2019. As we know, the short-term solvency of a company is characterized by liquidity ratios. We commence with this aspect as there is no point in analyzing long-term solvency of a company if it is not solvent in the short run.

As can be seen, the values of all liquidity ratios were acceptable during this period. The current ratio was higher than 1 that means that the company's current assets exceeded its current liabilities. In other words, the company was able to meet its short-term liabilities with current assets. The value of this ratio changed in the range of from 1.05 to 1.37. It should be noted that we observe a negative trend of changes in the current ratio. This might happen because BP's current assets decreased a little bit from 2014 to 2019, while current liabilities increased over the period. However, the value of this ratio started to grow after 2018. Speaking about the quick ratio, the values of this coefficient were about 0.8–1.1 within the given period. This ratio shows that the entity had enough current assets, not including inventories to cover its short-term obligations. The tendency was also the same as in the case of the current ratio. The third liquidity ratio shows that about 0.3–0.5 of all current liabilities could be covered with the most liquid assets, namely, cash and cash equivalents. This indicator also had a negative trend. It is possible to state that the enterprise was solvent in the short term from 2014 to 2019.

Next, we will consider long-term solvency of the enterprise under investigation for the analogical period. In addition to it, we have compared some of the coefficients of BP with its competitors, specifically, Shell, Lukoil and Rosneft.

We have collected the main coefficients reflecting the long-term solvency of a company. As we can see from this table, most of the indicators did not fluctuate in a considerable way that might imply that the company in question strived to develop its strategy of financial management thoroughly to stick to this while managing its financial resources. We have computed the debt/equity ratio in two ways. The first variant is that debt is based only financial borrowings, whereas the second version of the calculation of this ratio includes all liabilities of the company. As for the debt/equity ratio including only financial borrowings, the value of this coefficient was lower than 1 during the whole period under consideration that means that the sum of short-term and long-term debt of the entity was less than its equity. The share of debt in the total equity was equal to about 0.47–0.67 from 2014 to 2019. The ratio of debt to equity can be expressed as follows: 32% to 68% in 2014, 35% to 65% in 2015, 38% to 62% in 2016, 39% to 61% in 2017, 39% to 61% in 2018 and 40% to 60% in 2019, respectively. It is possible to observe increases in the debt/equity ratio within the given period. The rising debt/equity ratio does not necessarily mean that this will have an unfavourable influence on a company. In such a case, a lot may depend on whether ROE is increased due to using additional borrowed capital or not. We need to emphasize that borrowing additional money may be a very effective measure for increasing ROE of an entity [Garcia, 2013, p. 57]. As for our case, ROE grew from 2015 to 2019. It is possible to assume that using additional borrowings contributed to an increase in ROE to some extent. Furthermore, the ratio of debt and equity was in an acceptable range from 2014 to 2019 as an acceptable ratio of debt to equity for many companies should equal about 40% to 60%, respectively. Debt approximately rose from 32% to 40% while equity went down from 68% to 60%.

Having calculated and analyzed the D/E ratio for BP, it might be very effective and informa-

Table 1
Liquidity ratios of BP, 2014–2019

Liquidity ratios	Period					
	2014	2015	2016	2017	2018	2019
Current ratio	1.37	1.29	1.16	1.16	1.05	1.12
Quick ratio	1.08	1.03	0.86	0.86	0.78	0.83
Cash ratio	0.47	0.48	0.4	0.4	0.33	0.31

Source: Lozinskaia, 2017, p. 842.

Table 2
Long-term solvency indicators of BP, 2014–2019

Coefficients	Period					
	2014	2015	2016	2017	2018	2019
Debt/Equity Ratio (including only financial borrowings)	0.47	0.54	0.6	0.63	0.65	0.67
Debt/Equity Ratio (including all liabilities)	1.52	1.66	1.72	1.75	1.78	1.93
Debt/EBITDA Ratio	2.59	7.93	5.02	2.89	2.17	2.3
EBITDA/Debt Ratio	0.39	0.13	0.2	0.35	0.46	0.44
Interest Coverage Ratio (ICR)	17.76	4.98	6.93	10.56	11.99	8.45
Net debt/EBITDA Ratio	1.13	3.99	3	1.72	1.43	1.53

Source: Dmytryshyn, 2014, p. 57.

tive to compare this ratio for BP with its competitors. It may give us an understanding of how much debt and equity other similar companies had from 2014 to 2019. We can state that BP and Rosneft stand out among these companies by the D/E ratio because these two companies had a higher share of debt in the total capital than others. Subsequently, their D/E ratios were quite high. BP and Rosneft actively used both sources of funding, unlike their competitors. It might mean that these two companies were riskier, especially for their shareholders.

On the other hand, they used an opportunity to get additional profit from using borrowed capital. BP's D/E ratios changed from 0.47 to 0.67 while Rosneft had 0.89 and even higher than 1, which meant that debt equalled its equity or was higher than its equity. As for other companies, we can say that they had their D/E ratios equal to about 0.2, so it was not big, and perhaps companies lost some possibility to earn additional money, but their financial stability was not risky. We have resorted to Damodaran database, which gives D/E ratio equal to 14.25% for the oil and gas industry. In most cases, the companies under study had higher values.

Speaking about the second variant of calculating the debt/equity ratio, we can see that this figure also increased during the period. It could mainly arise from a significant increase in total liabilities, especially short-term and long-term debt. The value of this coefficient changed from 1.5 to 1.9 over the period. The share of all liabilities in the total capital rose from around 0.6 in 2014 to 0.66 in 2019 while that of equity fell from about 0.4 in 2014 to 0.34 in 2019.

As far as the debt/EBITDA ratio is concerned, this indicator shows that it took about 2–8 years to pay off a debt of the company with the help of EBITDA. We observe a positive trend as the number of years decreased from 2015 to 2018.

The EBITDA/debt ratio is the opposite indicator to the debt/EBITDA ratio. It can be interpreted vice versa, that is, the higher the ratio, the better. In general, this indicator shows to what extent a company can cover its debt with EBITDA.

Having analyzed the EBITDA/Debt ratio of BP, it will be useful to compare this with its competitors for six years. It is possible to state that Lukoil had the biggest EBITDA/Debt ratio, since this company did not have much debt, unlike its rivals. Lukoil had ratios equal to more than 1 and even 2. Other companies had lower ratios as they had more debt. Their ratios were lower than 1. As a result, it was difficult for these companies to cover lots of debt with EBITDA.

Analyzing an interest coverage ratio, it is quite evident that EBITDA of the company exceeded its interest expenses. It implies that the enterprise generated enough profit to cover its interest expenses. This coefficient was subject to fluctuations during the period. The figure rose stably from 2015 to 2018.

It was having analyzed the EBITDA/Int. expense ratio, it is possible to say that this ratio is also related to coverage ratios like the EBITDA/Debt ratio. It should be noted that this ratio was much higher than the EBITDA/Debt ratio since the debt was higher than just interests. The lowest ratio belonged to Rosneft, and it was about 4. In most cases, this ratio was very high, namely, from 10 to 70. It meant that most companies were able to pay off their interests very well.

The net debt/EBITDA ratio shows that it took about 1–4 years to repay the debt of the company. In most periods, it took even fewer than two years to do it. This figure was not high; that means that the entity generated a sufficient amount of EBITDA in order to cover its debt. The value of this ratio did not change significantly during the period. We can conclude that BP might be considered as a solvent in the long term for the reasons mentioned above.

It is also crucially important to analyze some additional coefficients connected with covering expenses of the company, namely, capital expenditure and dividends.

As can be seen, we have presented some additional main expenses that companies usually incur in the course of their activities. The CAPEX coverage ratio shows that the company had enough cash from its operating activity to cover the capital expenditure in all periods except for 2016. This figure fluctuated in the range of from 1.1 to 1.7 within the period in question. This ratio increased after 2016 in a stable way which may imply that cash flows from an operating activity were increased from 2016 to 2019. As for the dividend coverage ratio, we can see that the entity had enough cash from its operating activity to cover expenses linked with paying out dividends. The value of this indicator changed from 2.3 to 5.6 during the period. Another financial coefficient is connected with the ability of the company to cover capital expenditure and expenses related to paying out dividends with cash flows from its operating activity. We can notice that the enterprise was able to meet its obligations concerning capital expenditure and paying out dividends fully in 2014 and 2019. As for other periods, the entity did not have enough cash flows from its operating activity to cover both of these expenses in a full amount. It should be stressed that the value of this ratio started to grow stably from 2016 to 2019. Moreover, the given indicator reached the same value as it was at the very beginning of the period under consideration, that is, 2014. It might be caused due to an increase in net cash flows from BP's operating activity.

The next aspect of the business of BP is related to its profitability for the same period.

Having computed the main profitability indicators of BP for the period from 2014 to 2019, we can see that the company was profitable in most periods in question. There were some losses in 2016 as expenses of the enterprise exceeded its revenues to some extent. All of these indicators rose from 2015 to 2018. The ratio characterizing return on sales of the company shows that BP generated profit by implementing its business in all periods except for 2015. The maximum return on sales was observed in 2018, and the figure accounted for 3.21%. As for the return on equity, we have calculated this ratio in two ways. The first variant is a standard computation, that is, net profit is divided by equity. The second version of calculating ROE is based on the DuPont approach [Patlasov, 2014, p. 496]. As it is known, we get the same result in both cases. It is necessary to emphasize that one crucial advantage of the DuPont approach is that it gives us an excellent opportunity to determine what elements of the five-factor model have the most considerable influence on return on equity. In our case, components of the model, specifically, the EBIT/Revenue ratio and the Total assets/Equity ratio had the most considerable impact on ROE as these ratios increased more than others during the period under investi-

Table 3
Additional ratios related to covering expenses of BP, 2014–2019

Coefficients	Period					
	2014	2015	2016	2017	2018	2019
CAPEX Coverage Ratio	1.45	1.03	0.64	1.14	1.37	1.67
Dividend Coverage Ratio	5.6	2.87	2.32	3.08	3.41	3.71
CAPEX + Dividends Coverage Ratio	1.15	0.76	0.5	0.83	0.98	1.15

Source: Coser, 2019, p. 151.

Table 4
Profitability indicators of BP, 2014–2019

Coefficients	Period					
	2014	2015	2016	2017	2018	2019
Return on sales (ROS), %	1.13	-2.87	0.09	1.44	3.21	1.5
ROE (a standard computation), %	3.55	-6.5	0.18	3.45	9.43	4.16
ROE (based on DuPont approach), %	3.55	-6.5	0.18	3.45	9.43	4.16
ROA, %	1.41	-2.44	0.07	1.25	3.39	1.42
Operating profit margin, %	1.81	-3.55	-0.23	3.94	6.49	4.2

Source: Ivanickova, 2016, p. 389.

Table 5
Indicators of paying off the enterprise value of BP, 2014–2019

Coefficient	Period					
	2014	2015	2016	2017	2018	2019
EV/EBITDA	6.89	18.39	13.64	8.19	5.67	6.13
EV/NCFO	4.29	6.45	14.81	9.47	7.52	7.02
FCF/EV	0.07	0.004	-0.04	0.01	0.04	0.06

Source: Vrbka, 2019, p. 326.

gation. The maximum return on equity was equal to 9.43% in 2018. Speaking about return on assets, the tendency of changes in this ratio was the same as for the previous coefficients mentioned above. This indicator reached its maximum value in 2018. As far as the operating profit margin is concerned, we can state that this ratio increased after 2016 and changed in the range of between 3.94% and 6.49% from 2017 to 2019.

Also, we have presented some analytics connected with BP's enterprise value.

As we can see, the first coefficient is similar to the second one since both of these ratios reflect how many years it takes to pay off the enterprise value of a particular company. The EV/EBITDA ratio and the EV/NCFO ratio show the number of years to pay off the enterprise value of a company with EBITDA and NCFO, respectively. We can notice that these indicators oscillated to some extent because EBITDA and NCFO were not as stable as the enterprise value. Such a situation is not extraordinary as EBITDA, and NCFO of an entity may change substantially every year. We can observe a positive tendency of changes in the EV/EBITDA ratio and the EV/NCFO ratio as they started to decrease after 2016. It could mainly arise from increases in EBITDA and NCFO from 2016 to 2019. As for the FCF/EV ratio, this shows that the business of the company brought about 4–7 cents of FCF on each dollar invested in its

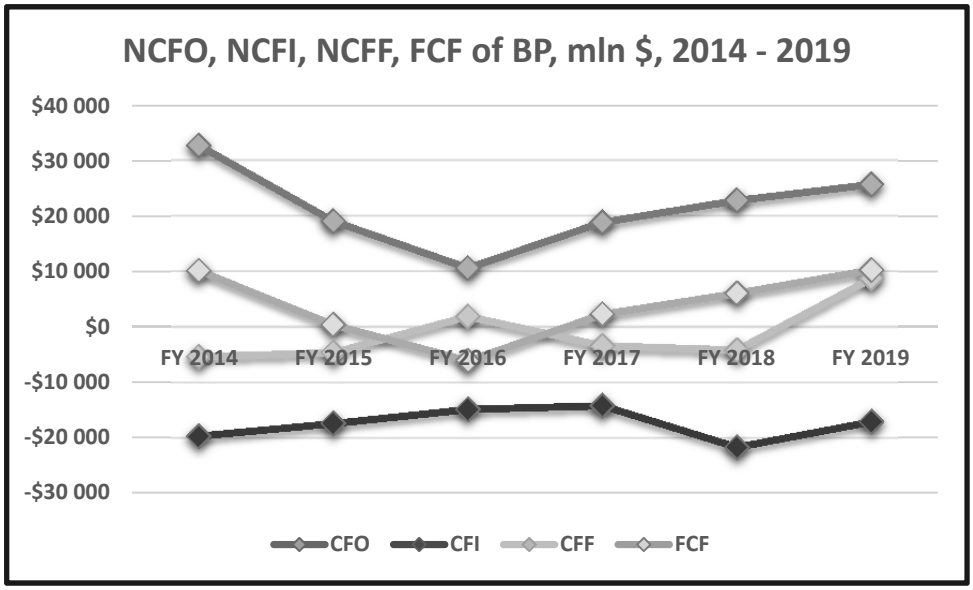

Figure 1. NCFO, NCFI, NCFF, FCF of BP, mln $, 2014–2019

Source: BP's website, 2020, p. 397.

enterprise value during the period. This ratio also changed in a positive direction because the value of this coefficient grew after 2016. It means that the company generated more and more FCF from 2016 to 2019.

It is also expedient to consider how cash flows from operating, investing and financing activities of BP changed from 2014 to 2019.

Analyzing this graph, reflecting changes in all types of cash flows of the company for the period in question, we can state that net cash flows from an operating activity were positive within the whole period. This fact means that the company had an opportunity to use a particular amount of cash from an operating activity to cover a specific amount of its investments, especially capital expenditure from 2014 to 2019. Moreover, some amount of cash might be directed to its financing activity for meeting its obligations connected with paying out dividends during the period. The value of net cash flows from an operating activity changed in the range of from 10691 mln $ to 32753 mln $ during the period. We can observe a significant decrease in net cash flows from an operating activity in 2016. It might chiefly arise out of decreasing revenue and net profit of BP in 2015 and 2016. Despite the negative trend observed up to 2016, the enterprise managed to overcome the problematic situation and net cash flows from an operating activity started to go up from 2016 to 2019.

As for an investing activity, net cash flows from this activity were negative in all periods under study. This situation may be considered usual since BP spent a lot of money on its capital expenditure within the overall period. The value of net cash flows from an investing activity fluctuated between –21571 mln $ to –14077 mln $ over the given period.

When we speak about a financing activity, we can see that net cash flows from a financing activity were negative in most periods except for 2016 and 2019. An increase in capital expenditure in 2016 might result in borrowing more money, that is, obtaining additional short-term and long-term debt to finance an investing activity of the company. The value of net cash flows from a financing activity changed from –5266 mln $ to 8817 mln $ during the period under investigation.

As far as free cash flow is concerned, this indicator was positive in most periods except for 2016. The main reason why free cash flow declined and became negative in 2016, was a decrease in net cash flows from operating activity. Free cash flow changed in the same direction as net cash flows from an operating activity within the whole period. It is quite logical as free cash flow directly depends on the operating activity of a company. This indicator oscillated in the range of from –6010 mln $ to 10352 mln $ during the overall period. Positive free cash flow in most periods implies that there was a particular amount of money available for creditors and shareholders of BP in those periods.

All in all, having conducted the analysis of financial stability and profitability of BP for the

period from 2014 to 2019, we can conclude that BP operated quite successfully for the period in question. It was able to compete with other companies from this industry. The company was solvent in the short term and long term. The entity generated profit with positive NCFO almost in all periods under study. It actively used equity as well as debt for supporting its activity. FCF was positive in many periods, which means that the company performed the business in a favourable way for its shareholders and creditors.

Nevertheless, there were some problems and drawbacks with this company. Although the entity did not have too much financial debt, it should control the share of its debt in the whole capital structure. Besides, it may need to change its capital structure by decreasing the share of total liabilities and increasing the share of its equity. Moreover, BP should increase its EBITDA regularly. Some problems were connected with generating not enough profit and NCFO. These indicators should be increased as well.

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Анализ финансового состояния и рентабельности British Petroleum (BP) за период 2014–2019 годов

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Аннотация. В статье анализируется влияние различных рисков на стабильность компании в финансовом отношении. Важность данной темы заключается в том, что проведение анализа финансовой устойчивости и рентабельности предприятия позволяет определить, насколько финансово стабильной и прибыльной является компания. Этот анализ дает также возможность выяснить, как конкретные показатели меняются из года в год, и предотвратить их снижение. Анализ проведен на примере оценки финансовой устойчивости и рентабельности одной из компаний нефтегазовой отрасли British Petroleum (BP) за период 2014–2019 гг.

Ключевые слова: финансовый анализ; финансовая устойчивость; рентабельность; компания; финансовые коэффициенты

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Impact of Anti-Russian Sanctions on Some Macroeconomic Indicators of Russia's Development

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Abstract

Measures, imposed on the Russian Federation in 2014 to isolate Russia from the world community, were called sanctions. Their immediate goal is to deprive Russia of resources (financial, economic, technical and technological, information, scientific, cultural) that are needed for its development. The sanctioning countries suppose that the damage caused by their sanctions will weaken the socio-economic, military-political, scientific and technological potential of Russia. Some results of the author's analysis of the impact of sanctions on the macroeconomic indicators of the Russian Federation I presented in this paper. The following indicators were studied: the volume of financial resources provided to Russian organizations, individuals and credit organizations; the volume and dynamics of capital investments and fixed assets; gross domestic product and industrial output; labour and capital productivity, and some other indicators. The years in which anti-Russian sanctions caused the most considerable damage have been identified. The author also shows that the negative impact of sanctions on the economic development of the country is, in many ways, similar to the damage, caused by the global financial and economic crises. The similarity of their impact is because both crises and sanctions deprive the country of resources for economic development. First of all, we are talking about financial resources.
Keywords: anti-Russian sanctions; economic development; gross domestic product; foreign investments; fixed capital
JEL Classification: F49, F51, H56

Financial Restrictions and Fixed Capital

Sanctions imposed on Russia in 2014, which their initiators are consistently expanded and tightened, isolate the Russian economic entities of the world's financial markets. This goal is clearly stated, for example, in the document "Imposition of Additional Sanctions on Russia under the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991":

"The United States Government shall oppose, following Section 701 of the International Financial Institutions Act (22 U.S.C. 262d), the extension of any loan or financial or technical assistance to Russia by international financial institutions. The United States Government shall prohibit any United States bank from making any loan or providing any credit to the government of Russia, except for loans or credits to purchase food or other agricultural commodities or products" [Bureau, 2019].

Difficulties in obtaining cheaper foreign loans than in the country (a refusal to grant them, prohibitions, and restrictions), blocking and freezing of accounts in foreign banks forced Russian individuals and legal entities to turn to the Russian financial and credit institutions. Measured in Russian roubles, the volume of loans, deposits, and other placed funds in the foreign currency provided to organizations, individuals and credit organizations in the Russian Federation sharply increased immediately after the introduction of anti-Russian sanctions (Fig. 1).

Statistical analysis showed significant (with a two-way level of significance $\alpha = 0{,}01$) in 2007–2018, the negative linear correlation between

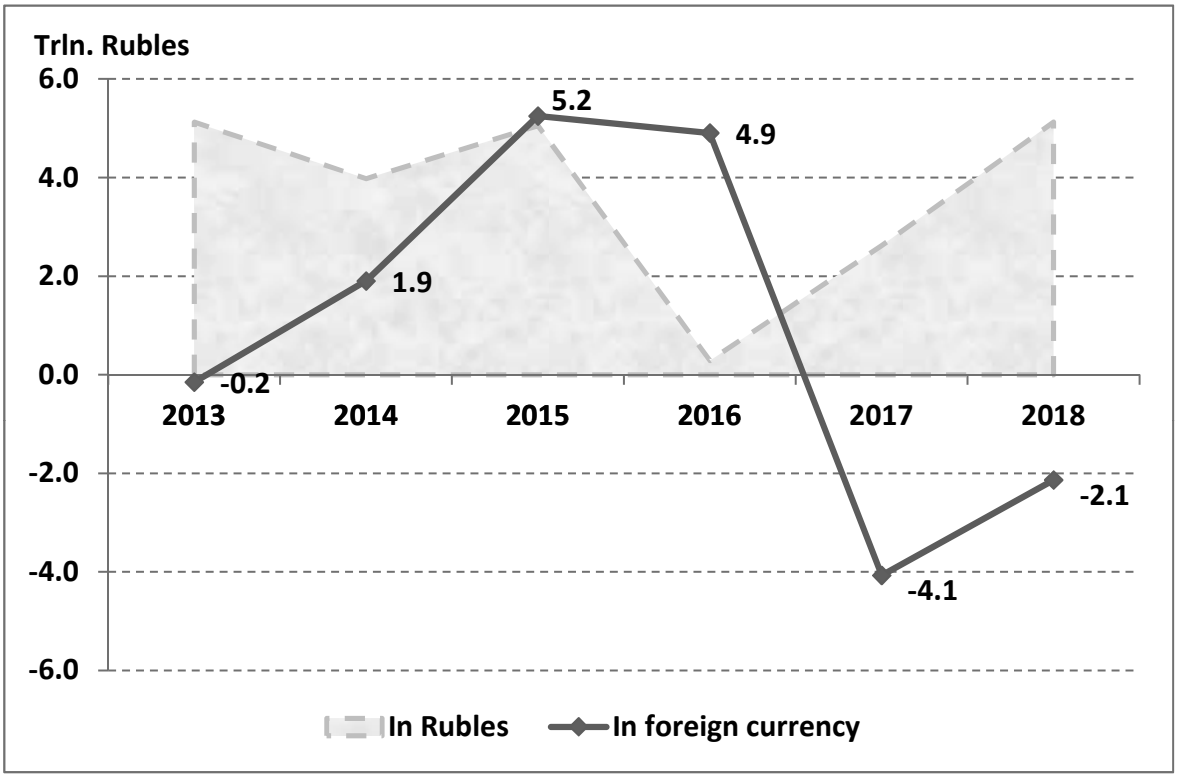

Figure 1. Increment of credits, deposits and other allocated funds made available to organizations, private persons and credit institutions, 2013–2018 (beginning of year, Trn. Rubles)

Source: Compiled by the author based on Rosstat's data: https://www.gks.ru/ (Accessed December 29, 2019).

Table 1

Linear (R^2) and rank correlation coefficients of credits, deposits and other allocated funds made available to organizations, private persons and credit institutions, with the volume of inward foreign direct investment in Russia, 2007–2018

Units of measurement for the rows of variables	Incoming in Russia foreign direct investment		
	Total	From sanctioning countries	
	R^2	R^2	Spearman's rank correlation coefficient
Roubles	-0.7374	-07.1165	-0.692
The U.S. dollars	-0.7521	-0.6893	-0.715

Source: Compiled by the author based on Central Bank of Russia's data: https://www.cbr.ru (Accessed November 15, 2019).

credits, deposits and other allocated funds made available to organizations, private persons and credit institutions and the volume of inward foreign direct investment in Russia, 2013–2017 (Table 1).

However, banks operating in Russia also faced sanctions restrictions and had difficulties obtaining foreign currency from foreign banks as well. It, in particular, contributed to the growth of the exchange rate of the rouble against the U.S. dollar.

So, if the dynamics of changes in credits, deposits and other allocated funds made available to organizations, private persons and credit institutions, expressed in roubles (see Fig. 1), convert to U.S. dollars, we will get a fall in 2015, not an increase (Fig. 2).

The decrease in external and internal financing hurts the size and dynamics of production investments, their specific and geographical structure. Therefore, in the Russian economy, the volumes of investment in fixed capital naturally decreased after the introduction of anti-Russian sanctions (Fig. 3).

During the global financial and economic crisis of 2008–2010, their decline was less, but the

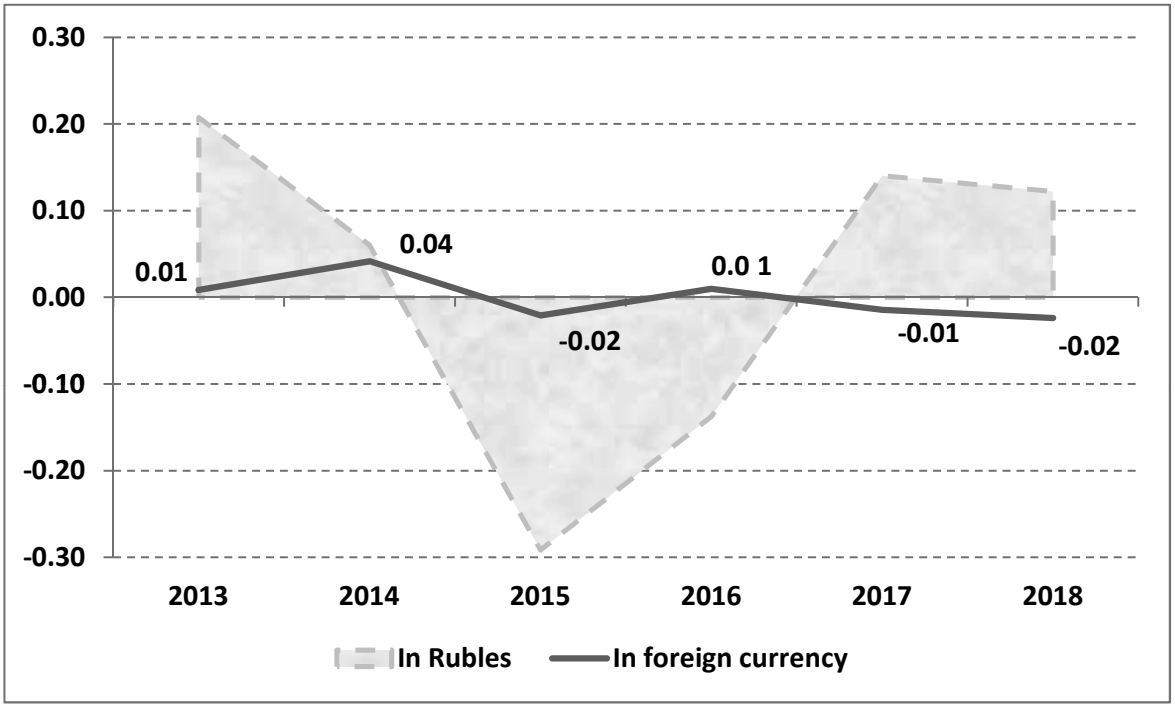

Figure 2. Increment of credits, deposits and other allocated funds made available to organizations, private persons and credit institutions, 2013–2018 (beginning of the year, Trn. US dollars)

Source: Compiled by the author based on Rosstat's data: https://www.gks.ru/ (Accessed December 29, 2019).

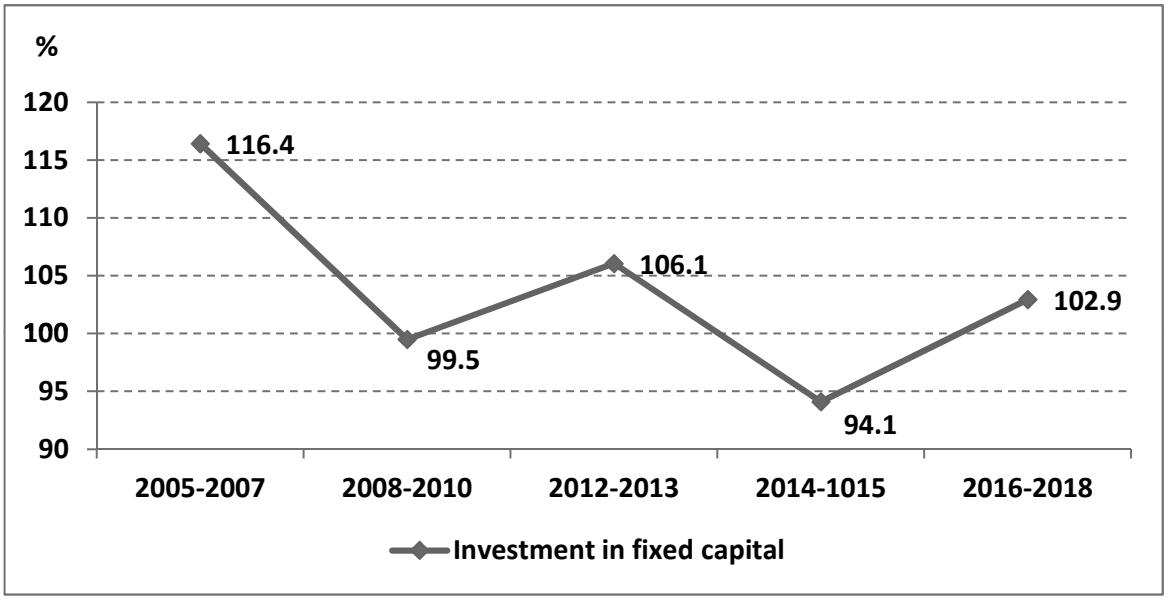

Figure 3. Average annual growth rates of investment in fixed capital in Russia, 2005–2018, %

Source: Compiled by the author based on Rosstat's data: https://www.gks.ru/ (Accessed December 29, 2019).

reasons are the same — a lack of resources for investment.

It is known that investments in fixed assets (I) replace the disposal of fixed assets (R), a fixed capital gain (ΔF), they also increase an uncompleted capital investment (ε) (Kazantsev, 1980, pp. 101–103):

$$I = R + \Delta F + \varepsilon \quad (1)$$

Therefore, the drop in investment in fixed capital (fixed assets) in 2014–2015 could not but lead to a decrease in the size of fixed capital (Fig. 4).

Gross Output

A decrease in fixed assets (F) causes, other things being equal, reduction in the capital-labour ratio: k =F/L. Here: k — is a capital-la-

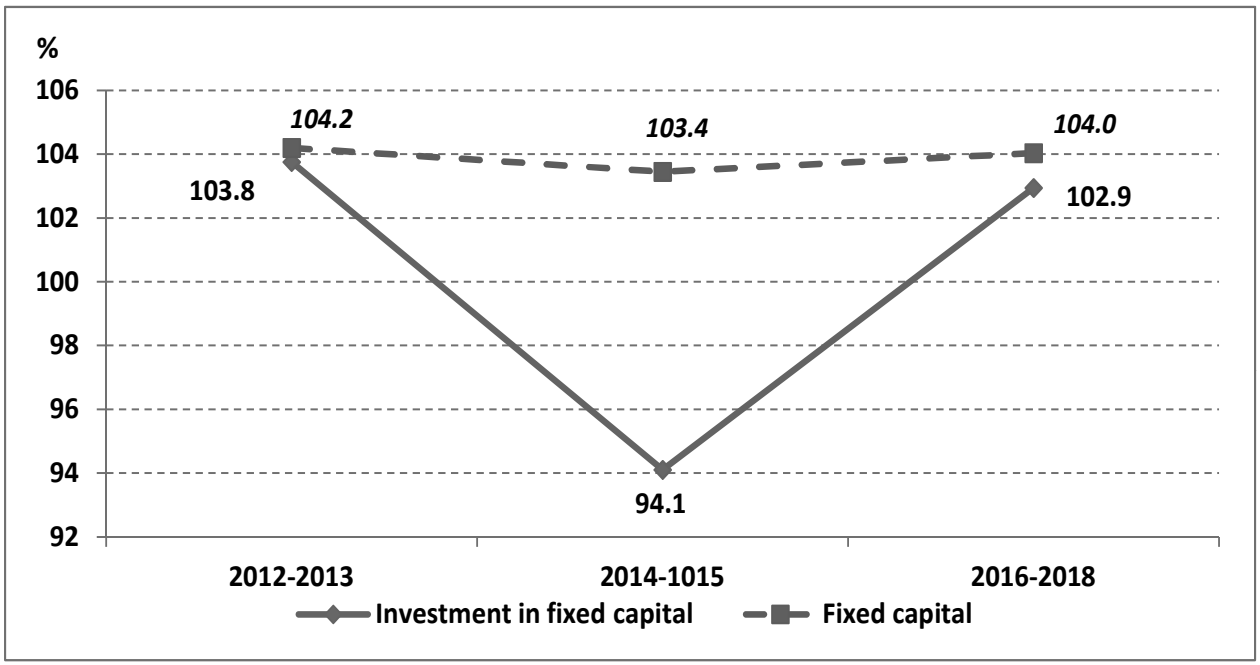

Figure 4. Average annual growth rates of the volumes of fixed capital and investments in fixed assets in RF in 2012–2018, %

Source: Compiled by the author based on Rosstat's data: https://www.gks.ru/ (Accessed December 29, 2019).

bour rate, L — is a number of employed in the economy. Usually, the smaller the funds (F), the lower the number of employees employed by them (L). However, in the Russian Federation in 2001–2017, the volume of fixed assets was steadily increasing (in comparable prices), and the average annual number of people employed in the economy decreased in the crisis of 2009 and 2013–2017[1]; as a result, the stock of labour increased in all years of the period under review.

Further, the reduction in the volume of investment in fixed assets leads to the moral and physical obsolescence of the latter. It may reduce their volume as a result of non (or partial reimbursement) retired due to physical depreciation of capital assets. In any case, the share of new funds in the total volume of funds will decrease (see Fig. 4 and equation (1)). Since the output-capital ratio (fixed assets output coefficient) of old funds (BS) is generally lower than that of new funds (bn), the average return on fixed assets (b) will decrease. I showed (Kazantsev, 1980, pp. 123–127) that the formula expresses this relation:

$$b = b_c*[1-q] + b_н*q, \quad (2)$$

where q — is a share of new (more productive) funds in their total volume.

The quality of business management also has a direct impact on the return on funds. It may get worse with the departure of foreign direct investment.

From the formal notion of the concepts "capital productivity" (output-capital rate) (b) and "capital-labour rate" (k) follows that labour productivity (p) (the rate of output (X) to the number of employed in the economy (L)), appears as a product of capital productivity and capital-labour rate:

$$p = X/L = X/F* F/L = b*k. \quad (3)$$

Expression (3) in other notations introduced Grigorij Aleksandrovich Feldman (1884–1958) in 1928 (Feldman, 1928)). He also formalized the relationship between the volume of output (according to G.A. Feldman, this is the national income) and labor productivity, and between the number of employed, the volume of fixed assets and their productivity:

$$X = p*L = b*F. \quad (4)$$

Later, these rates used Roy Harrod (1900–1978) and Evsey Domar (1914–1997), and the

[1] The reasons for the decline in the average annual number of people employed in the economy require a particular analysis that goes beyond the scope of this study.

relationship of investment to entrepreneur's income was presented by John Maynard Keynes (1883–1946) in his investment multiplier (for more information, see: Kazantsev, 1980). In Russian literature, we find the analysis and modeling of the considered connections in the works A. Anchishkin, E. Ivanov, E. Kapustin, Ya. Kvasha, V. Trapeznikov, A. Frenkel, A. Xodzhaev, Yu. Yaryomenko and other authors.

The quality and structure of fixed assets largely determine the level of material consumption of products produced on them. The cost of raw materials and the volume of products depends on it. This relationship is explicitly represented in the input-output balance equation:

$$X = AX + Y, \quad (5)$$

where:

X — is a column vector of gross output

A — is an input-output matrix

Y — is a column vector of the final product.

All other things being equal, the final product (Y) increases with an increase in the volume of fixed assets (F) and an increase in capital productivity (b).

But the increase in the share of material costs, inventories and reserves change (without the increase in unfinished capital investments) in a gross product, i.e. materials-output ratio (m), acts in the direction of reducing the volume of the final product:

$$Y = b^*F^*[1 — m] — s + \Delta M. \quad (6)$$

Where ΔM — is an increase in material costs, inventories and reserves (without the rise in unfinished capital investments), $\Delta M \geqslant 0$; s — is foreign trade balance and losses; $0 < m \leqslant 1$.

When considered in continuous time (with the differentiability of equation (6)), that a change in the parameter m has a stronger effect on the size of the final product than a change in the volume of funds and their returns, if the inequality is true:

$$\left| dm/(1-m) \right| > \left| dF/F + db/b \right|. \quad (7)$$

Otherwise, the impact of changes in m on the final product does not exceed the combined impact of the growth of funds and changes in the return on funds is shown (Kazantsev, 1980, pp. 105–106).

An increase in the materials-output ratio leads, other things being equal, to a decrease in the volumes of output of industries that consume raw materials, materials, and semi-finished products. At the same time, the demand for raw materials, materials, and semi-finished products stimulate the expansion of production in the spheres of economic activity that create them.

Bans on the supply of advanced technologies, modern materials, new equipment, scientific and technical information to the country also cause an increase in the capital-output, material-output, and labour-output rates. Different types of these bans are included in the number of anti-Russian sanctions.

The considered chain of connections is shown in Fig. 5. The negative impact of anti-Russian sanctions on the dynamics of investment in fixed assets and fixed assets in the Russian Federation was shown above. As shown in Fig. 5 in the chain of links just discussed, we will trace the impact of anti-Russian sanctions on labour productivity and products produced in the Russian Federation. The dynamics of changes in these indicators is shown in Table 2.

From the data provided in Table 2, it can be seen that the sanctions (anti-Russian and counter-sanctions in response to them) had a negative impact on the dynamics of GDP and industrial output. L. Kudrin drew attention to the decrease in their growth rates due to the sanctions while increasing the volume of output in some areas of economic activity: "Some branches of domestic industry and agriculture have benefited, but the economy as a whole has not. We are losing growth rates, and several industries are losing the opportunity to make investments and acquire modern technologies. The psychological atmosphere caused by restrictions also matters. As a result of such measures, many foreign companies are now working with companies in Russia with caution; it hinders development. Therefore, the overall balance of sanctions is negative" (Danilevich, 2020).

Our study showed that the most significant negative impact of sanctions is presented in table 2, as in the case arrived in Russia and domestic investment, had on 2014–2015. Data of this table

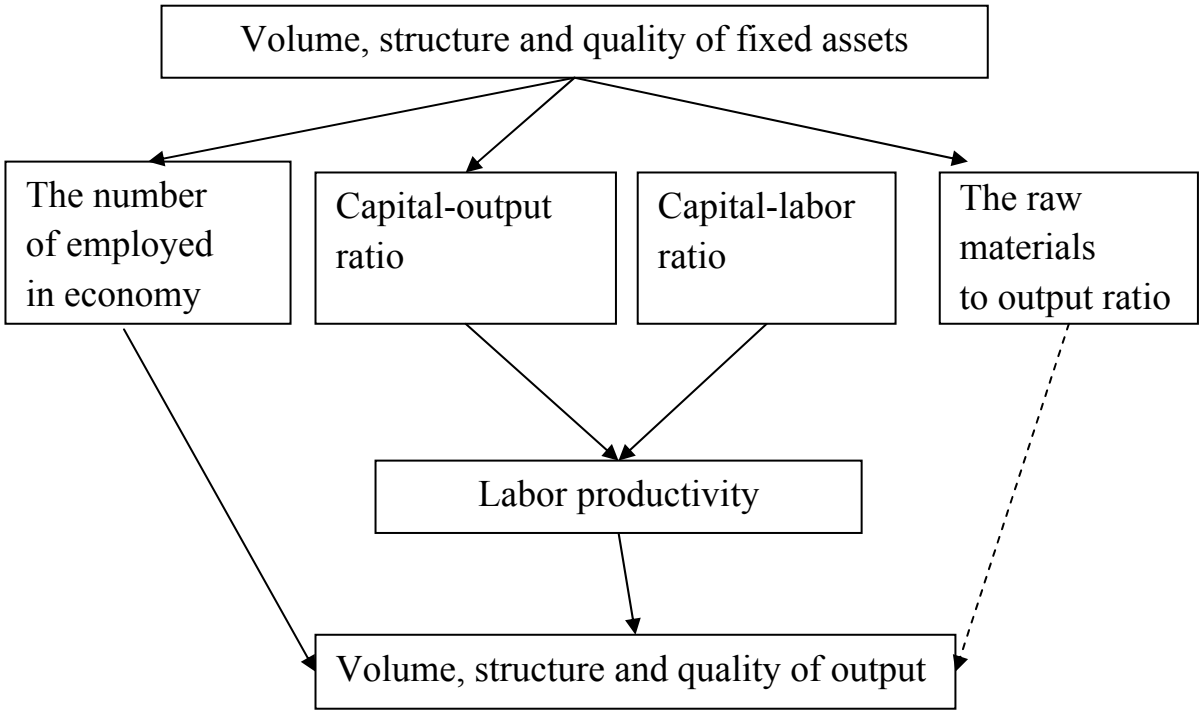

Figure 5. Connection of fixed capital with labour productivity and the volume of output

Source: Compiled by the author.
Note: an unbroken line arrow indicates a positive influence, while the dotted line indicates a negative impact of the factor at the beginning of the arrow on the value of the indicator at the end of this arrow.

Table 2
Rates of increment of Russia's macroeconomic indicators, 2001–2018 (%)

IndicatorПоказатель	**2001–2008**	**2009–2010**	**2011–2013**	**2014–2015**	**2016–2018**
Annual average number of employed (L)	0.7	–0.7	0.2	–0.3	–0.4
Capital-labor ratio (k)	1.3	3.8	3.9	2.8	4.4
Output-capital ratio (b)	7.8	–4.8	–0.8	–4.2	–2.5
Labor productivity (p)	9.2	–1.1	3.1	–0.6	1.8
Gross domestic product (X)	9.9	–1.8	3.3	–0.9	1.4
Volume of industrial production	5.2	–1.3	2.9	0.4	2.4

Source: Compiled by the author based on Rosstat's data: https://www.gks.ru/ (Accessed December 29, 2019).
Note: labour productivity was calculated according to mathematical expression (3).

also give reason to believe that occurred as a result of imposed against Russia sanctions, the worsening of the considered parameters, as they fall due to the global financial and economic crisis severely affected the Russian economy in 2009–2010. Since global economic crises deprive a country not only of external resources necessary for development but also of foreign markets for goods and services, their negative impact on the country's development is in many ways similar to the consequences of restrictive measures and sanctions.

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Влияние антироссийских санкций на некоторые макроэкономические показатели развития России

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Аннотация. Действующие с марта 2014 г., последовательно расширяемые и ужесточаемые меры изоляции Российской Федерации от мирового сообщества назвали санкциями. Их непосредственной целью выступает лишение России ресурсов развития — финансовых, экономических, технико-технологических, информационных, научных, культурных. Страны-санкционеры полагают, что наносимый санкциями ущерб ослабит социально-экономический, военно-политический, научно-технологический потенциал России. В данной работе представлены некоторые результаты авторского анализа влияние санкций на макроэкономические показатели Российской Федерации. В их число входят следующие показатели. Объем финансовых ресурсов, предоставленных российским организациям, физическим лицам и кредитным организациям; объем и динамика производственных инвестиций и основных фондов, валовой внутренний продукт и объем промышленного производства, производительность труда и фондоотдача и некоторые другие индикаторы. Определены годы, в которые антироссийские санкции нанесли наибольший ущерб. Показано также, что негативное влияние санкций на экономическое развитие страны во многом сходно с ущербом, наносимым мировыми финансово-экономическими кризисами. Их одинаковое воздействие обусловлено тем, что и кризисы, и санкции лишают страну необходимых ей ресурсов экономического развития. В первую очередь — финансовых ресурсов.

Ключевые слова: антироссийские санкции; экономическое развитие; валовой внутренний продукт; иностранные инвестиции; основной капитал

Статья подготовлена по результатам исследований, выполненных за счет бюджетных средств по государственному заданию Финансовому университету.

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Corporate Banking: Analysis, Valuation and Financing Structure of the Company

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Abstract

Today, during the period of ongoing changes in the financial market, banks face the challenges of cost reduction, revision of the product line and more explicit customer segmentation. In the environment, corporate clients are also observed significant changes: there is a rotation of personnel change the development strategies of companies that entails new requirements for banking products. Can banks quickly adapt to new market conditions and optimize work with corporate clients using existing technologies and information systems? Besides, that will help improve growth. Corporate sales of banking products in the current conditions? These questions the author tries to answer in her paper.

Keywords: corporate banking; banking products; bank's strategic goals; corporate customers of banking services
JEL Classification: G21

Introduction

The unfavorable conditions in the world capital markets and the tightening of banking legislation in Europe inevitably lead to a narrowing of the scale of Bank credit operations. Many analysts of the banking market predict an increase in the share of institutional investors in the total volume of investment financing, especially when it comes to infrastructure facilities. At the same time, banks remain the main suppliers of borrowed funds in the field of investment and project financing. Despite the fact that for banks and borrower's investment financing remains clear, reliable and promising product, many lenders are experiencing difficulties with liquidity in the medium and long term and therefore avoid participation in the financing of long-term projects. In addition, the tightening of banking legislation and the introduction of Basel II/III standards do not allow us to expect that the system-forming banks will soften their demands on the quality of the loan portfolio and will pursue a more aggressive lending policy.

Moreover, purposeful capital investment creates production and jobs, fills the state budget with tax payments and allows, in general, improving the life of the country. You can see the impact of investment in the economy through macroeconomic indicators such as GDP, unemployment, inflation, the Central Bank's key rate and other indicators.

One of the important condition of capital investment is its expediency and validity, as well as the form of investment that will best meet the interests of investors, intermediaries and resource owners. Today, to involve the diverted capital in business, use two ways of financing — debt and equity.

Debt financing in comparison with equity has a number of advantages as a form of capital investment: the emergence of a tax shield, the preservation of control in the company by the owners, the exact maturity of the debt, the order of payments in the event of bankruptcy. Although it is worth noting, the choice of debt financing is always considered based on the planned objectives of the project and the expectations of the parties involved in the transaction.

On the example of the implemented project in the field of construction and management of commercial real estate in Nizhny Novgorod, an analytical procedure will be given for the prepa-

ration of the conclusion of the feasibility of debt financing in the form of a Bank loan for a number of purposes, including reconstruction, modernization of the shopping and entertainment center (hereinafter the Mall), financing of current activities and refinancing of debt to another Bank.

The author studied the theoretical aspects of some instruments of debt financing of investment projects and to analyze the creditworthiness of a potential borrower for PJSC Bank VTB based on the developed financial model and structured financial covenants.

The subject of the study is the retrospective cash flows of companies included in the consolidation perimeter in accordance with the rules of PJSC Bank VTB, and the projected cash flows of the investment project of the Lotus Plaza. Data analysis was carried out by means of such research methods as induction and deduction, modeling and measurement, comparison and analysis of documents.

Bottlenecks of Financing Design and Operating Management of Funding Programs

The main conditions for financing investment projects

Group of companies A'bel is a reliable client, whose main activity relates to the construction of commercial and residential real estate in Nizhny Novgorod since 2000, as well as to the management of some of the group's properties. During the last five years of its cooperation with the Bank, the client has not had any overdue obligations, and the credit rating is estimated as B + +, i.e. the probability of timely fulfilment of the Client's current obligations to the credit institution is estimated as moderate. The probability of financial difficulties in case of urgent obligations is estimated as high. Repayment of liabilities is highly dependent on the stability of macroeconomic and market indicators as the main activity is related to the construction and management of the real estate. In the market, the client holds a share of 20–25% according to the estimates of the leading marketing Agency CBRE. The total number of objects on the territory of Nizhny Novgorod is about 25 buildings for commercial and residential purposes.

The strategy of the group is the construction of the high-quality real estate. Recently, the Group operates on the territories of promising and undeveloped areas of the city. Reasonable prices, infrastructure support, accounting for innovations and market dynamics forecast allow the company to attract high-quality tenants to fill retail space and ensure the rapid sale of other areas. Shopping centre Lotus Plaza is a modern, high-quality entertainment centre of new generation with already large and well-established tenants: IKEA, M. Video, ZARA, Marks & Spencer, Sportmaster, other netizens and grocery hypermarket Lenta. The total area of the shopping centre of 28,000 sq. m and 25 sq. m — lettable area.

Let us consider in more detail the non-financial environment of the project, namely a brief description of the investment project, the characteristics of the market situation and the expected risks of the Client.

To assess the attractiveness of the project, will help the marketing analysis of the industry and the prospects for its development, the forecast period, which best corresponds to the maturity of new debt.

The commercial real estate market in Russia is in a satisfactory state with clear prospects for development and diversification into more in-depth segments. The whole past year (2016) will be remembered for the gradual stabilization of the market, increased business activity of "players" and investors. Of course, new projects practically did not enter the market, the investor did not attract investment in the construction of sites for large centres, but the funds were allocated for the modernization of the areas, their increase and equipping with new spaces for social and recreational purposes for all categories of citizens.

It is assumed that a small boost in economic growth according to the Ministry of Finance of the Russian Federation at the level of 0.8% — 2% in 2018 from the second half of the year will start a new cycle in the field of commercial real estate. Against the background of such expectations, the investor can consider the feasibility of investing in objects of this type and expect a good return potential on invested capital.

Note that for the start of new projects, the reduction of the key rate of the Central Bank of Russia does not allow to start working with development projects from scratch. The draft civil code has been

built not so long ago (2014). Therefore, there is no need for consideration and selection of construction sites, coordination of the technical and economic plan of the whole object and other documentation with a high time-consuming preparation.

These factors are a significant advantage for lending to the project by the Bank because there is an opportunity to win on the market and get another part of the market in the region.

Today, commercial real estate is divided into commercial, office and warehouse. The market of trade and entertainment sector is quite mastered in its usual sense. However, the inertia of the market does not reduce turnover compared to office real estate. In terms of investment, retail properties received 18% of $ 300 billion, according to CBRE. Thus, it is impossible to talk about the braking of the industry and its stagnation, but the most interesting factor for an already operating object is not the macroeconomic prerequisites, but the internal details of the industry: rates, security, quality of tenants, occupancy and so on.

As a rule, the commercial real estate industry significantly depends on the region in question. In each region, there is always a leader and a leading player who has the maximum location, a strong pool of tenants and occupancy significantly close to 100%. However, the average figures change the picture, allowing you to look more soberly at the situation.

The average provision in the regions is significantly different, but significantly, average, excluding Moscow, Saint Petersburg, is 200 sq. m. per thousand residents. The total area of quality space is around 1.2 million square meters, of which the increase over the past year amounted to 719 thousand sq. m. Average rental rates definitely went in the ruble zone as a fixed share or a percentage of turnover, and the average vacancy rate is 7–8% in Metropolitan cities. Regions are gaining momentum — Kursk, Arkhangelsk, Vladivostok, Khabarovsk, Stavropol and some others. Nizhny Novgorod is already sufficiently equipped with high-quality retail space. However, it still does not occupy a place in the top three and is about 5–7 place along with cities such as Samara, Krasnodar others.

The current situation in the Nizhny Novgorod market is gradually stabilizing and comes to life in terms of the interest of tenants both new and experienced in this regional market to develop new areas and/or adhere to the expansion strategy. It can be noted that in the mood of the tenants there is already a desire to sign long-term contracts, the term of which will be from 3 to 5 years — is about 25% and 35% — are ready for even longer contracts, but with floating conditions. This is a positive wave because there is a stabilizing factor both the tenant and the rate, which increasingly meets the economic realities of the Russian economy and take into account seasonality, crisis experiences, growth and stagnation of the business and allows, of course, to fix the minimum required part for the tenant income. Rates of average prices are relatively dynamic, racing is not comparable with the abrupt deviations of a year of crisis, and it is acceptable for the market of the region (Fig. 1).

The comparative dynamics of rental rates in the districts of the city explains the relative decline in the market of the trading segment as a whole, as some areas, for example, Leninsky and Moskovsky show good growth. The Autozavodsky part of the city was distinguished by a decrease in rates –1.3, which is not an emergency drop, it is possible that in this area there is a revision of contracts or a revision of the terms of calculation of rental rates for tenants of commercial premises. Analysts expect the stabilization of prices for rented premises in the "lagging" areas to date + 0.8% (Table 1).

The city provided quality retail space to a sufficient degree — 619 sq. m./thousand people ahead of Nizhniy Novgorod Ekaterinburg only with indicators of 624 sq. m./thousand people. At the regional division shows a uniform distribution of the proposal except for the Nizhniy Novgorod area (Fig. 2). The quality and equipment of shopping and entertainment centres in the city are characterized as high-class and modern facilities of a new type. Only in some areas, there are centres that can be attributed to the old class, the year of construction of which ranges from 2000 until 2008.

Avtozavodskiy district of Nizhniy Novgorod is situated in Zarechnaya part of the city and covers an area of 9.4 thousand ha. Area economically and culturally isolated saturated. The project under consideration is located in the Central part of the area. The population of the district as of 01.01.2016 is 300,436 people. The average salary in the city is at the level of 26,000 roubles. The overall economic picture of the region has been improving since January 2017 after a sharp fall of

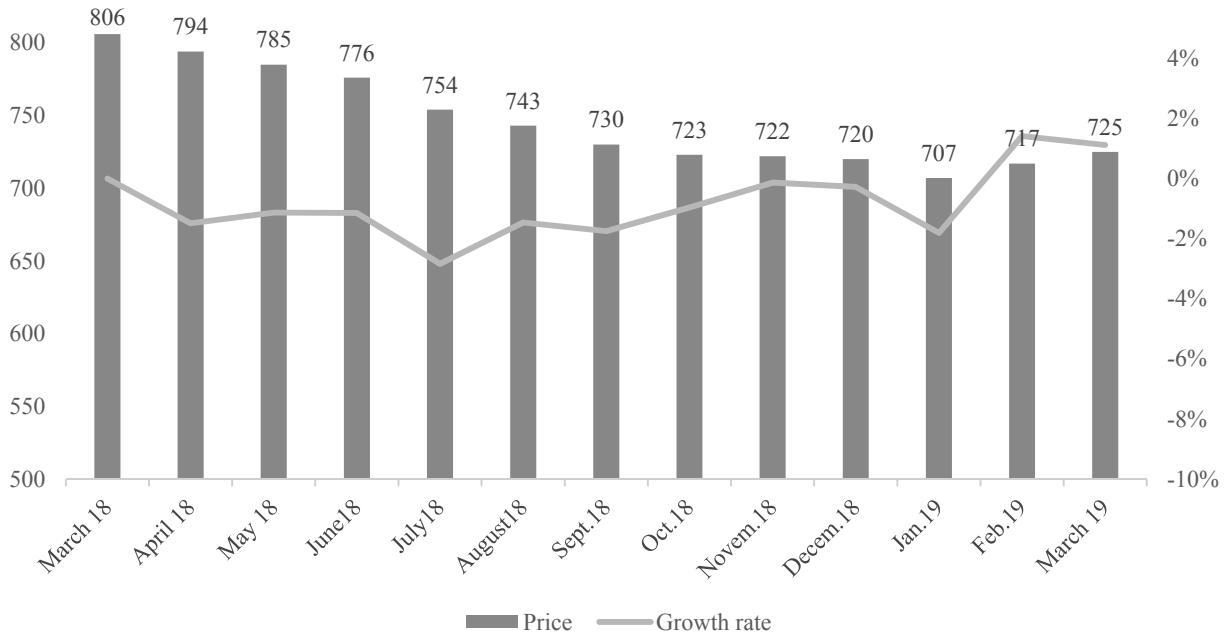

Figure 1. Dynamics of the average price in the market of rent of trade premises

Source: The author.

the main macro indicators of the region in 2015 by 15–20%.

Analysis of the competitive environment (Table 2) shows that the GC has chosen the right strategy, i.e. expansion of the shopping Mall and its addition to the new socio-cultural and entertainment space. After all, the main successful competitors have a large area and as a result, attract more customers with a significant pastime on site.

The initial request for credit funds assumed conditions (table 3), going slightly against the Bank's assessment. Thus, the initial investment initially specified for 1.5 billion rubles, reduced to 1.2 billion rubles. The feasibility of changing the amount of the investment program of the loan agreement with the client will be set out below based on the assessment of the financial activities of the borrower, the financial model and its stress.

Description of the client, the marketing industry, the strategy of the management company in relation to the development and expansion of the Mall is clean, logical and interrelated. The industry seems to be quite a promising market for deepening its directions and modernization in the near future. Working with a reliable and experienced client allows you to minimize risks and anticipate the most likely of them. Expert opinion of marketers only confirms the possibility of implementing new but well-developed projects. From the point of view of the non-financial basis of the project, it is possible to emphasize its realism, conceptuality and validity.

Diagnosis of a Business Model in the Process of Financial Analysis

Consolidation of the group carried out by the method of proportional consolidation of indicators of all 6 companies included in the analysis, allowed to conduct a full assessment of the balance sheet and the report on financial results. The group of companies analyzed to determine the amount of credit for the SPV company includes about 20 companies. Significant organizations, whose share in the authorized capital exceeds the parameters set by the Bank for mutual participation in the capital, are the previously mentioned six companies, which are included in the credit analysis perimeter. The main stages of the analysis were identified coefficient and settlement-analytical with a brief conclusion on the key indicators of the financial condition of the borrower.

Consolidated balance sheet showed that the structure of the balance sheet corresponds to the development activities in the field of construction and management of the commercial and residential real estate. So most of the assets, namely 80%, accounted for fixed assets, i.e. non-current assets of the company at the three analyzed reporting dates. The share of current assets is not more than

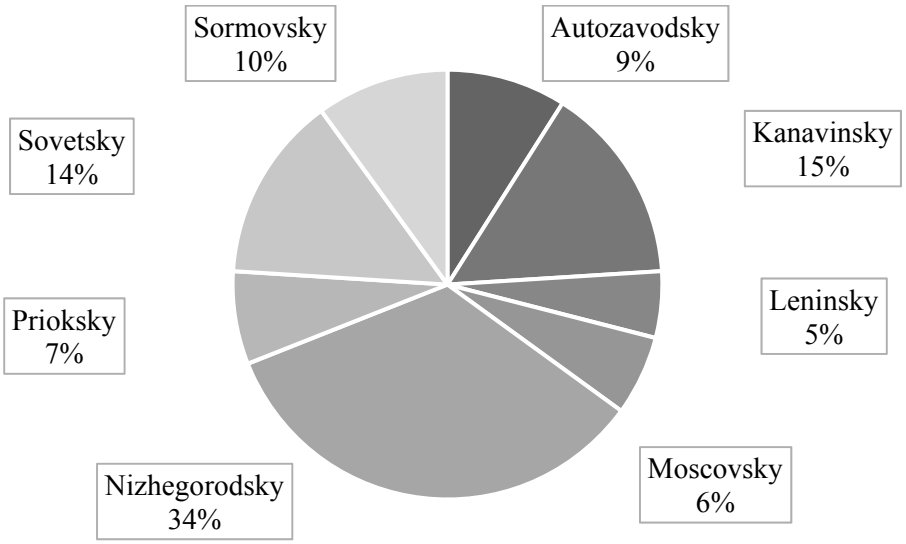

Figure 2. The volume of supply in the rental market of commercial premises for April 2017 by district division in Nizhny Novgorod

Source: The author.

20%, the structure of which is distributed between cash and receivables for + (plus) — (minus) 5% and 13%, respectively.

Liability of the group of companies in its structure, in the face of long-term capital, tends to decrease. This decrease in the balance sheet long-term debt is because the terms are suitable for the payment of ball payments (balloon — payment) on the main debt of early loans for the construction of fixed assets. Thus, long-term liabilities have an average weight in the balance sheet at 60%, and at the last reporting date, the fourth section of the balance sheet form was 57% of the total balance sheet structure. The remaining share is accounted for by the company's equity capital, where retained earnings have a significant weight, increasing year-on-year.

Immobilized assets at the last date are about 8 million. RUB. Mobile assets, forming the second section of the balance sheet, is much lower and is not more than 1.7 million. RUB. Equity and debt capital is correlated as 40:60 on 01.10.2018.

Expediency description of negative working and working capital is not due to as such participation of working capital in the current activities of the group of companies in the main form.

Express assessment on the basis of good balance (Table 4) showed that the company's activities are consistently positive as over the last three reporting dates there has been an increase in the balance sheet currency, which is especially important for development activities — there is an increase in its presence as a key player in the market through an increase in the share of construction. The rate of growth of working and non-working capital occurs as necessary and is carried out not by sharp, but by a well-balanced increase in assets. An identical trend is observed in the ratio of equity and debt capital.

The company's capital formation policy is based on the expediency of increasing the borrowed capital when new investment projects are required, and the debt burden on the "old" obligations is fully covered by the flows under this project. There is no uncovered loss in the consolidated balance sheet, which also has a positive impact on the valuation.

Assessment and analysis of the dynamics of net assets is most relevant. Thus, the company's net assets increase while maintaining the size of the authorized capital. Therefore, the group of companies is not threatened with liquidation or increase of the authorized capital unscheduled — the risk of raising funds from business owners is levelled, a good level of maintenance of the authorized capital (Table 5).

The analysis of solvency of the group of companies was carried out by dividing and grouping the company's assets by their liquidity and grouping liabilities by maturity, then the analysis of solvency and liquidity through the coefficients (Table 6).

It was found that the group of companies has no inappropriate distribution of assets and liabilities. From the table of correlation of groups the obvious ability to cover fixed-term liabilities and short-term loans, the purpose of which is the financing of stocks and other working capital (Table 7).

Another approach to assessing the liquidity of the balance sheet is the functional approach, which is the fairest in the assessment of Russian companies. This technique reflects the functional balance between assets and liabilities in their main cycles: operational, investment, monetary.

The table below shows that to finance current assets, i.e. stocks, the company will need to increase accounts payable. Still, due to the specifics of the activity, this is not necessary. Sufficiency in the financing of non-current assets is present, even a surplus is formed, in the extreme case, the civil code can redirect it to investments, maintenance of existing facilities or finance reserves taking into account possible risk. To assess the creditworthiness of this fact is insignificant and does not pose a threat to the solvency of the loan. It also applies to the ability of the company to pay its contractors (Table 8).

The analysis of absolute solvency by the degree of liquidity and maturity of liabilities in dynamics and at the reporting date showed a satisfactory result. The Bank's interests do not affect some non-compliance with the rules of the methodology of analysis. Now the stage of estimation of coefficients.

The ratio analysis of the balance sheet liquidity from the point of view of assessing the future creditworthiness and forming the policy of distribution of funds by types of assets is satisfactory. As of the three reporting dates, the group of companies has a sufficient level of relative liquidity indicators for the consolidated balance sheet. The overall solvency is more than 50%, and a small degree of manoeuvrability of operating capital and security of current assets does not pose a threat to the issuance of credit funds and the establishment of a limit (Table 9).

The financial condition of the group of companies was estimated by five main factors, one of which is the capitalization ratio, which characterizes the rate of borrowed capital to equity. In the case of financing of an existing project, when the funds will be allocated largely for refinancing and the costs of current activities, the value of 1.57 at the last analyzed date was acceptable. If the goal was to build from scratch, for the Bank this is already a risky entry into the project since a large degree. However, knowing the fact that at the end of 2016 came the obligation to balloon-payment for other loans, potentially the ratio may decrease, then the Bank increases interest in the issuance of funds.

Financial autonomy is optimal, fits into the average indicators, the growing share of retained earnings, balancing long-term funds and the terms of their payments (Table 10), and provides financial stability.

The analysis of financial stability was continued by the method of the sufficiency of sources of financing of reserves. According to calculations (Table 11), it can be seen below that the company's policy on the residual principle forms reserves based on long-term sources. Summary assessment of strength: average, acceptable.

The final score on the method of class boundaries is presented in Table 12. On the reporting, three dates were awarded grade 3: this is the civil code, the financial condition of which can be assessed as average and stable. In the analysis of the consolidated balance sheet visible to the weakness of the individual financial indicators: non-emergency precarious financial condition due to the prevalence of borrowed sources of funding, but there is some current capacity to pay, secured by cash, accounts receivable, and a small number of stocks. In business relations with such an organization, there is hardly a risk of loss of funds, but the fulfilment of obligations on time is doubtful. Therefore, control and sanctions are necessary to maintain financial discipline (Table13).

The financial result of the company also shows good dynamics in terms of revenue and net profit. Ledger has a minimum cost, which refers to some materials used in the construction of objects or the cost of third-party property management services. The group showed good profitability, which is even slightly higher than the average industry profitability (Table 13).

As mentioned earlier, the company shows good profitability for the main activity. The profitability of sales is the highest since there is practically no cost in the process of managing the rental areas of the shopping centre, and then the decrease in accounting profitability is due to payments for

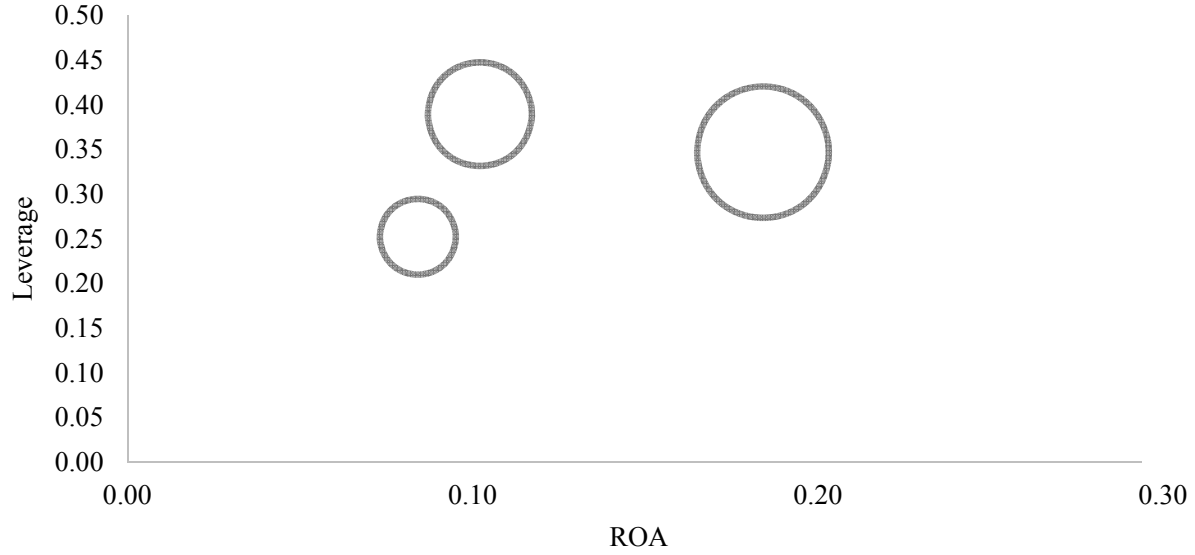

Figure 3. Matrix for evaluating the financial results of ROE

Source: The author, based on the financial analysis of the financial statements of the client.

management and administrative expenses. In general, the profitability is higher than the industry (20%) by 5–15%, depending on the period of entry or renewal of the Group's retail space. Largely, the indicator is higher than the sectoral value in the regions, depending on the market share of the Civil Code and large-scale construction of the commercial and residential real estate.

From the point of view of profit management organization can be noted efficiency. The sustainable growth rate shows that the company manages to maintain and even increase its own capital through a constant increase in cash and maintain a return on equity of 35–25% (Fig. 3).

The Group shows the effectiveness of using fixed assets and equity, so for each ruble invested in the assets, the company receives from 30 to 51 kop. with an increase of 60%, and equity capital, taking into account the effect of borrowed funds, it can generate up to 100% repayment of funds. In general, in terms of resource productivity, it can be determined that the group of companies manages to increase the effectiveness of its activities by managing commercial areas with an increasing effect (Table 14).

The conclusion after the financial analysis of the Group is positive. Evaluation of the activities of the Civil Code is entirely consistent with the specifics in the field of construction and property management. Financial performance is stable. The key positive factors were the absence of losses, the decrease in debt obligations, positive growing net assets of the group. The operating activities of the borrower are not related to the taxation of other countries; it does not have any claims for the payment of any compensation. The main subsequent crediting factor will be the assessment of the credit rating and the ability to fulfil covenant conditions.

Algorithm of Investment Project Risk Management

The management of the financing program after conducting a financial analysis requires systematization of the main provisions/requirements for the borrower to successfully implement the project and obtain a sufficient flow.

In the practice of corporate lending by banks, there are several provisions that, based on the legislation of the Russian Federation and internal regulations, describe key managerial and financial aspects of the client's activities to minimize credit risks. These restrictive lending components after the approval of the basic wishes of the terms and amount of debt funds, the review and validation of the forecast and stress models are covenants. There is a list of the most commonly used mandatory requirements for customer performance. Their number does not exceed 15 requirements. Some covenants were developed and assembled into a single system for the project of graduation qualification work, compliance with which will allow monitoring the effectiveness of the investment project and significantly reducing the risks of insufficient accumulation of CFADS flows.

First, we present several special conditions for the borrower in terms of management activities:

1. Maintaining top management throughout the entire process of supporting an investment project with credit funds.

2. The inability to attract additional credit funds from other (other) banking institutions, at least without a written agreement of the credited bank to control the client's debt load and its financial stability.

3. Opening of bank accounts for 50 million roubles.

4. By 2020, the closure of accounts in other banks to control the operations with project funds.

5. Possibility without the acceptance of funds from the client's accounts in case of violation of the terms of transfer of funds/in violation of the financial discipline of the borrower.

6. The obligation to conduct normal operating activities, based on which materials were previously provided for a comprehensive analysis.

7. In case of violation of the requirements by the client, the possibility of immediate repayment of the loan.

8. Provision of financial statements.

9. Providing a financial model.

10. Report on court cases and amounts to be reclaimed.

11. Acquaintance with the policy of optimization of the expenditure part of the main activity.

12. Carrying out and registration of all operations with counterparties strictly in law.

13. The possibility of introducing new restrictive and controlling conditions in the event of major changes after the next semi-annual analysis.

This series of management covenants is aimed at maintaining a stable and understandable type of activity of the borrower. Financial covenants focused on the effective risk management of the project, whose action is triggered by the mutual deterioration of all previously identified factors:

1. DSCR not less than 1, 00.

2. Indexation income can be reduced by no more than 5% of the current indexation index.

3. The percentage of space loading specified in the financial model should be at least 86% before 2021, at least 91; subsequent years starting in 2021.

4. The indicator of operating expenses cannot be exceeded than 30% of revenue without VAT based on the adjusted current financial model.

Financial covenants focused on the effective risk management of the project, whose action is triggered by a single-factor deterioration of the factor under consideration:

1. DSCR greater than 1.00.

2. Reflection of inflation expectations in the forecast to a growth of 10% of the current figure.

3. Do not exceed the reduction in rental rates i. per cent indexation of income from current activities in the model by more than 12%.

4. Excess OPEX should not exceed 12% of current expenditure percentage.

5. Reducing the load area of the maximum possible level can reach — (minus) 12% of the current load level.

The total financial covenants that must be enforced are TD/EBITDA less than or equal to 0.7 before 2019 and less than or equal to 0.5 after 2019; EBITDA/TD is greater than or equal to 1.

Security covenants of nature, the significance of which is concentrated around the collateral object and confirming the profitability of the industry:

1. Making a mortgage on the object.

2. The impossibility of laying the mortgage object in other banks.

3. Providing annual marketing research by one of the leading companies.

4. Providing a report of the appraiser of the value of the collateral property.

Performing a covenant requires unconditional control over the usual activities and conditions of the loan agreement. In the extreme case, failure to comply with the signed mandatory conditions of the transaction imposes additional risks on the bank. In connection with this fact, the decision can be achieved through the penalties prescribed and agreed with the client, which are imposed immediately and progressively.

The number of penalties that can be applied to the borrower in case of non-compliance with the prescribed and approved covenants:

1. Payment of a fine as a percentage of the body for a long time or in a predetermined amount. This measure is advisable to use only for minor violations or as an alternative to an early collection. In contrast to the increase in the interest rate on loan is not enough stimulating act because most often bears short-term and one-time nature, but can be realized introduced.

2. Interest rate increase. The measure that most likely will not be applied to this client, but it is possible in emergency cases of violation of covenants. This mechanism will increase significantly

more pressure on the client as it stimulates the speedy elimination of the violation.

3. Termination of funding.

4. Termination of the issuance of new trenches.

5. Early loan repayment is a measure indicated as a covenant.

During the actual and final signing of the loan agreement, subsequent questions may arise and the company manages the concepts and narrow moments. Mutual and mutual interest calls on both parties to clarify and characterize all the incomprehensible calculations and concepts of a credit transaction.

However, the bank anticipates some incorrect actions of the borrower, which, in his opinion, due to the interest of the company, can significantly distort the current and subsequent financial position of the company, and the ability to fulfil its obligations. These features include the following items:

1. Do not transfer payments for the inflow of funds that form revenues beyond the reporting and agreed period from the base of contracts.

2. Do not make technical repayment of short-term loans to reduce the indicator of the main debt of the Civil Code.

3. Before and before signing the main financial and other covenants, stipulate possible seasonal fluctuations recorded earlier by the Civil Code, as well as a decrease in operating indicators due to the length of the production cycle, etc.

In the event of an unforeseen crisis and previously unrecorded emergency liquidity, financial stability and other reasonable and real changes in accordance with the legislation of the Russian Federation, the client can work with the bank on some possible measures to improve the terms of the credit transaction on the following issues:

1. Reducing the basic interest rate on loan.

2. Reduction of issuance and maintenance fees.

3. Transition to a floating rate based on MIBOR (relevant for larger borrowers)

4. Minimization of fees for related banking operations.

5. Extension of crediting terms and change of payment schedule for principal and interest payments.

6. Mitigation of financial covenants, but not the possibility of reducing financial covenants below the minimum level for a bank.

7. Convenient receipt and redemption schedules, levelling seasonal surges, if any, and so on.

The final step in working with project risks is the need to finalize the text of the loan agreement in accordance with the Civil Code of the Russian Federation. Obligatory parameters will indicate the subject of the agreement, the transfer of borrowed funds, the interest payable, the procedure and time for the return of credit, the responsibility of the parties for violation of the terms of the transaction. Thus, it can be stated that the project will be safe from a legal point of view, and therefore it is an interest to both the owners and the bank.

Financing Optimization

Financial Model Application for Making an Investment Decision

The initial forecast consolidated model of the Client is presented the borrower's vision of the basic assumptions of the project, and its estimated need for loan funds has three input parameters, one of which is inflation equal to 4% annually according to the forecast of the Ministry of Economic Development of the Russian Federation.

Other prerequisites are the percentage of rental rate indexation for tenants of the shopping centre at 3%, as well as transaction costs in the amount of 28.3% of the annual revenue of the forecast cash flow model. The need for loan funds is estimated by the client for 1 500 000 thousand rubles, under the proposed 11.8%. The forecast step is ten years with quarterly breakdown and summation of the annual flow.

The original model contains a number of errors and incorrect displays of the cash flow of GK from the main activity. A clear discrepancy is the lack of consideration of the workload of areas of the rentable area of the object. After all, this premise is very important for commercial real estate. Consequently, the addition of the base model was carried out.

The model provided by the client also failed to withstand the process of stressing key indicators it can be noted that both the initial and the stressing are punched by the DSCR coverage indicator of 0.96 and 0.92, respectively (Table 15).

Moreover, the LTV indicator exceeds 80% — these are additional threats to the financial stability of the client and his creditworthiness in the first three years. Consequently, three years of lend-

ing is a significant time, which can significantly change the overall picture of the transaction on the committee on making a deal. Other credit analysis indicators are positive. For example, the debt is covered by an annual EBITDA indicator on average three times, the interest payments on a loan to the same indicators are covered on average more than 20 times in the absence of changes in the model. However, the economy of all indicators is not always reasonable, realistic and meets the requirements of the bank.

Thus, based on the above adjustments to the financial model. Crediting is possible on the following general conditions (see Table 16).

Based on the modified and augmented calculations of the model, the indicators of the base covenants were recalculated. Significant improvements in DSCR and LTV provide a more robust, financially sustainable lending program. The overall economics of the project (Table 17) shows a good result cumulatively over ten years. Therefore, the company will be able to accumulate EBITDA for 25 billion roubles, to cover interest and the body of the loan during the specified period.

Thus, you can testify financial bonitet and sustainable reputation of the project. The borrower's credit rating was evaluated by evaluating the performance of the baseline credit process and determining the borrower's alternative rating as of the last reporting date.

Let us give the calculation of the alternative calculation of the rating of a medium-sized business client according to the method, which is in the open-access of MSP-Bank.

The result of the calculation using the alternative formula of MSP-Bank with weights of 0.35 for qualitative characteristics and 0.65 for quantitative showed that a potential borrower has 1 credit rating with a total score of 92 out of 100 (Table 18).

The Bank's calculated rating, as well as previous lending experience with absolute coverage of the borrower's previous obligations, do not undermine customer reliability. According to the internal automated system for assessing the borrower's rating, the B++ rating was obtained, which is slightly lower than the alternative indicator. Still, the internal rating is high and good.

The economic security of the client as a potential borrower took place in such areas as litigation and arbitration cases of a group of companies, the presence of lawsuits in the company's top management, the credit history of the company, A-bel history, professionalism of the manager, business reputation, and financial indicators stability and ability to fulfil obligations. Identification of risks to confirm the internal rating of the group and its reasoning required the study of such materials as a constituent and financial documents, documentary evidence of property and rent if such an agreement exists, as well as management reporting and turnover balance sheets.

In addition to the estimated rating, the credit rating is based on the calculation of the present value of the flows to cover debt obligations to the bank, i.e. cash flow CFADS. Two options are being considered: the first is for the base adjusted bank model; the second is the same stress-based model for the main bank scenario. From the table values given below, you can see the adequacy of the reduced flow in terms of LLCR for the period of the project crediting (Table 19).

Similarly, to the base model of the bank, LLCR indicator for this project is kept at a good level. However, it should not be forgotten that this is not covering the term on time, as it is prescribed in the loan agreement. This accumulated and reduced coverage of debt obligations in front of the Bank of the Group, therefore, this indicator can be used as a safety cushion or a guideline on how many CFADS are not on an annualized basis and will be able to cover liabilities on the date of their conclusion. A kind of stress and risk gauge, which, as you can see below, meets the requirements of the bank (Table 20).

The two-factor Altman model, which has a correlation with the credit rating, showed that the bankruptcy of this borrower is no more than 50%. If we correlate the rating of the internal calculation with the calculated one in Table 20, it can be noted that in principle, they are comparable. The risk of bankruptcy should be feared only with a larger increase in borrowed funds, the appearance of losses and a decrease in the value of the Group's assets (Table 21).

Altman's five-factor model in contrast to the two-factor model, it is harder to assess the level of a company's bankruptcy, since highlights its high debt burden with a minimum of its own working capital. Other bankruptcy assessment models were even more irrelevant. Firstly, the company is not listed on the stock exchange — it is a me-

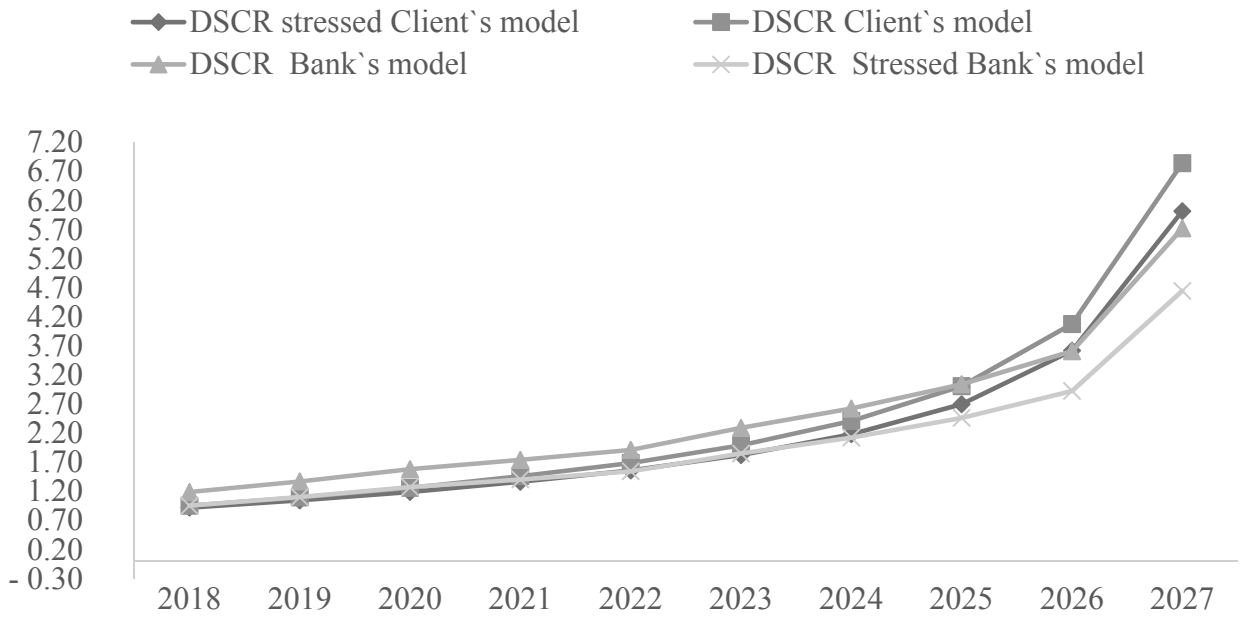

Figure 4. Comparison of the DSCR parameter for the Customer and Bank models with different start-up loans

Source: The author, based on the developed financial model.

dium and regional business focused on a narrow segment; secondly, working capital is given a lot of attention in assessment models, and for credit analysis in the case of this project, this is not a significant factor.

Stress Testing of Key Assumptions and Financial Covenants

The scenario of deviation of some parameters of the financial model, refined and mutually approved with the client, was conducted in two directions:

1. Deviation of three factors (inflation, rental rate, space loading, OPEX, i.e., operating costs) of the financial model by + (plus),— (minus) 5% of current values.

2. The alternate deviation of the same factors, all other things being equal, from 2 to 12% of the effective values in series.

Stress — scenario is an important and necessary stage for drawing up and justifying the stop factors in the process of crediting a client. The alternate deviation of the factors is justified by the methodological practices of the bank, which provides loans to the client. The key rationale for this range of deviations from the current value is the peak and crisis average industry indicators.

Three-factor simultaneous change of drivers and initial prerequisites of the adjusted banking financial model within 5% decrease and increase showed that this is the most aggravating scenario of the development of the client's activities.

The alternate deviation of factors in the range from 2 to 12% and the impact on the total flow CFADS and average DSCR (Tables 22–29).

Conducting an alternate analysis of the key factor deviation for CFADS flow changes and the average DSCR values over the entire project loan period, it can be noted that no single factor, ranging from 2 to 12% of the set value in the model, has a significant effect on the project's feasibility according to the covenant and their changes. The client can cover the body of debt and interest for a fixed period of 10 years. However, this statement without additional control is correct only with the change of only one factor of the model.

The graph comparing the DCSR by EBITDA (Fig. 4) allows you to analyze the viability of the project for one of the financial covenants in comparison with its initial values of the client model and the final value of the bank model. You may notice that the reduction of the loan amount by 300 million rubles allowed providing DSCR under the actual scenario at a level of more than 1.0 and in a state of risk a minimum decrease only in the first year of the start of funding the Lotos Plaza program.

Financial covenants of a basic and obligatory nature, which are beacons of the entire loan pro-

gram, were also calculated for the model with deviations from the fact. One can notice only one significant deviation — this is a decrease in the DCR of the indicator below the established acceptable minimum of 1.0. CFADS — the flow is not enough at the end of 2017 to cover the borrower's company's loan portfolio.

The lack of funds is about 50 million roubles. However, from the second year of crediting of the SEC project, the excess liquidity attributable to the portfolio at the end of the year is 200 million roubles. This gap arises in the conditions of the stress of the client model for all previously selected key parameters. It is important to emphasize that the coverage gap does not detract from the insignificant amount of the LTV indicator, even if there are deviations of the model. LTV (loan amount to the market value of the collateral) is 67%.

Investment Project Attractiveness and Ways to Improve the Company's Financing Structure

High debt load, an acute shortage of funds and, as a result, no chance to pay off loans and credits on time. This situation is familiar to many Russian companies, and it is by no means hopeless. Convince lenders to wait for money and not lose the company can if you plan the upcoming negotiations and work on debt restructuring in advance.

Therefore, it is worth starting with determining the real state of affairs of a company, namely, with an honest answer to the question of whether a company can, in current conditions, be a timely or minimum delay to service loans. If this is not possible, it will be more than justifiable to hold a meeting of all creditors. During such a meeting, it is important to describe the current situation, to inform them about plans for its improvement and to agree on further. Steps. Do this before the company is unable to pay its obligations. At such a meeting, it is important to smooth the effect of unpleasant news, to demonstrate openness and readiness for dialogue.

It should not make a typical mistake at the very first stage and try to negotiate separately with each lender. Reaching agreement on anything in this mode is extremely difficult because each of them will have its point of view and often distrust of all other interested parties. At the first meeting, the lenders are likely to ask for information about the total amount of debts, available cash, forecasts for future cash flows, and a vision for the business. Of course, ideally, it would not be superfluous to at least outline an anti-crisis action plan. Nevertheless, even if some data is not yet available, the cash flow projection is yet to be developed, and some of the expected questions from lenders it is not clear what to answer, you still should not delay the beginning of the dialogue. In such cases, it is permissible, if during the meeting specific issues of creditors are recorded, which did not find an instant answer, as well as the dates, in which the company will provide all the missing information.

Restructuring is always associated with substantial expenditures not only of money but also of time, as well as managerial resources. As a rule, this aspect of management is greatly underestimated, which sometimes leads to the breakdown of all work.

According to experience, negotiations on debt restructuring for a large company can last about a year or more and take place under tight time pressure, so the whole process should be streamlined and planned from the very beginning. Namely to appoint the employee (and in especially difficult cases several) responsible for debt restructuring. In a medium-sized business, a financial director usually becomes such a specialist. In a large company, one of his deputies responsible for raising funds, for example, the head of the treasury department. It should be the first working contact for all creditors, coordinate the activities of various services and consultants of the company, have sufficient authority to make operational decisions and regularly inform management about the progress of negotiations, agreements reached and problems encountered. Besides, you need to realistically evaluate and reflect in financial forecasts how much a company will be saved from debts. In the case of a large business, the upcoming costs can be in the hundreds of thousands of dollars. This money will be spent on remuneration to the coordinating committee of creditors, payment of services of attracted consultants, external lawyers, etc.

Once a long-term financial model has been created, it is necessary to proceed to agree on the final terms of debt restructuring. For example, if a company is not able to repay loans during the year, according to forecasts, it would be wise to try to

negotiate annual deferred payments in exchange for additional collateral and (or) higher interest payments paid after the restoration of solvency.

The borrowing company will have to take a number of painful, but necessary measures, such as the rejection of dividends, a sharp reduction in capital investments, the provision of additional guarantees and collateral, forced sale of individual assets to make payments to creditors. Of course, all the agreements reached will be completed with a set of documents, namely: agreement on long-term debt restructuring (there may be several for different groups of creditors); agreement on the nature and methods of monitoring the company's activities on the part of creditors; agreement on additional guarantees and collateral provided by the company; agreement on further cooperation of creditors. After debt restructuring, the coordinating committee usually loses its powers; various documents confirming that the company has met the agreed pre-conditions for restructuring, and much more.

When the papers are signed, the matter is small — to strictly execute the agreed payment schedules and implement the measures for increasing cash flows foreseen in the forecasts, for example, to increase business efficiency, improve liquidity management, reduce costs, increase sales, etc. In short, it remains to do all that was promised. By the way, lenders will be very careful to observe how successful the company moves in this direction and implements the announced plans. Agreements with creditors usually provide that until the full repayment of all restructured debts, the company undertakes to regularly provide them with detailed information on the state of affairs. Moreover, creditors will carefully check the accuracy of the data. The standard reporting package for lenders includes information about cash in accounts, short-term cash flow projections, updates to the financial model, etc.

To retain market position and minimize losses, many companies have to go through significant changes. Some markets are opening up; others are shrinking. The staffing of enterprises is becoming more mobile — both quantitatively and qualitatively: yesterday's leading specialist may take the position of financial director, and the new accountant will replace the experienced accountant. Instead of a clear development plan, enterprises are working on several alternative strategies, which can often directly contradict each other.

Banks simply do not have time to track all changes in the corporate market and are not always ready to offer customers the products and services that match their real needs. The needs of each particular company, in turn, will be easy to predict if the bank will know which way the company intends to continue its development soon. Typically, a company will implement several of the strategies listed below, one or two of which will be key.

Improving and increasing the investment attractiveness of a client from the segment as a current borrower is a rather difficult process. Firstly, a real hunt in large banks follows the clients of this order with good financial stability, experience and a strong modern development strategy. Secondly, of course, bank managers can advise how to increase the attractiveness of the company, but most likely, it will take a lot of time, and the client will refuse the bank services. Indeed, improvement can be from two sides, finance — changing the perimeter of the Group, which means transferring activities or other costs of opening a new legal entity, qualitative — changing and revising the company's strategy and vision in the industry. Both ways, in a global sense, unsuitable for the Group, but local changes are possible if they are mutual. First, we consider possible options for a local strategy change, the importance of which is described in the theoretical chapter. They are presented below:

- Import Substitution — Production of Goods and Services for B 2B or B 2C, allowing to replace substantially expensive import.
- Export for hard currency — strengthening positions due to exports of goods and services that will ensure the best conditions for staff and invest in production.
- Revolutionary cost reduction through automation, process reengineering, outsourcing, appeals to the Russian counterparts of imported components.
- Entering the mass market — focus on the mass customer and offer him products/services that meet his needs and financial capabilities. This strategy allows you to save brand investments and use scale effect on production.
- Technological breakthrough — bringing the unique to the market product or use of unique

technology (for example, a significant reduction in the cost of and production time due to full or partial automation).

• Support instead of production — reorientation production with a t in a company for accompanying, maintenance, repair and minor improvements. With this, as a rule, the company retains its previous customers and can also lure customers from its competitors.

• Blue Ocean — with a fundamentally new product, actually forming a new segment and essentially different from the offers of competitors. It allows creating an advantage and eliminates competition even in the medium term.

• Strategic customer — key position a small number of contractors (maybe one) sustainable strategic customers.

• Strategic investor — the development of the company through funds oriented strategic investor in the medium or long term.

The following two strategies cannot be attributed to the winning strategies. However, they allow you to save the organization or protect the interests of its owners that for Bank means saving the client and the possible continuation of the relationship in perspective.

• Compression of business is a significant reduction in the volume. Maintaining core business and key competence.

• Freezing of business — termination of the main type activities or significant change in business processes (for example, the transition from the pipeline to the project organization work) while maintaining legal status and some assets.

Having a full client profile, the bank will be able to conduct a clear base segmentation and offer companies those products, which they need now. Usually, businesses are reluctant to share information. Therefore, to get as much data about the corporate client, you need to provide him with useful data, which will help to win loyalty to your bank. For this:

• Offer your customers information about the state of the bank, the current grocery offer and plans for the development of new products and services. It will allow you to count on customer interest. and getting the necessary information from him for further interaction.

• Create a bank profile in an accessible language for the client with a demonstration of the dynamics and position regarding competitors. Becoming a source of state information your bank (balance analysis, basic standards, etc.) you can save potential time customers and keep them from getting poor quality data from competitors and non-specialists.

• Regularly inform the client about changes in the product portfolio of the bank. Therefore, you will demonstrate the ability to fulfil obligations to schedule a new contact and expect that the client will contact you in case of receiving an offer from another bank. At the same time, it is important to bear in mind that when long sales cycle conditions for a standard product or individual offers are subject to change strikingly and not in favour of the client.

Since it is impossible and irrational to provide complete and up-to-date information for all customers, it is advisable to establish a direct relationship: the more important the customer, the complete information about it you should have. To understand which client is of higher priority, and which less so, segmentation by the following parameters will help.

Client's business dependence on the Bank:

• Assessment of client company dependency from operational services, lending and other banking services. In some cases, valid loan agreements or technological services of the bank can make the client so dependent that he cannot in the medium prospect of abandoning bank services.

• Number and variety of financial products used by organisation (including services competitors): only RKO and RBS; RCU and loan products; RCU and various payment products and services; RKO, loan products and payment products and services.

Dependence of the Bank on the client:

• Client grouping by customer shares in assets/liabilities bank.

• Client grouping by the share in the bank and specific income branch/division.

• Client grouping by Non-financial importance of the client (political considerations reference client for a specific segment pilot client for a particular segment/product).

Customer business dynamics:

• Evaluation of business dynamics by customer turnover or reporting. It is advisable to divide customers into groups and compare with

the average indicator for the corresponding industry segment: dynamic developing, stagnating or in crisis.

• Defining the main strategy, which the organization follows.

To reduce labour costs and avoid ineffective negotiations with the client, save the parameters in your CRM system client request and bank offers. In this case, be sure to indicate at what current rates and rates and at what point they were identified. For planning follow-up communication with clients, an auxiliary report can be useful showing all current sales processes for which key conditions were defined quite a long time ago and have changed a lot.

Please note that not only the fact of changing conditions (which is sometimes unavoidable) is important, but timely and honest communication with the client. To work more effectively with a corporate client, the bank needs to build a new product-segment matrix. At the same time, managers should group existing and prospective banking products according to alternative customer strategies described at the beginning of the article.

Corporate products are not sold to corporations, but to specific individuals who represent them. The sales cycle for an enterprise can be accurately achieved, up to several months; the sales cycle for an individual is usually shorter.

Establish interaction between corporate and retail divisions of the bank to offer and sell banking products natural individuals promptly — employees of the client company (not only at the level of Private Banking and Affluent, but also in retail). The main goal, in this case, is not to sell to a retail customer, but to keep.

The traditional approach to planning concerning last year's indicators may not work in current conditions due to uneven development (and often fall) in various sectors of the economy and significant devaluation. The effective transformation of this approach directly depends on how clients are distributed among managers: if there is a strict sectoral division, each branch uses its own coefficient relative to the previous period; if there is no strict sectoral division, uniform indicators are used for all client managers, determined on the basis of the sectoral structure of the client base of the bank itself. The forecast and plan for large clients should be made separately for each client, not based on industry trends. The reason for this is that the client base with which it works a specific manager may differ in its sectoral composition and importance customers.

Conclusion

Corporate banking is a core activity for banks and plays a pivotal role in the economies they serve. Roughly, one-third of the total bank lending and 20% of the total asset base are dedicated to corporate banking activities. Similarly, the activities of corporate banks are a cornerstone of the economies in which they operate. Lending from banks still represents the largest source of debt funding in Europe and Asia; and even in the predominantly market-oriented US, bank lending still accounts for a significant 31% of all debt funding.

Debt financing of investment projects is a common tool for raising funds, the arsenal of which includes more than ten general financing schemes for various types of investment programs of companies. The use of debt financing provides the company with many useful and effective measures, namely: taking advantage of financial leverage, risk sharing, auditing and conducting multidimensional business audits, reducing the debt burden, covering the lack of own funds in the investment process and some other benefits.

Recently, one can observe how the business community is growing and is seeking to implement new initiatives of various projects. However, it is clear that investment funds are no longer becoming, competition is growing, the pursuit of superreturns is underway, and the funds themselves are not getting cheaper. Consequently, for a project that "costs" attention, it is necessary to work out in detail the scheme for financing investment resources, as well as carefully select arguments from both the financial and non-financial sides. Similarly, an analysis was made of the presented project in the final qualifying work. The aim of the project was to expand the shopping and entertainment center and cover its previous debt to another bank. The complexity of the implementation of this project by the method of debt financing through a corporate lending scheme, namely project financing, was of an average complexity because simultaneously treated both a structured and unstructured transaction.

Thus, after a comprehensive analysis, the project of the A'bel group of companies showed its

viability, high probability of implementation and economic efficiency for both sides of the credit transaction. Initial potential conditions were in doubt because of the substantial break in the key resultant DSCR. The adjustment made it possible to reduce the risk, improve the DSCR and develop an adequate, fairly voluminous, but effective system for managing cash flows and important aspects of the Group's activities to cover loan commitments.

The project's economy is well represented through the key DCR coverage indicator (Table 30).

Summing up the project and assessing the attractiveness of corporate lending for the current client will be helped by the widely used Rule Six C methodology (Table 31).

Prospects for the development of debt financing is an evolutionary path. Individual approach to the project and its stakeholders, as well as to the toolkit for attracting investment funds. Undergo significant changes will also be industries considered by investors, and in the banking sector is a customer rating system. However, one thing is obvious, the indicator of stability and civilization of the debt capital market is an increase in the term of "work" of borrowed funds (duration) available for the corporate sector and the quality of sources of covering obligations to the investor/lender. It is also undoubtedly an increase in activity on the debt capital market itself and its constant transformation in response to the demands of the times and the requests of companies.

With corporate lending as a method of an unstructured and non-securitized product, changes are expected for the better with respect to the improvement of methods and methodologies for the assessment and analysis of legal activity, as well as a rating system. The score will be complicated and seriously inclined to the reputational component with a share of more than 20–25% in the overall rating.

Summing up, it is possible to note the prospects of the debt borrowing market for both companies and specialists in this field.

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Корпоративный банкинг: анализ, оценка и структура финансирования компании

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Аннотация. Сегодня, в период продолжающихся изменений на финансовом рынке, банки сталкиваются с проблемами снижения издержек, пересмотра продуктовой линейки и более четкой сегментации клиентов. В среде корпоративных клиентов также наблюдаются существенные изменения: происходит ротация кадров, меняются стратегии развития компаний, что влечет за собой новые требования к банковским продуктам. Могут ли банки быстро адаптироваться к новым рыночным условиям и оптимизировать работу с корпоративными клиентами, используя существующие технологии и информационные системы? Как организовать корпоративные продажи банковских продуктов в текущих условиях? На эти вопросы автор пытается ответить в своей статье. Статистический материал собран автором в ходе собственных исследований.

Ключевые слова: корпоративный банкинг; банковские продукты; стратегические цели банка; корпоративные клиенты банковских услуг

Appendix

Table 1

The average price for March-April in Nizhny Novgorod in the rental market of commercial premises in the district division, (RUB/m²)

Area	Average demand price	Average demand price	Change + in natural terms,	Change in %
	March	April	RUB/sq.м	
	RUB./sq.м	RUB./sq.м		
Autozavodsky	725	715.5	-9.5	-1.3
Kanavinsky	655.5	641.8	-13.7	-2.1
Leninsky	687.9	709.2	21.3	3.1
Moskovsky	550.5	566.3	15.8	2.9
Nizhegorodsky	781.5	799.4	17.9	2.3
Prioksky	689.9	708.7	18.8	2.7
Sovetsky	700	710.6	10.6	1.5
Sormovsky	724.2	748	23.8	3.3

Source: The author.

Table 2

Competitive environment of the Lotus Plaza project

Name	GBA, sq. m.	GLA, sq. m.	Project status	Start date
Sky	131,000	68,000	Exist/work	2015
Olimp	19,800	16,700	Exist/work	2015
Fire-Bird	84,000	59,000	Exist/work	2015
Cremea	42,000	22,000	Exist/work	2015

Source: The author.

Table 3

Brief description of the client's application for investment project financing

Criteria	Description
Aim	Refinancing of debt to another Bank for the construction of an additional building of the Mall Financing of current activities Financing of the investment program (additional 10,000 sq.м.)
Summ	RUB 1,500,000,000
Time-line	10 years
Loan an interest payments	Quarterly accrual
Regress	Mall

Source: The author based on the data received from the client.

Table 4
Express assessment of the balance sheet of the group of companies based on good balance

	Conditions	01.01.2018	01.10.2018
Good balance signs	Growth of balance sheet	v	v
	Growth current assets > Growth non -current assets	v	x
	Equity > Loans; Growth Equity> Growth Loans	v	x
	Growth receivables = Growth payables	v	x
	Share of working capital >10%	x	x
	No item uncovered loss	v	v
	v -condition is met; x -condition is not met		

Source: The author based on the financial analysis of the financial statements of the client.

Table 5
The ratio of net assets

Condition	01.10.2017	01.01.2018	01.10.2018
Comparison of Net assets and company's authorized capital	Net assets > Capital	Net assets > Capital	Net assets > Capital

Source: The author based on the financial analysis of the financial statements of the client.

Table 6
Correlation of groups of assets and liabilities to the solvency of the Group of companies

Criteria	01.10.2017	01.01.2018	01.10.2018
$A_1>П_1$	done	done	done
$A_2>П_2$	done	done	done
$A_3>П_3$	none	none	none
$A_4<П_4$	none	none	none

Source: The author based on the financial analysis of the financial statements of the client.

Table 7
Compliance with current liquidity ratios

Criteria	01.10.2017	01.01.2018	01.10.2018
(A1+A2)	1,547,736	1,627,106	1,624,821
(П1+П2)	113,567	126,147	378,240
А>П	done	done	done

Source: The author, on the basis of the financial analysis of the financial statements of the client.

Table 8
The functional approach to the analysis of balance sheet liquidity

Criteria	01.10.2017	Surplus/ Deficit	01.01.2018	Surplus/ Deficit	01.10.2017	Surplus/ Deficit
А4<П3+П4	done	1,437,556	done	1,506,468	done	1,251,902
А3>П1	none	–110,180	none	–120,638	none	–195,439
А2+А1>П1	done	1,547,736	done	1,627,106	done	1,447,341

Source: The author, based on the financial analysis of the financial statements of the client.

Table 9
Seven main liquidity ratios of the balance sheet

Coefficient	01.10.2017	01.01.2018	01.10.2018	Normative
Total solvency	0.64	0.71	0.68	>1
Absolute liquidity	9.82	8.82	2.939	0.2–0.7
Critical evaluation	13.63	12.90	4.30	0.7–0.8
Current liquidity	13.66	12.94	4.31	1.5. but better 2.0–3.5
Maneuverability of operating capital	0.00	0.00	0.00	Must decrease
Share of working capital in assets	0.18	0.19	0.16	>0.5
Current assets security in working capital	–3.33	–2.76	–2.77	>0.1

Source: The author, based on the financial analysis of the financial statements of the client.

Table 10
Five key financial stability ratios on the balance sheet

Coefficient	01.10.2017	01.01.2018	01.10.2018	Base
Capitalization	3.86	2.36	1.57	Not higher 1.5
Security of current assets with own funds	–3.33	–2.76	–2.77	limit 0.1
Financial independence	0.21	0.30	0.39	0.4–0.6
Financing ratio	0.26	0.42	0.64	>0.7
Financial stability	0.99	0.99	0.96	>0.6

Source: The author, based on the financial analysis of the financial statements of the client.

Table 11
Analysis of the adequacy of sources of funding for the formation of stocks

Coefficient	01.10.2017	01.01.2018	01.10.2018
Inventory	3387	5509	5321
Working capital	–5,167,933	–4,499,021	–4,516,587
Functional capital	1,437,556	1,506,468	1,251,902
Total major sources of funding	1,551,123	1,632,615	1,630,142
Financial stability (own)	–5,164,546	–4,493,512	–4,511,266
Financial stability (current)	1,434,169	1,500,959	1,246,581
Financial stability (total)	1,547,736	1,627,106	1,624,821
Overall assessment of the adequacy	0;1;1	0;1;1	0;1;1

Source: The author, based on the financial analysis of the financial statements of the client.

Table 12
Score assessment of financial stability based on the boundary classes of the balance sheet

Criteria	01.10.2017	01.01.2018	01.10.2018
Absolute liquidity	14	14	14
Critical assessment	11	11	11
Current liquidity	20	20	20
The share of working capital in assets	0	0	0
Current assets security	0	0	0
Capitalization	0	0	0
Financial independence / autonomy	1	1	1
Financial stability	5	5	5
Final grade	51	51	51

Source: The author, on the basis of the financial analysis of the financial statements of the client.

Table 13
Calculation of profitability indicators of the Group

Indicator	01.10.2017	01.01.2018	01.10.2018
Return on sales	0.72	0.98	0.97
Accounting profitability by ordinary activity	0.55	0.49	0.40
Net profitability	0.35	0.35	0.25
Return on assets	0.09	0.10	0.10
Equity profitability	0.34	0.30	0.27
Gross margin	0.97	0.98	0.97
Cost performance	26.10	35.82	21.38
Return on permanent capital	0.09	0.11	0.11
Economic growth stability ratio	0.34	0.30	0.27
Modeling ROA, where	0.09	0.10	0.10
d1	0.24	0.29	0.42
R3	0.35	0.35	0.25

Source: The author, based on the financial analysis of the financial statements of the client.

Table 14
General Group Turnover Indicators

Indicator	01.10.2017	01.01.2018	01.10.2018
Resource performance	0.24	0.29	0.42
Mobile asset turnover	1.31	1.69	2.62
Capital productivity	0.30	0.36	0.51
Return on equity	0.96	0.84	1.09

Source: The author, based on the financial analysis of the financial statements of the client.

Table 15
Baseline and Stressed DSCR Indicator by Customer Model

DSCR base	0.96	1.10	1.26	1.46	1.69	1.99	2.41	3.01	4.08	6.85
DSCR stressed	0.92	1.05	1.19	1.37	1.56	1.83	2.18	2.70	3.62	6.02

Source: The author, based on the financial analysis of the financial statements of the client.

Table 16
New and final terms of project financing

Aim	Refinancing of debt to another Bank for the construction of an additional shopping center mall Financing of current activities Financing of the investment program: construction of 10 000 sq.m
Amount	RUB 1,200,000,000
Term	10 yaers
Credit rate with	11.8%
Interest and loan payments	Quarterly accrual
Possibility of recourse	Mall

Source: The author, based on the developed financial model.

Table 17
Cumulative Cash Flow for Credit Analysis

Indicator	Amount (RUB)
EBITDA 12M.	25,365,376
DEBT	8,877,000
DEBT/EBITDA	3.60
INTEREST 12M.	1,046,160
CFADS based EBITDA	20,852,301
DEBT+INTEREST (LOAN PORTFOLIO)	9,923,160

Source: The author, based on the developed financial model.

Table 18
Calculation of the score of a borrower according to the method of MSP-Bank for the Group

Quantitative characteristics		
Factor	**Indicator**	**Mark/Point**
Capital adequacy ratio (autonomy ratio)	0.39	10
Total liquidity ratio	2.94	10
Net profit margin	0.25	5
Final calculation	8,75	
Qualitative characteristics		
Factor		Mark/Point
The period of the company		10
Experience and qualifications		10
Final calculation		10

Source: The author, based on the PJSC MSP-Bank credit rating methodology.

Table 19
Calculation of additional financial covenants by bank model

Time-Line	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
The present value of CFADS for EBITDA, (RUB)	1,777,535	1,701,286	1,621,210	1,456,802	1,308,450	1,255,050	1,127,649	1,012,954	909,909	820,791	12,991,636
Present Value CFADS CF, (RUB)	809,489	1,894,080	1,780,648	1,592,708	1,424,605	1,348,507	1,206,178	1,078,871	965,001	863,149	12,963,236
LLCR (by EBITDA), (RUB)	10.48	9.79	9.10	8.26	7.53	6.84	5.96	4.99	4.94	–	4.94
LLCR (CF) (RUB)	10.45	10.61	9.82	8.88	8.05	7.28	6.33	5.29	5.22	–	5.22

Source: The author, based on the developed financial model.

Table 20
Calculation of additional financial covenants for the bank stress model

Time-Line	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
The present value of CFADS for EBITDA (RUB)	1,427,304	1,368,440	1,305,982	1,174,845	1,056,253	1,014,433	912,427	820,448	737,721	666,777	10,484,631
Present Value CFADS CF(RUB)	470,195	1,571,630	1,475,265	1,319,557	1,180,284	1,115,404	997,678	892,377	798,191	713,945	10,534,524
LLCR (by EBITDA) (RUB)	8.46	7.91	7.36	6.68	6.09	5.54	4.83	4.05	4.01	–	4.01
LLCR (CF) (RUB)	8.50	8.79	8.13	7.35	6.66	6.02	5.23	4.37	4.32	–	4.32

Source: The author, based on the developed financial model.

Table 21
Group bankruptcy analysis by Altman two-factor model.

Indicator	Name	01.10.2017	01.01.2018	01.10.2018
1. Altman two-factor model				
Current liquidity ratio	CR	13.66	12.94	4.31
Borrowed capital	BC	6,719,056	6,131,636	6,146,729
Liabilities	L	8,457,565	8,734,339	10,072,121
Z-score	–	–15.00516606	-14.24175923	–4.979375776
The probability of bankruptcy of the enterprise – if Z = 0 — approximately equal to 50% – if Z < 0 — less than 50%, and decreases with decreasing Z – if Z > 0 — more than 50%, and increases with increasing Often contradicts the 5-factor method				
The probability of bankruptcy	–	less than 50%	less than 50%	less than 50%

Source: The author, based on a model for assessing bankruptcy by Altman.

Table 22
Calculation of the change in the CFADS Group in the event of a change in the inflation rate

		Inflation					
Indicator	Amount	0,02	0,04	0,06	0,08	0,1	0,12
CFADS	20,852,301	20,868,554	20,884,808	20,901,061	20,917,314	20,933,567	20,949,821

Source: The author, based on the developed financial model.

Table 23
Averaged calculation of the change in the Group's DSCR in the event of a change in CFADS

Loan portfolio	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**
DSCR	2.103	2.105	2.106	2.108	2.110	2.111

Source: The author, based on the developed financial model.

Table 24
Calculation of the change in CFADS of the Group in case of a change in the rental rate indicator

		Rental rate					
Indicator	Amount	–0.02	–0.04	–0.06	–0.08	–0.1	–0.12
CFADS	20,852,301	20,839,993	20,827,684	20,815,376	20,803,068	20,790,760	20,778,451

Source: The author, based on the developed financial model.

Table 25
Averaged calculation of the change in the Group's DSCR in the event of a change in the CFADS indicator

Loan portfolio	9,923,160	9,923,160	9,923,160	9,923,160	9,923,160	9,923,160
DSCR	2.10	2.10	2.10	2.10	2.10	2.09

Source: The author, based on the developed financial model.

Table 26
Calculation of the change in CFADS of the Group in case of a change in the indicator of operating costs

				OPEX			
Indicator	Amount	2%	4%	6%	8%	10%	12%
CFADS	20,852,301	20,685,507	20,518,713	20,351,918	20,185,124	20,018,330	19,851,536

Source: The author, based on the developed financial model.

Table 27
Averaged calculation of the change in the Group's DSCR in the event of a change in CFADS

Loan portfolio	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**
DSCR	2,085	2,068	2,051	2,034	2,017	2,001

Source: The author, based on the developed financial model.

Table 28
Calculation of the change in the CFADS Group in the event of a change in the load factor of the rentable area

				% Space occupancy			
Indicator	Amount	–2%	–4%	–6%	–8%	–10%	–12%
CFADS	20,852,301	20,429,716	20,007,132	19,584,547	19,161,963	18,739,378	18,316,794

Source: The author, based on the developed financial model.

Table 29
Averaged calculation of the change in the Group's DSCR in the event of a change in the CFADS indicator

Loan portfolio	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**	**9,923,160**
DSCR	2.06	2.02	1.97	1.93	1.89	1.85

Source: The author, based on the developed financial model.

Table 30
Estimated indicator of debt coverage ratio to the bank

	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
DSCR Bank's Model	1.19	1.37	1.58	1.74	1.91	2.29	2.63	3.04	3.61	5.72

Source: The author, based on the developed financial model.

Table 31
The final description of the client by the method 6 C

Criteria	Description
Character	Reliable borrower, bank customer for over 5 years Works on the real estate market in Nizhny Novgorod for over 10 years Market share is estimated at 20-23%
Capacity	B++ The client is solvent, but abrupt changes in economic indicators can significantly worsen the payments on the debt; a special control is applied, which allowed to increase the rating from B to B++ (see Control)
Capital/currency	Cash flows are stable in the absence of abrupt economic changes in the country. Balance currency on the last reporting date 10 billion roubles Cash flows in the GC do not have a complex structure of redistribution
Collateral	The building of a shopping and entertainment center with a total cost for the appraisal of an appraiser from a report provided by a client of 2,000,000 thousand rubles
Conditions	1,200,000 thousand roubles. 10 years 11.8% Quarterly accrual Lack of Balloon-payment
Control	A number of covenants of a security, general and financial nature have been established after analyzing the initial and stressed model

Source: The author, based on a final analysis of the feasibility of a credit transaction according to Method 6 C.