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The system of analytical triggers in anti-crisis management

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Article info

Abstract

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A new wave of financial crises generates a need for placing certain limitations on positive & negative dynamics of the defining or assessed indicators & the factors influencing their formation. In similar, constantly arising situations, the author pioneers the use of the system of triggers or a trigger to exert automatic influence upon different parameters, which can be assessed both quantitatively & qualitatively.

A new wave of financial crises generates a need for placing certain limitations on positive & negative dynamics of the defining or assessed indicators & the factors influencing their formation.

For example, a necessity for placing limits on the refinancing rates on the part of the Central Bank of Russia, or for limiting the level of receivables while an enterprise is in the crisis management mode, arises constantly.

In similar, constantly arising situations, the author pioneers the use of the system of triggers or a trigger to exert automatic influence upon different parameters, which can be assessed both quantitatively & qualitatively. The systematic analysis and regulation of economic processes via maximum or minimum permissible values of indicators (triggers) thus constitutes an instrument for preventive maintenance and the prevention of the crisis.

The given essay is both a scientific/theoretical and a practical/applied one. It gives light to the definition & the maxims of trigger tuning in the context of both the everyday

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and the fundamental rationale behind their use. The article also uses analogous comparisons across different spheres of activity, and provides specific ways in which these triggers can be implemented on both the macro and the micro levels of economic process management, in order to provide appropriate justification for their use.

Due to the formation of a new powerful wave of crisis phenomena, a need for placing definite limitations on positive & negative trends in different indices & factors that influence this formation both on micro- & macro levels, has grown over the last few years.

At the beginning of 2008, Russia's Minister of Finance has stated that the inflation dynamics are influenced the most by a sharp surge of foreign investments that exceeds (by many times) the identical indicators in China, for example.

Moreover, it is important to mention that in that country, the limitations on investment mobilization have been put into place in order to contain inflation, -- that is, the investment limit has been imposed via a directive.

One can cite a whole number of examples similarly illustrating the necessity for placing a number of limiting parameters on factors that have a negative influence both on the state economic development & on the activities of its certain lone-standing managing subjects.

For example, on a macro level, a necessity for placing a limiting value on the refinancing rate arises constantly on the part of the Central Bank of Russia, depending on the rapidly (or gradually) changing conditions of the financial markets.

Alternatively, in developed countries, particularly in the USA, a need for tough regulation of the Federal Reserve System rate arises, depending on the forecasted recession or depression.

On a micro level, a necessity for defining & introducing limitations on the level of receivables (in cases when an enterprise is under crisis management), or placing a number of limitations with the help of solvency & liquidity ratios (in order to prevent a bankruptcy of an enterprise) arises.

A trigger or a system of triggers to exert automatic influence upon different parameters, which are measured both quantitatively & qualitatively, are used in a number of spheres of human activity.

The meaning of the trigger in these cases is that of "a limit" that restricts different factors or criteria that give rise to changes in defined indicators. The fluctuation of the indicator has the most considerable impact on the functioning of a national economy, or that of some management subject's activity (i.e. a corporation's, a holding company's, a financial group's, a trading organization's).

The notion of a "trigger" is widely used in electronics. In particular, it's used to calculate and construct electrical chains in telemechanics and offbeat (non-standard) automatics. The trigger's electronic schemes are widely utilized in non-standard automatization of the process of supplying of various reagents or ingredients in the course of chemical or physico-chemical reactions or during the preparation / manufacturing of different products with pre-established criteria/characteristics.

In certain types of software, a "trigger" is defined as "a programmable process of a particular kind (not directly initiated by the user), the commencement/fulfillment of

which is predicated upon (triggered by) the occurrence of a certain event or action”. “A trigger is launched automatically by the server in the event of an attempt to change the data of the spreadsheets it is linked to”, and furthermore, “a trigger is activated when a certain event occurs within a particular table.” [1]

One of the current trending fields in practical psychology and neuro-linguistic programming also introduces the notion of a trigger as an “internal switching mechanism between 2 conditions/states – internal strategies, in a broader sense – which reacts to an external stimuli in one of the representative systems.” [2]

In electronics, particularly in digital electronics, a trigger is “a mechanism of a sequential type with two stable (fixed) balanced states (states of equilibrium), intended for recording and saving of data. The trigger can switch from one balanced state to another, under the influence of incoming signals.” [3] Here, the term “switching” can be quite logically replaced with “inverting”, “shutting in”, or “weighing anchor”.

According to a more widely used (almost classical) definition, a trigger is viewed as a “mechanism which can remain (for any length of time) in one of the two (seldom, more) states of stable equilibrium (balance) and switch from one state into the other (with a jump), after receiving a signal from without; it’s used as a memory element in digital computing automation systems, etc.” [4]

The traders at the “Forex” currency exchange (intuitively) use some of the strategies that are similar, in principle, to the actions and nature of a trigger. In particular, their software includes built-in “orders” for limiting losses (“stop-loss”), profit solidifying (“take profit”), and, finally, for stopping trading (“stop-trade”), which allow them to make the “proper,” optimal execution and management decisions with regard to self-limits during currency transactions.

The values of these “orders”, as well as the trigger’s value settings eliminate the possibility of leaving the bounds of the pre-made decisions and choices that have been vetted on an analytical level. The orders, just like the trigger, fix the limits or bounds of a particular trader on the especially dynamic currency exchange market, “FOREX.”

We believe that the same trigger principle can be used widely for regulating the market economy both on the national, macroeconomic level and for microeconomic analysis and diagnosis, and the managerial decision-making in the process of the financial and operational activity of various enterprises, corporations, holdings, and their administering companies and subjects.

So far, it is believed that the triggers are only used (in a limited fashion) for managing the companies’ inventories. [5]

However, their usage on every level of the management decision-making makes this process the most effective instrument for analysis & diagnostics in all the spheres of financial activity and for placing necessary limiting values on both the defined and the determining indices during the creation of any factor-based models (including factor-based business models with a fixed set of limiting values).

As a matter of fact, the definition of a trigger as a logic unit/device that prevents certain factors influencing either the defined or the determining indicators from leaving the given bounds, makes its usage a necessary and adequate pre-condition for making management decisions. Assuming that proper software is used, it allows for automation of any economic processes management.

For example, on a micro level, at a moment when the solvency ratio reaches a critical value for a particular enterprise (when the funds of the first-degree solvency are lesser than the funds of the first-degree urgency), the trigger value (at $K_s < 1$) signals the necessity of suspending first-degree urgency payments until the first-degree solvency payments are received. In other words, when the solvency coefficient becomes lesser than 1, the trigger, which is tuned to this value, latches up & demands a suspension of first-degree urgency payments until the first-degree solvency payments are received. If local management decision-making proceeds in an automated manner, the software itself suspends first-degree urgency payments until the first-degree solvency payments are received or until the solvency coefficient becomes equal to or exceeds 1 (at $K_s \geq 1$). This is the way the process is carried out when the trigger is tuned for the minimum values vis-à-vis the solvency ratio.

On the other hand, the same method is used for setting the trigger for the maximum values, beyond which the trigger does not allow to increase the funds of the first-degree solvency above a certain level (for example, when the value of the solvency coefficient is greater than 1.5 (at $K_s \geq 1,5$). In other words, at a moment when the funds of the first-degree solvency are more than one and a half times greater than the funds of the first-degree urgency (i.e the level of these funds is excessively high and they can be redirected towards other needs), the trigger locks up (latches up) the decision-making aimed at accumulating these funds & shifts into the financial resource disposal mode.

The formation of the system of triggers (vis-à-vis allowable limits) with regard to both its maximum & its minimum values, creates clarity and transparency in the system of analysis and diagnosis of the indicators of business activity for all management personnel, even in the presence of "manual", semi-automatic methods for management decision-making. It allows to adjust the entire system for analysis to the end goals of all financial and economic activity management or national economy management (depending on whether micro- or macro level is concerned) in such a way, that there is no possibility of deviating from the trigger's signal vis-à-vis limiting values of certain indicators, even in the case of "manual" management. Thus, according to the results of this analysis, optimal management decisions are always made.

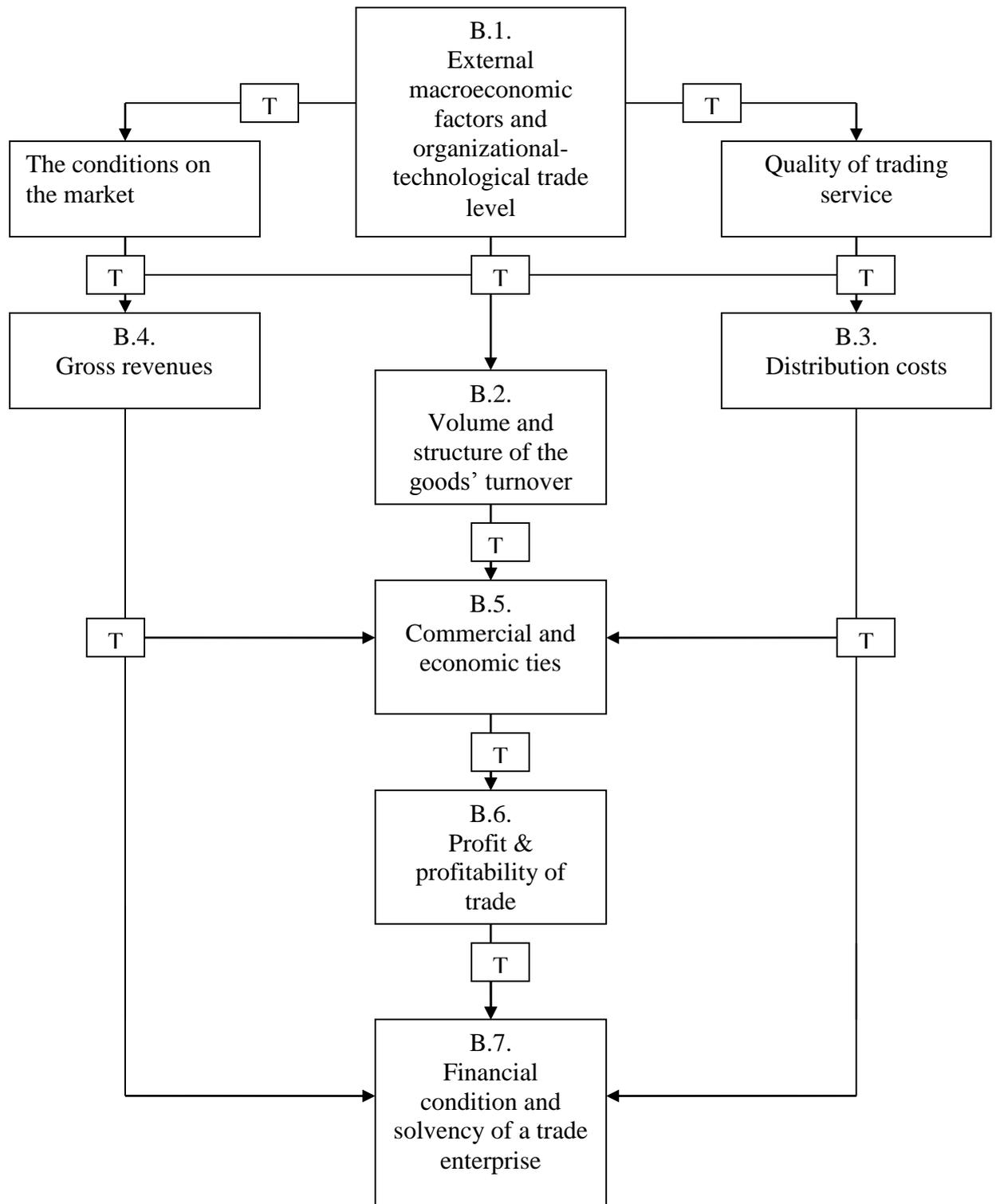
In particular, in the case of the regulation of the optimal magnitude of external loan receipts and foreign investments, the establishment of limiting values of the trigger - depending on the nation's inflation-related values or depending on similar values in other countries with adjustable inflation, or according to the multi-factorial model of inflation, -- it will be possible to avoid many unpleasant consequences both in the present & in a forecasted interval of time.

We have developed a system for complex analysis of the activity of a trading organization under the evolving conditions of a market economy, in order to build a network of analytical triggers on the level of financial and management activity of a commercial enterprise.

At the heart of this complex system for analysis of a trading enterprise is the general block -scheme of triggers that lies at the joints of the formation & the analysis of indicators of trading & economic activity of the enterprise.

(Refer to diagram #1)

Diagram1: The general block scheme of the trigger system at the joints of the formation & the analysis of indicators of trading & economic activity of the enterprise.



It is necessary to put into place the analytical trigger system containing the established limiting values for each of the factors that have the most influence upon the formation of this or that indicator. This system is to be entered/established for every group of represented indicators (which, incidentally, characterize the financial and economic trade enterprises' activity in a multi-faceted manner.

For instance, the synthetic indicators to be entered in block 2 (input) are stocks (inventories) of the goods at the beginning of the accounting period & the receipt (arrival) of the goods during the accounting period both within each group(category) of goods & as a whole. The output indicators are the sales of the goods and the stocks (inventories) of the goods at the end of the accounting period, for each group of goods, and on the whole, respectively.

The connection between an input & an output (exit) of a block can be expressed by the following formula:

$$S' + Rc = Rl + E + S''$$

Where:

S' – stock(s)(inventory) of the goods at the beginning of the accounting period;

Rc – receipt (arrival) of the goods during the accounting period;

Rl – realization (sales) of the goods in the accounting period;

E – documented consumption (dissipation) of the goods during the accounting period;

S'' - stock(s)(inventory) of the goods at the end of the accounting period

It is apparent that the commodity balance formula allows one to define, first of all, a value for any indicator entering into this balance, for example – the realization (sales) of the goods:

$$Rl = S' + Rc - (E + S''),$$

(The same is true for each of the indicators).

Secondly, it allows to set limiting values of the trigger tuning for each of the indicators by inputting data into the corresponding software, with the subsequent automatic management decision-making with regard to limiting the maximum or minimum values of, for example, the receipt (arrival) of the goods or the appropriate volume of stock(s)(inventory) of the goods at the end of or the beginning of the accounting period.

Besides, the limiting values of the trigger can control deliveries of the goods via strict pre-set values (max & min); can, simultaneously, cut off the deliveries of the unrecorded and untaxed goods, and can also block off the possible use of illegal schemes, which, essentially increases the economic security of the subject in question.

We have preliminarily shown in block #7 the possibilities of the establishment of limiting values of the trigger tuning, based on the solvency ratio of the trading company, i.e. the ratio of the sum-total of the funds of first-degree solvency to the sum-total of the funds of the first-degree urgency.

To sum it all up, the financial steadiness of the trading company, as of a certain date, is expressed by the following formula:

$$K_s = \frac{C_s}{n_s} \geq 1$$

Where:

K_s – solvency ratio of the trading company;

C_s – the funds of the first-degree solvency;

n_s – the funds of the first-degree urgency;

The unstable or unsatisfactory financial condition will be expressed by the formula:

$$K_s < 1$$

The limiting values of the trigger for the maintenance of the necessary balance between the funds of the first-degree solvency & the funds of the first-degree urgency are defined as being within “1” or slightly greater than “1”.

A value of less than “1” latches the solvency trigger, until its limiting value shows the possibility for the further realization of the funds of first-degree urgency, upon the arrival of the parameters of the funds of first-degree solvency at the necessary values².

In the presence of the appropriate software, the management decisions will be made in an automatic mode.

It is obvious that there is a need for the triggers’ value tuning, according to such basic *articles of the funds of the first-degree urgency* as: covering the expenses related to the funds owed to the employees; funds due into the state social insurance scheme; payments due into the state budget (profit taxes); payment for the financed goods; repayment of debts to a bank, under corresponding accounts; covering of other distribution costs (sales expenses), reconciled with the basic *articles of the funds of the first-degree solvency*, namely – financial resources contained in bank accounts; cash registers; letters of credit; the goods in a retail network; accounts receivable (except those that are disputed & uncollectible), and funds owed for the goods sold on credit, etc.

If the trigger tuning is considered according to a solvency ratio (using a concrete example), the calculation of the balance of funds of the first-degree solvency & the funds of the first-degree urgency, using the trading data as of 01.01.2008, will be as follows:

The funds of the first-degree solvency

1. Resources in the settlement account, letters of credit, in cash registers & in transit – 580, 1 thousand rbl.
2. Goods in a retail trading network - 1140, 0 thousand rbl.
3. Bank loans against the seasonally accumulated goods, & other loans - 300, 0 thousand rbl.
4. Accounts receivable (except disputed & uncollectible) - 3, 5 thousand rbl.

² - These funds, as well as payments, can be defined according to the accounting balance on a monthly basis, or upon the execution of the daily budgetary estimate.

5. Funds owed for the goods sold on credit -	103, 3 thousand rbl.
Total -	2126, 9 thousand rbl.

The funds of the first-degree urgency

1. The Covering of debts to workers and employees -	53, 8 thousand rbl.
2. Payments into the state social insurance scheme -	2, 4 thousand rbl.
3. Payments into the budget (taxes on profit made) -	7, 2 thousand rbl.
4. Payments for the financed goods -	770, 0 thousand rbl.
5. Repayment of debts to a bank on special loan account, target credits and loans for temporary needs -	1130, 0 thousand rbl.
6. The Covering of distribution costs (except wages) -	55, 8 thousand rbl.
Total -	2019, 2 thousand rbl.

Thus, 2019, 2 thousand rbl. becomes the limiting value for the tuning of the trigger of solvency in the considered trading action., i.e. the trigger “latches up”, once the value of the funds of the first-degree solvency becomes less than this pre-set value, until an equilibrium is reached.

On the macro level, the limiting values of the triggers’ tuning of the appropriate indicators (for example, to avoid defaults or the nation’s slide into hyperinflation, or restricting the consequences of a recession), can be established in a legislative order for the purpose of preventing the deep economic crisis phenomena³ in this or that country.

The same should be noted about the necessity of the triggers’ tuning based on a change in the abstracting (refinancing) rate of the Central Bank of Russia.

With the reference to economic processes on both macro-& micro levels, the trigger allows to maintain a steady equilibrium condition as long as necessary & “latches” from one state to another upon receiving an outside signal, with the limiting values established beforehand.

The trigger, in an economic sense of this concept, can be thought of as a formally-logical means of maintaining the steady-equilibrium state of economic processes (phenomena) involved in the functioning of a management subject, a region, a country & the world economy, as a whole.

The analytically substantiated trigger allows to support the necessary limiting values for steady-equilibrium condition for all of the economic parameters in an automatic mode of any economic decision-making management, in the presence of the corresponding software.

The software itself can be designed according to the trigger values of all indicators, factors, criteria & finally, the parameters of the steady-equilibrium conditions of economic processes.

³ - Primarily, this refers to the sharp economic crises that concern the interests of the overwhelming majority of the population. Local crises, as a rule, help a national economy: through them & with their help, the new economic development is carried out.

The software of the system of analytical triggers is based on digital electronics, where the trigger is a device with two steady conditions of balance that can be switched from one steady condition into another, under the influence of the incoming signals. [3] In addition to this, it is necessary to use an entire set of definitions of the so-called RS-trigger, with the following standard designations of inputs and outputs of triggers:

- S - A separate input for the setting of a “1” state on a direct output of high-level pressure Q;
- R - A separate input for the setting of a “0” state on a direct output of low-level pressure Q;
- D - An information input, onto which the information, intended for entrance into the trigger is supplied (trigger tuning)
- C - A synchronization input;
- T - An accounting input.

The table of the trigger conditions will become as follows:

N	S	R	Q ⁰	Q
1	0	0	0	0
2	0	0	1	1
3	0	1	0	0
4	0	1	1	0
5	1	0	0	1
6	1	0	1	1
7	1	1	0	α
8	1	1	1	α

Where,

- Q⁰- The trigger condition before the receipt of an operating signal;
- Q- The trigger condition after the receipt of an operating signal;
- α- The uncertain condition of the trigger, corresponding to the forbidden combinations of incoming (operating) variables.

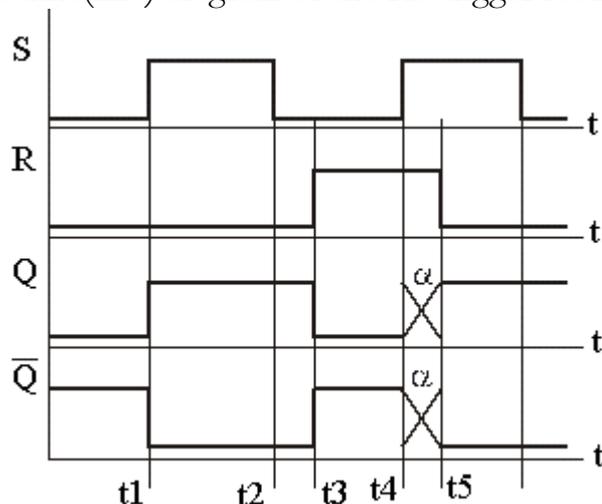
The analysis of the table of the RS-trigger conditions shows that the trigger condition changes only in the situations reflected in lines 4 & 5.

In digital electronics, the concept of the “characteristic equation” of the trigger is used. It describes the trigger activity & can be obtained from the table of the trigger conditions. It shows how the trigger’s state varies depending on the current values of the conditions & inputs.

The simplified analytical expression describing the RS-trigger activity will be in the form of a characteristic equation:

$$Q = S + Q^0 \bar{R}$$

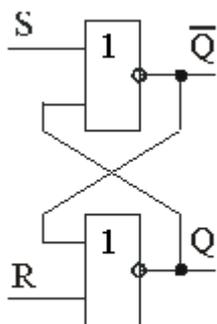
In addition to this, the time(line) diagram of the RS-trigger looks like this:



Without going deeply into the ideology behind the construction of the widest range of synchronous and asynchronous RS-triggers, both two-level ones & those with dynamic management, it should be mentioned that the above mentioned schemes, analytical designations, expressions, and the equation and diagrams of the trigger conditions, show ample opportunities for the use of software in the construction of the system of analytical triggers for managing economic processes.

The basic trigger scheme, per our preliminary definition in the economic sense of this concept as a formally-logical means of maintaining a steady-equilibrium condition of economic processes (phenomena) of both the managing subjects & the national economy, assumes the shape of the RS-trigger scheme:

Diag. 4. The basic scheme of the RS-trigger executed based on the elements “OR-NOT” for maintaining a steady-equilibrium condition of economic processes.



The system of analytical triggers can & should be applied not only in electronics, in digital analogue schemes, neuro-linguistic programming & not only for defining the values of the most primitive points for managing an enterprise's inventory or appraising a borrower's credit worthiness⁴, but first and foremost, in decision-making & automation at all levels of the management process.

On the micro level, the solvency ratio is calculated as the ratio of the funds of the first-degree solvency to the funds of the first-degree urgency. On the macro level, in order to achieve the same goals at the level of a national economy, it is possible to use the balance of payments & the accompanying settlement balance, whose equilibrium value (equibalance) often plays a defining role for certain national economies and for the world economy, as a whole.

The balance of payments is a ratio of the sum of payments made by a given country abroad & the incoming payments received from abroad for a certain period of time. It constitutes a quantitative & qualitative expression of the scale, structure & nature of the foreign economic relations of this or that state⁵.

When the sum of payments from abroad, received by a country is greater than the sum of payments made, an active balance is in place; and in the case of an inverted ratio, the balance of payments is passive.

Thus, in both the given example dealing with the solvency of a separately taken managing subject, and the solvency of the whole state, there is the same formally-logical connection, based on the establishment of permissible limiting values of the trigger according to both maximum & the minimum values. However, this is applied to the actual components of the country's balance of payments.

While, in the first case, the trigger tuning is viewed as preventive maintenance for the financial and economic activity of the enterprise, in the latter situation, the triggers are necessary for the steady and balanced development of both the economies of the individual countries & the world economy, as a whole. For example, the unbalanced development in the USA produces a chain reaction along the entire structure of the world economy.

The regulation of the trade surplus or being in the red vis-a-vis the balance of payments, via the trigger value tuning, should be carried out according to the general scheme that is accepted by the majority of the developed countries.

It is based on the classification of the articles of the balance of payments using an IMF (International Monetary Fund) technique, which includes: the basic articles of current operations – the goods, services, income from investments, other services & incomes, private unilateral transfers, the state unilateral transfers (group A); direct investments & other long-term capital, portfolio investments (group B); (A+B corresponds to the concept of baseline balance in the USA); the other short-term capital (group C); errors and omissions (group D), (A+B+C+D) corresponds to the liquidity concept in the USA & to the so-called balancing articles of gold & exchange currency reserves revaluations & the movement of gold & exchange currency reserves (group E); emergency sources for covering the balance (group F); the obligations

⁴ - See the previous footnote from the Economic Dictionary.

⁵ Here, and further in the text see "Balance of Payments". Financial & Credit Encyclopedic Dictionary, Ed. A.G.Gryaznova, M, «Finances & Statistics», 2004

forming the currency reserves of foreign official bodies (group G), (A+B+C+D+E+F+G) corresponds to the concept of official settlement / calculations in the USA), & finally, the resulting overall changes in the reserves – gold, the reserve position in the IMF, foreign currency, other requirements, and IMF loans.

Thus, the triggers' values should be adjusted according to the components of the balance of payments of the USA that are accessible (information-wise) to the world community, for a fast reaction to the occurring changes in the economy of the most developed country, which also has the strongest influence upon the national economies of other countries, as well as the world economy, overall.

The triggers can be tuned (in the same manner) according to one of the major indicators of a national economy's balance or lack thereof: the quantity of money that is necessary for circulation, which is determined as follows:

$$K_{m.c.} = \frac{C_{r.g.s.} - T_{g.a.} + C_{p.o.} - C_{mr.o.}}{S_{m.u.n.}}, \quad \text{where,}$$

- $K_{m.c.}$ - Quantity of money necessary for circulation;
- $C_{r.g.s.}$ - The price sum-total of the realized (sold) goods and services;
- $C_{p.o.}$ - The sum-total of obligatory payments;
- $T_{g.a.}$ - The goods sold on credit account;
- $C_{mr.o.}$ - The sum-total of mutually-repaid obligations;
- $S_{m.u.n.}$ - The speed of turnover of the monetary unit.

The triggers can be tuned on their limiting values both according to the quantity of money necessary for circulation in the country & in association with the needed values of each component of the formula above, in particular with regard to such important value as the price sum-total of the goods and services.

As for the example from one of the statements by A. L. Kudrin, with which the given publication opens, in this situation, the tuning of the trigger's maximum value of the in-flow of foreign investments into Russia's economy is obvious and self-evident. It depends on inflationary factors & other components of the balance of payments of our country & also takes into account the limiting values of the given indicator for those countries which have considered it necessary to establish these values to protect their national economies from sharp external influence & for the preventative maintenance of inflation.

FOREX money-market traders use methods that have principles of operation similar to those of a trigger. For example, they place so-called stop-loss orders, take-profit orders & finally, stop-trade orders allowing to minimize losses & to optimize profits from trading in the money-market. The formation of the system of analytical triggers should similarly become one of the most essential components for managerial decision-making at all levels of regulation of the economic processes of the countries at large & those of their significant managing subjects.

The principle of the establishment of the so-called "Prices" (values, sizes) of orders on FOREX is rather similar to the basic scheme for the formation of values (limitations) of trigger-value tuning. Moreover, in software systems, they work precisely the same way, but they also take into account the values of the more complex factorial return

models. As a rule, during the formation of the systems of triggers on the macro levels (as seen from the state's scheme of the balance of payments), we are dealing with the application of multi-factorial models for their adjustment at various levels, with precise maintenance of the parameters of feedback influence in response to the trigger's activation.

In particular, in the example with the values of the trigger being associated with the solvency ratio of the enterprise, it is obvious that there is a need for the establishment and adjustment of a feedback between the triggers of the funds of the first-degree urgency & those of the funds of the first-degree solvency.

For example, the covering of debts of the primary urgency to workers and employees (payments of the first-degree urgency) is impossible without the presence of monetary resources in bank accounts. The same is true of the payments into the state social insurance funds & into the state budget via the profit tax. Finally, the payment for the financed goods without the bank loan for the goods, is similarly impossible.

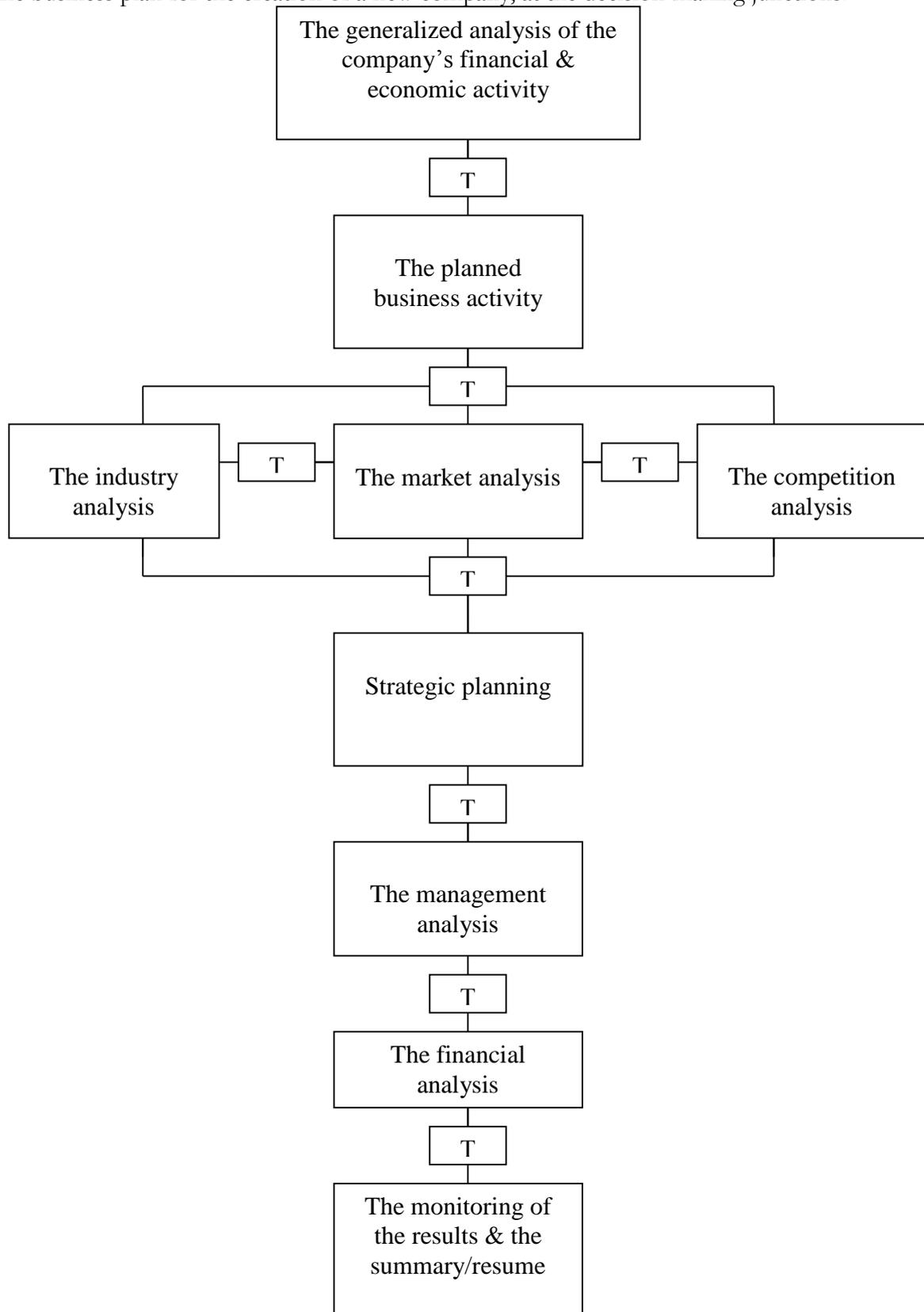
The combined scheme of classical representation of business planning of current activity & the business plan for the creation of a new company can be used in the process of building the system of analytical triggers in business planning & the formation of the strategy of development of the commercial enterprise (diag.2).

Using the analogy with the general block diagram of the formation & analysis of the company's trading/economic activity indicators presented earlier, the system of analytical triggers on the pre-set limiting values for each of the factors can be introduced for each group of the presented indicators. The factors in question have the most essential impact on the formation of the business plan of current activity or the business plan for the creation of a new company.

For example, in the "competition" block, a system of multiple analytical triggers with limiting or maximizing threshold values, can be constructed. These will function based on the prognosticated values of the competitors' activity, using multi-directional forecast parametering. Included are such key factors of competition as the price, quality, technology, delivery-terms, location, reliability, etc.; taking into account the weighed sums, their weight coefficients & their final classification.

Diagram 2

Diag. 2 - The general combined scheme of a trigger system of business planning of current activity & the business plan for the creation of a new company, at the decision-making junctions.



At the industry analysis stage, three or four indicators from the entire set of 14 indicators published by the Dun & Bradstreet firm (D&B), can be used.

For example:

Liquidity ratio:

$$K_1 = \text{floating assets} / \text{unfunded debt}$$

Critical estimation ratio:

$$K_{c.e.} = (\text{floating assets} - \text{aggregate value of the stock of goods}) / \text{unfunded debt}$$

Coefficient of the relation of inventory to pure working capital:

$$K_s = \text{aggregate value of the stock of goods} / \text{pure working capital}$$

Coefficient of the relation of current debt to inventory:

$$K_{c.d.} = \text{current debt} / \text{aggregate value of the stock of goods}$$

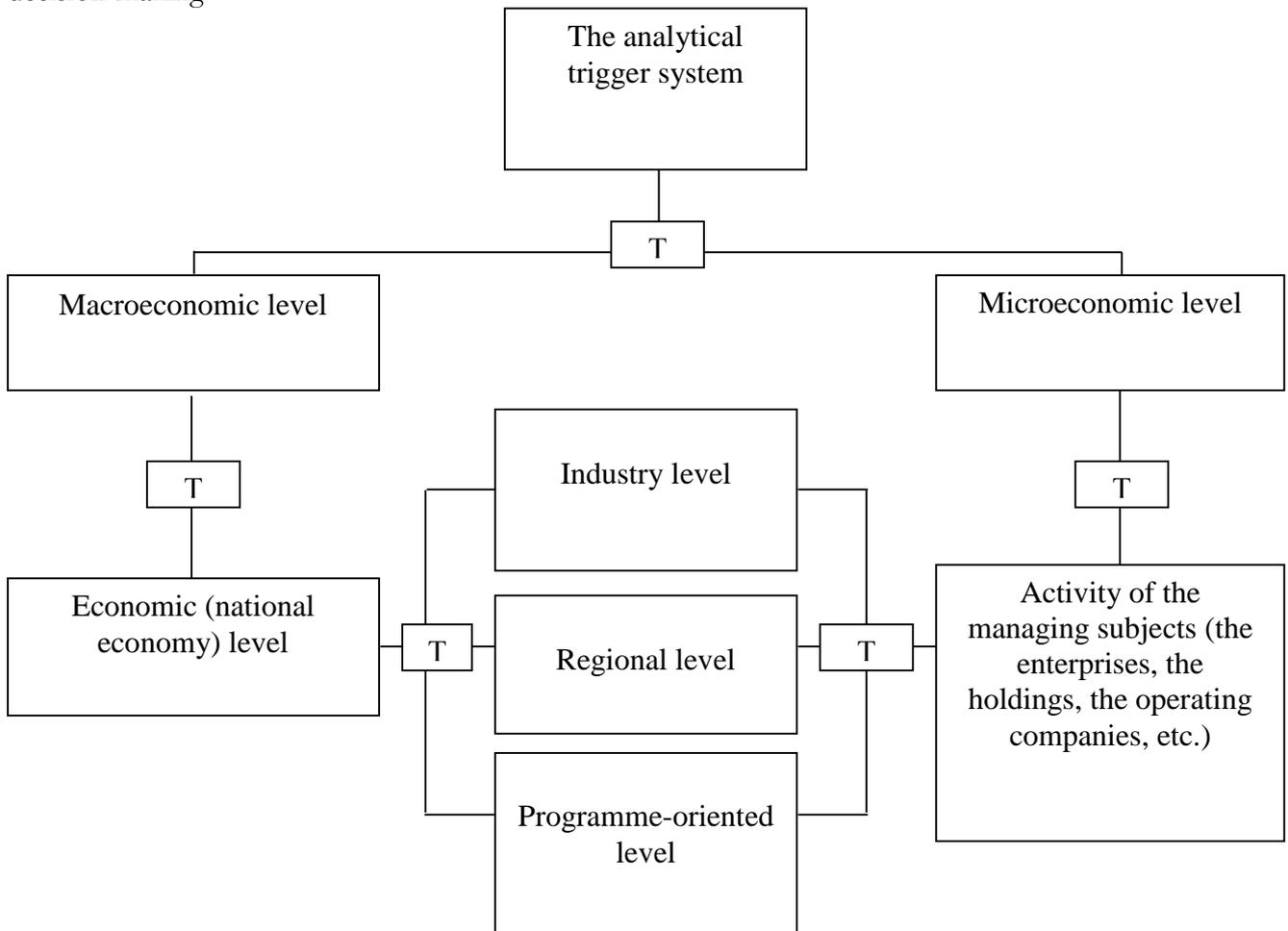
Other coefficients can be used, in a manner similar to that of a solvency ratio, only from a prospective business planning point of view.

Thus, the system of triggers can be used both for the unfolding, current activity & for the prospective (strategic) activity. This can be done at the level of a managing subject (for all the components of the financial balance) & at the regional, national & overall world economy levels.

The general scheme of the built-in system of analytical triggers at various levels of management decision-making is presented below:

DIAG. 3

Diag.3. The general scheme of the built-in system of analytical triggers at various levels of management decision-making.



Unlike the system of various limits, norms, specifications & other restrictions (that are passive & put into action only at the manager's discretion), the trigger (using the same restrictions) allows to actively influence the different economic processes in any pre-programmed direction, in an automatic, semi-automatic, or manual mode.

The most important aspect of the trigger is that there is a built-in capacity for using a signal with an opposite sign, which in turn allows to directly influence any parameter or a system of economic parameters, via a feedback principle. Moreover, it is interfaced to act towards the alignment (return) of a defining or defined indicator to the pre-established equilibrium (balanced condition).

In other words, as follows from the definition of the trigger in the economic sense of this term as a formally-logical means of maintaining the steady-equilibrium conditions of economic processes, unlike a "limiting value of any indicator", the trigger is tuned onto this limiting value so that it regulates economic processes until they reach a needed steady-equilibrium condition in one of the control modes (manual, semi-automatic or completely automatic). This is similar to the orders in the FOREX money-market. Alternatively, it can regulate and provide for the solvency of the enterprise, or the inflation rate of the country, or the quantity of money necessary for circulation, etc.

The difference between a trigger and a "limiting value of an indicator" is actually the difference between a formally-logical unit that works within the dynamics of the alignment of economic processes to necessary values, and a simple value (figure) which, itself, does not function and only serves as a reference point (a static one) in a dynamic line of regulation (management) of processes built on trigger schemes.

Besides, it's apparent from the monitoring of trigger application in various spheres of human activity, that the economic processes are under the same logic of regulation as is the usage of triggers in digital machinery, electronics & even neuro-linguistic programming. Moreover, the application of triggers in these fields of activity is both error-free and rather successful in nature. For this reason, carrying over & adapting the triggers into the sphere of economic processes should not be any less successful, than it has been in other spheres of professional organizations' activity.

The opportunity for preventive maintenance & the prevention of the crisis phenomena at all levels of administrative decision-making and their implementation, is one of the main advantages offered by the system of analytical triggers.

This system can & should become a widely-used tool for maintaining the necessary steady-equilibrium economic processes.

Works Cited:

1. «The bookseller's Shelf» Library. The trigger – Economic Dictionary. <http://economy.polby.ru/trigger/htm>
2. Balance of Payments. The Financial & Credit Encyclopedic Dictionary, Ed. A.G.Gryaznova , M, «Finances & Statistics», 2004
3. Collapse of anchors - NLP techniques, by Anvar Bakirov, http://www.duals.ru/data/nlp/technics_nlp/collapsing_anchors/htm#trigger_all
4. Dictionary of Foreign Words. Moscow, "Russian Language", 1985

5. <http://cxem.net/beginner//5.php>
6. International Financial Reporting Standards, by V.T.Chaya, G.V.Chaya, Moscow, "Knorus", 2006.
7. Russia's Economic Security. A basic course. 2nd Edition, revised and amended by a group of authors, Ed. V.K. Senchagov, Moscow, "Binome Knowledge Lab", 2004
8. Simple journal of audit on MYSQL triggers.
<http://joomlaportal.ru/content/view/1411/68/>, 04.11.2007