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## INCOMPETENT MANAGERS, BACHELORS AND THE CONSEQUENCES OF “CASUAL RELATIONSHIPS” IN ECONOMY

**Abstract.** Objective probabilities of failures (risks) for some of the economic and other social types of people’s relationships are calculated, such as: appointment of an incompetent manager, unsuccessful attempt to marry, failures to find counterparties for random economic transactions, failures in the “formation of a labor collective”, etc.

**Keywords:** Incompetence, risk, bad outcome.

**Problem statement.** Everyone is familiar with such a concept as failure, but how much failures are objective in a statistical sense and what part of them is determined by subjective factors has not really been investigated. The problem is to calculate the value of the objective (unavoidable) failure factor for the subsequent assessment of competence in the activities of performers. As the laureate Richard Thaler correctly noted, people: “can reduce the risk of mistakes and all kinds of difficulties, but these risks will never disappear” [2, 347].

**Analysis of publications.** We often meet with people who are incompetent in their field of activity. It is possible to explain each specific case quite simply, but the question arises what will happen if we try to somehow “eliminate” this phenomenon; is it possible in principle; and if not, what will be the largest remaining percentage of “incompetent”? Laureate Richard Thaler [2] noted the famous: “Peter’s principle: promotion ends when a person reaches the level of his incompetence”, which indicates the objectivity of this phenomenon. He explained it from the standpoint of psychology that: “People are overconfident. They think they are competent enough... but in fact their competence... is much lower”. The phrase is logically contradictory, because if *all people* overestimate their competence, then who (if not the Lord God) can really assess their competence? There is no question of a method of assessing competence,

because there is no single numerical scale for measuring it. Especially when, in his opinion, is often: “It is useful to hear the opinion of a layman about... the problem. There is always a chance for a fresh look”, but the “competence” of a layman is zero (on any scale). A strange phrase: “A person will strive to avoid risk for the sake of profit, but strive for risk for the sake of loss”. A person striving for a loss, and even risking something, is no other than an economist. Richard: “the dream of an updated economic theory has come true thanks to the emergence of a large number of young creative economists who are ready to take risks and break with traditional approaches in economics”. If a certain theory is correct, then updating it means replacing it with a false theory. And why is that? But if it is false, then the maximum that an economist “risks” is to break off relations with Orthodox colleagues and... will get a Nobel Prize.

An example of the experience of the Modigliani laureate [1]: “The Rector of the university invited a wonderful new dean Howard Bowen. But the old and incompetent teachers (!! – V. Sh.) could not accept the fact that Bowen brought talented people with him. They managed to survive Bowen”. Incompetence, as we can see, is very tenacious not only in everyday life, but even in the “scientific” environment. However, there is an opposite opinion. Blanchard’s question: “Many of these people occupying new posts seem to be very competent...”, where there is

clearly a hint of incompetence and "high-ranking" individuals. And here is the "answer" from the Kornai laureate: "There is natural selection – if you are incompetent, having only the right friends is not enough" [1], which is refuted by the centuries-old practice of public administration. Even laureate Volker argued that: "The functioning of... institutions should be carried out with the proper degree of competence, professionalism" [1], but not everything that should be carried out is feasible in reality. Marx believed that communism should be realized in the future, but it did not work out.

Jean Tirol also considers the problem of incompetence of company managers from the standpoint of psychology [3]. Here is his lengthy phrase that the science of economics there are: "models in which ... the costs of regulation are associated with the study of the characteristics of employees. The firm ... is gradually finding out which tasks are solved best by everyone. The choice is between rapid growth and errors in the distribution of work and ... slow growth and achievement of goals ... the theory reflects the sound understanding of officials that human capital is a serious limitation during periods of expansion ... of an economy with insufficient managerial talents". Here are the *characteristics* of employees, their insufficient *talents*, some *common sense* and inevitable *mistakes* ... Everything is characterized by one term – incompetence. By the way, he also notes that: "there are rare factors, such as managerial talent". And if this is the case, then most managers are untalented or incompetent. Jean even has: "... an arbitrator may be incompetent in making an accurate decision, but may have enough information to outline a set of acceptable decisions". No one will guarantee that this arbitrator will outline the entire set of acceptable solutions. A phrase that raises doubts about the scientific competence of the laureate-Jean: "We can distinguish two... cases of decision-making processes that ... manage unforeseen accidents". If Jean can control randomness, then why doesn't he play on the stock exchange? And if these accidents are also

unforeseen, then who reports them to Jean, because for everyone the unforeseen means the unknown. Or a strange phrase: "this \$1 increase in profit leads to an increase in the manager's salary in the range from \$0 (full insurance) to \$1 (residual claims). However, this does not necessarily have to be fulfilled", because the question arises: how much will the manager's salary increase if the specified condition is still not met, i.e. the profit increased by \$1, and the manager's salary also increased, but not in the range (0... 1)? But how? And it's strange how someone: "can damage the future career of a manager by reporting "bad news" about his abilities. Then the market imposes sanctions on the talent of the manager and restrains him ...". Sanctions can be imposed on you by a legal entity or an individual, but not by a "faceless" market. And how can sanctions be imposed on... talent? And what does it mean to restrain talent? How that? And this is not clear in terms of causality: "the manager automatically discovers that he did not work because he received a low profit", and logically the phrase should sound like this: "the manager automatically discovers that he received a low profit because he did not work".

It is strange that: "... the passivity of managers invalidates the profit maximization hypothesis". But I believe that their excessive activity in the field of profit-stealing also invalidates this hypothesis. And who is right? But activity-passivity are ways of moving towards a certain goal. But for Jean: "It doesn't matter how much managers prefer achieving other goals, and it doesn't matter how hard it is to find a profit-maximizing strategy". And if this is the case, then the "hypothesis" *does not matter*.

By the way, logically competence and risk exclude each other. Those who are competent do not take risks, because they calculate everything, and the ignorant take risks and act "at random". Competence and risk are in a sense antonyms. In this regard, some of Jean's thoughts are not entirely clear. We read: "The manager is somewhat not risk averse" [66]. In the economic literature, the phrase "degree of risk"

is found at every step. And here it is not clear how the “some degree” of the manager himself is also superimposed on it. And how will the meaning of the phrase change if it is read like this: “The manager is somewhat risk-averse”? Since the degree of risk itself is unknown, both phrases sound identical. Along the way, I will completely incomprehensible provisions. Jean has: “high-risk consumers” and: “low-risk consumers”. How to distinguish them is not said. But Jean insists that his: “consumers differ in the degree of risk”. I am a fruit consumer, but I have no idea how to classify myself. Nevertheless, Jean puts forward the position: “let’s assume that the consumer knows his parameter of the degree of risk ... but the firm does not know”. Without an unambiguous description of the method of determining the “degree of risk”, this assumption is on the verge of stupidity. Especially when Jean happens that: “the degree of risk is not monotonous”, without deciphering the concept of monotony in this case ... How to understand these two phrases: “The manager is somewhat not risk averse” and: “the manager becomes infinitely not risk averse”? The first of them can be written like this: “The manager is somewhat prone to risk”, and the second one can be painlessly removed from the word “infinitely”. And how to understand that: “the manager is risk-neutral”? After all, if risk is an “objective” reality (failure or loss) accompanying any activity, then you can only be risk-neutral by doing nothing (but there is also a “risk” of dying of hunger). But with Jean: “the manager can always refuse to work”. Still unclear: “the agent assumes all the risk, which does not matter, since he is risk-neutral”. How is it possible, having taken on the load, to be neutral in relation to it? How, then, does “neutrality” differ from “infinite non-inclination”? By the way, how are “all risk” and “degree of risk” related? Which of them is bigger and how much? In what units should risks be measured, with what device? If the risk is identical to the probability of failure, then why do they buy lotteries, where the probability of losing is 95% and they will never jump with a parachute with

a probability of not revealing it of only 5%? Or this: “Managers, however, may have different attitudes to risk ... it often turns out that managers are too careful when choosing ... decisions”. If the solution is chosen, it does not matter how: carefully, too carefully or recklessly. It is possible to talk about caution only if it is possible to refuse all options at all. And if the risk in its quantitative sense is understood as the probability of a generally “unexpected” outcome (such as a meteorite falling into soup), then here is Jean’s opinion: “Unfortunately, the degree of “unpredictability” and complexity is difficult to determine empirically”. Nobody knows anything about the width of the numerical scale of this degree. And since Jean has it: “managers are infinitely not inclined to receive risk-related income”, they do not have failures, and, if you look from the outside, they are all “infinitely” competent, which I very much doubt.

**The purpose of the article.** Putting aside all the “individual” characteristics of managers, while trying to simulate the situation on the PC and find out the probability of the manager being “on the wrong place” (to be infinitely incompetent) and what exogenous parameters determine this probability.

**Presentation of the main material.** Let’s first consider the simplest task at first glance: how to optimally distribute  $N$  “portfolios” between  $N$  deputies’s. Here, a “portfolio” is any managerial position for which  $N$  candidates are applying, and *optimally* means that each of the candidates will be competent “in his place”. There are two extreme options. When each candidate is “competent” in only one field (in this case, the place of each is uniquely determined); and when everyone is “competent” in all areas of management (when the most competent holds the most “bread” position, and for the remaining  $N - 1$  candidates, the process is repeated). This option is the most optimal, but in both cases there will be no “incompetent” bureaucrats in the management ... The situation is different when (on average) each of the  $N$  candidates is competent in managing  $L$  ( $L \ll N$ ) areas. In this case (when allocating seats

according to the second option), it may turn out that the places in which the next candidate is competent are already occupied by more competent "comrades" and he will have to choose a place where he is generally incompetent.

A similar situation occurs in the "marriage market" [4], when there are  $N$  pairs of grooms and brides and everyone has  $L$  ( $L \ll N$ ) options for choosing a partner. In this case, for example, the richest groom takes the most beautiful bride. For the remaining  $(N - 1)$  pairs, the process is repeated. As a result, it may well turn out that all the familiar girls of the next groom married earlier to richer competitors and she will remain a bachelor. And vice versa. If an "ugly" girl has only rich suitors among the candidates for husbands, then they will be married to "beauties" and the girl will remain unmarried.

Another example of life support for a limited group of people, each of whom has several professions. The situation is the same: all the places in which the next candidate is competent are occupied, and he is forced to take the "wrong place". This is the case in any highly specialized "organizations": medicine, the army and, alas, even in science, where random people work alongside qualified specialists. Moreover, even in the state, with the overproduction of "specialists" of any profession, some of them are forced to do "not their business".

This kind of task also allows for its economic interpretation, if deputies are replaced by manufacturing firms of some products, and instead of "portfolios" we understand the buyers of these products. Each of the  $N$  manufacturing firms has several ( $L$ ) purchasing firms, and, in turn, the purchasing firms have several ( $L$ ) suppliers "in mind". Firms do not conclude long-term contracts, but "call" each other as necessary, randomly with offers, respectively, to sell or buy goods. In this case, even with an "equilibrium" market, when demand is almost equal to supply, there may be situations when the manufacturing company will be denied a random purchase by all its  $L$  "familiar" buyers, or the manufacturers will

refuse to supply goods to the purchasing company, although with a wider range of their counterparties (when  $L \Rightarrow N$ ) such wouldn't have happened.

The modeling algorithm is simple. An empty matrix  $[N \times N]$  was set, in which  $N$  units were randomly entered, so that there were no empty rows and columns in it. This means that each deputy can occupy one seat. Then, in the same matrix, another  $(K - N)$  "units" were randomly "thrown" into empty places, which set the average number of  $L = K/N$  seats from the "sphere of competence" of deputies. Further, starting from the "fattest" portfolio and below, the employment process was underway, the portfolio was occupied by the most competent. The matrix  $[(N - 1) \times (N - 1)]$  remained and everything was repeated until the moment when there were deputies who were completely incompetent in any of the remaining spheres of activity. After that, the "lucky" and "unfortunate" were accounted for, and the cycle of dividing places was repeated many times to account for average results. The number of repetition cycles was 10000. The number of deputies  $N = 149$  is chosen purely out of convenience for the logarithmic scale of the argument, because  $\ln(149) \approx 5.00$ . The average number of  $K/N$  vacancies of "competence" was taken as an argument.

If the matrix of "portfolios" and deputies is not square, then the model and calculation will not change, but the results will be different. If there are more deputies than "portfolios", then the percentage of incompetents will decrease, but unemployed "servants of the people" will appear, otherwise part of the incompetent will also... decrease, but at the same time empty vacancies will remain without managers at all.

For the economic interpretation of failures, the modeling is similar, and there was no criterion for choosing a partner-initiator of the transaction in this case, and the contacts of the firms were established randomly. Figure 1 (*left*) shows a graph of the percentage of unsuccessful transactions depending on the average number of  $K/N$  counterparties for

each firm, and Figure 1 (*right*) shows the standard error of unsuccessful transactions in the same absolute percentages. These charts are “fair” for an equal number of counterparties in the market ( $N = 149$ ). Naturally, for another number of firms  $M$ , the vertical scale of the accuracy graph (on the right) will

increase by  $(N/M)^{0.5}$  times. As we can see, the most “difficult case” for “casual relationships” occurs when the average number of “partners” of each firm is  $L = K/N \approx 2.72$ , while only  $\approx 85.0\%$  of transactions are completed successfully. It was not possible to prove this “theoretically”.

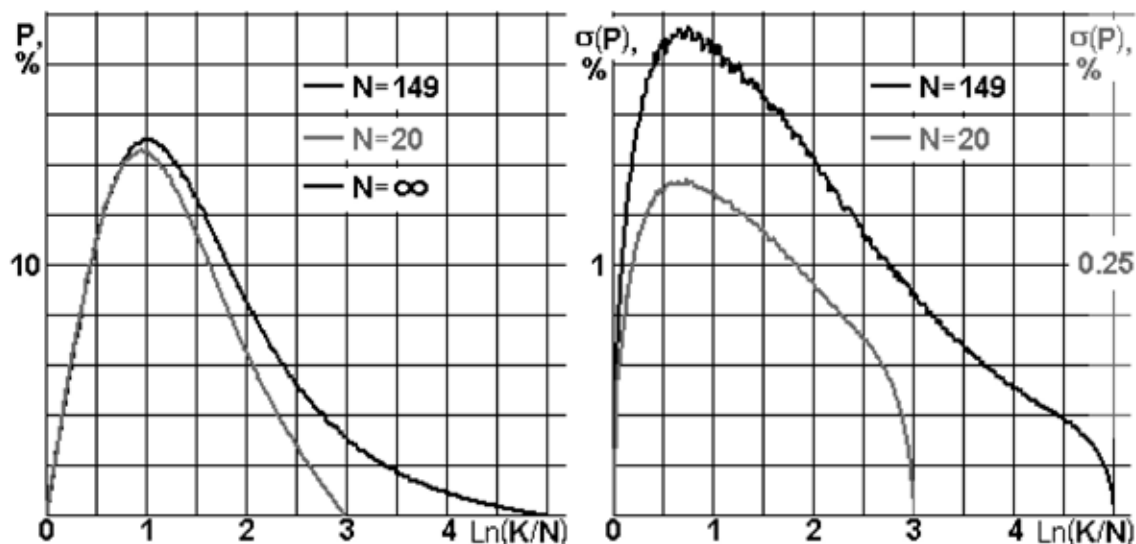


Figure 2. Failure of the transaction. Probability  $P$  and error  $\sigma(P)$

Figure 1. (*in gray*) shows graphs for a “small” number of counterparty pairs  $N = 20$ , based on the same considerations of “convenience”  $\ln(20) \approx 3$ . As you see, the “point” of the losers’ maximum has shifted slightly, and the margin of error of transactions in the most unfavorable case has decreased by  $\sim 5$  times. With an increase in the number of participants  $N \Rightarrow 8$ , the graph (on the left) in the “initial” part is identical to the “black” graph (in the same place at  $N = 149$ ).

**Conclusions.** It is established that for some types of economic and other types of social interactions of people there is an objective probability of their “unsuccessful” completion, the upper limit of which is exactly equal to 15.0%. It is shown that the growth of options for “free” choice does not always reduce the percentage of subsequent failures. In some cases, there is a critical average number of options equal to  $\approx 2.72$  at which the percentage of failures is maximum.

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