BULGARIAN APPROACH “ACCOUNTING-BALANCED OPTIMIZATION” AS ALTERNATIVE ECONOMIC ANALYSIS

The Bulgarian approach “Accounting-Balanced Optimization” as alternative economic analysis has been disclosed in the article. Also it has been shown that in Bulgaria an original attempt is already made to form more or less sophisticated alternative of the international management accounting which one day may raise larger interest and stimulates further managerial accounting research activities.

New qualitative perfection of Bulgarian accounting science in the process of its integration to the European and international accounting knowledge are the accepted principles for corporate activity’s accounting research and running of the accounting activity. With some hesitations and complications they were directly introduced from the Anglo-Saxon accounting school as complementary methodological rules within the framework of an elaborated accounting method under the command economy. Because of the lack of principles into Bulgarian accounting theory one of the linked problems with them is the formulation of accounting double entry of transactions as basic principles of the respective discipline.

Under the centralizing planning double entry was defined as one of the accounting method’s basic component. Economically it was advocated as an accounting expression and measure of the value’s dual nature into the classic doctrine of value and its neoclassic counterpart. Into enlarged plan the decision for the question of qualification of double recording on accounts as fundamental accounting principle is a part of the requirement for accounting philosophy’s development. It has no unilateral definition but basically is connected with the perfection of theoretical and methodological grounds of accountancy in the light of economic schools of value. The appeals for development of accounting philosophy are not at all a new one and in Bulgaria they have over 100 years prescriptive right.

Almost Bulgarian accountant G.Hristov at the beginning of the past century had accentuated on the accounting principles’ application, understood as the nucleus of the theory. He translated the original work “Philosophy of accounting” of the French author Jean Bournisssn with the pretended purpose “to draw out from the temple all those traders and to replace their approaches with one exclusive scientific accounting doctrine.” The adequate problem had been the ”exclusive” doctrine to be developed on the basis of subjective theory of value. In the work’s preface G.Hristov had written that accounting “principles have particular meaning for… managers and accountants that do not take grate care of them; or if the know them – it is not possible or they do not wish to apply them…” The consequences from that is chaos in our enterprises. Without strong principles, without
theory is not podible almost any job. The maxim should be: back and always back to the principles of theory.”¹ The investigation of the small number of Bulgarian accounting works up to 1944 does not show that the then principles’ understanding coincides with their contemporary content. Instead of that in Bulgarian accounting school the principles had been understood as what it was known under the socialism as accounting method’s elements – double entry, accounts, balance sheet, etc.

Under conditions of standartization for the development of accounting philosophy S.Durin made next appeal: “The basic task of practitioners is to give sense of each International Accounting Standard... with a higher degree of responsibility it stands up in front of the scholars in high schools.”² Thus impressive fact is that at the beginning and the end of the contemporary 100-ed years accounting development in Bulgaria, independently of each other, authors plead for “basic task’s” development - philosophy of accounting. Immanent part of this philosophy is the definition of the double entry principle – not available in specific Anglo-Saxon accounting school. From the viewpoint of 20th century economic knowledge we think this question must be considered in the light of the problem for company’s accounting assets and liabilities optimization as a specification of the well-proved microeconomic theory of optimization. This could be realized in 1970s under conditions of intensification of socialism, now thought as state capitalism, if there was no the negative influence of social, ideological and purely subjective factors.

In the paper “Management Accounting in Russia: A Work In Progress” in the popular American journal are established truths the concern also this discipline in Bulgaria, which precisely followed the soviet accounting up to 1990s. The paper’s general conclusions however that “there is no special attention to the development of a profound management accounting” and “no real accounting in economic sense existed” are strongly exaggerated.³ The false western impression about the accounting science’s achievements in Slavonic countries is quite old but it is true that essential management accounting from Anglo-Saxon type (in fact becoming international one) in them did not exist. In Bulgaria however its important parts were quite well developed under the form of enterprise’s internal accounting analysis. This category is taken from the French notion “Comptabilite analytique” – popular system in Bulgaria during the pre-war time. The present Head of Department of Accounting in the University of National and World Economy, Sofia, also thinks that it deserves to be developed “an accounting analysis of assets and liabilities on the basis of real

1 Bourmisin, Jean. Philosophy de comptabilite, 1934, preface.
The author doesn’t go into details of his idea but one can easy comprehend the theory of accounting assets and liabilities’ optimization of as an important part of the company activity’s unified accounting analysis and synthesis – a logic continuation of the so called pre-war Bulgarian calculative-analytic internal accounting. The latter had been organized on the basis of the pre-war German system of “Internes Rechnungswesen”. In our transition times the structure of Bulgarian internal accounting analysis is created as a reasonable mix of its foregoing French and German basis and the leading contemporary Anglo-Saxon management accounting.

The development of the contemporary Bulgarian internal accounting analysis started in 1970s as a regular scientific reflection of the local socialist government’s policy towards an all-embracing economic intensification. The task put in front of the theoreticians of accounting was to actualize and enlarge its traditional comprehending as financial bookkeeping for tax and statistic aims and to convert it into direction of a managerial-analytical system. In the ex-USRR this trend had taken place into accelerated creation of a complex economic analysis. Nevertheless that it lacked the international investigation of the link "costs – volume" and the creation of an advanced schemes (models) for costs-revenues mixture some Russian accountants-analytics seems to be very proud with him. Outstanding authors in democratic Russia 10 years ago clearly wrote: “In western countries the methods of economic analysis... are dispersed among many disciplines (accounting, statistics, management, finance, banking and marketing).” This assertion is not confirmed by any proper facts, evidences and citations from the western experience or university scholars. The above mentioned disciplines have their methodology formed from centuries and developed as particular aggregation of useful knowledge. The nomination of their specific methods as parts of some overwhelming economic analysis is not typical for the western countries’ economists. One can not also agree with the vision that the ex-socialist economic analysis is the discipline that experimentally verifies the scientific application of the created methods and models into the other economic disciplines, determined as “functional”: “These disciplines use methods and models of economic analysis but their development... and experimental verification is subject of specific discipline – economic analysis. For decades we did not face special author works in capitalist countries dedicated to economic analysis (theory, methodology).” It is true that one cannot find particular works dedicated to a company’s economic analysis which more or less artificially encompasses all research methods and models – a fruit

6 Bakanov, M., A. Sheremet, ibidem.
from the development of previous particular functional disciplines. Finally however one should agree with the ascertainment of the Russian theoreticians that the economic analysis of theirs ignored very popular ideas and methods destined to investigate the future development of business units: “In the foreign literature in a greater degree then ours were developed the questions for company’s financial state’s expert diagnostic.” The term “diagnostic” is typical for the French discipline “Comptabilite analytique”, but the realization of forecasting is an integral part of the contemporary management accounting.

The specific company’s internal accounting analysis was created in Bulgaria under the command economy because as a difference from their ex-soviet colleagues Bulgarian accountants were able to use the scientific microeconomic heritage from the past – especially the country’s pre-war calculative-analytic system, existed up to 1945. In nowadays the notion “accounting analysis” is not largely accepted yet by the representatives of Bulgarian accounting guild. For example according to Bulgarian scholar M.Dimitrov there is understandable logic an equality to be put among the accounting analysis (as a system of methods and relative ratios) and the Anglo-Saxon’s management accounting. But the author unilaterally formulate a third role of the accounting analysis namely - an continuation and ending phase of the information activity of historically separated disciplines – financial and management accounting. His idea is that through the respective information sureness of the management the accounting analysis acquires the quality of relative particular discipline from them.8

Although characterized by a contradictory progress the development of Bulgarian accounting analysis during the period 1970 – 1990 definitely was in direction of achieving the best (optimal) use of the company’s assets under the fruitful influence of the ex-Soviet theory for economic optimization. The latter however in nowadays is unnecessary abandoned in order to be largely promoted the concepts and methods of the neoclassical theory of value and its specification – the microeconomics.

The initial idea was Bulgarian company’s activity accounting investigation (analysis and synthesis) of the assets and liabilities appearances of value to be grounded on the next two scientific fundaments:

a) The Soviet “Theory of optimal planning and management” (TOPM), created from L.Kanthorovitch and his disciples. In Bulgaria some economists under the totalitarian regime used the ideas and methods of TOPM to enhance the meaning of the socialist political economy’s methodology. While the pre-war accounting had developed in accordance with the European-continental accounting school under the centralized planning that was realized exclusively on the grounds of Marxist philosophy and political economy but with paying necessary attention to the

7 Bakanov,M., A.Sheremet, ibidem.
requirements of others disciplines’ knowledge. Between them on first place naturally was economic-mathematical school in ex-USRR as whole, largely popular as *Marxist mathematical economy.*

The rational idea behind the notion of Marxist mathematical economy was the existence of definite coverage between dual (shadow) prices into the modern techniques of mathematical programming, from one hand, and the double appearances of Marxist theory of value as use value and exchange value, on the other hand. This analogy was used from some Bulgarian accountants to enlarge its significant meaning. Determined was that the systematic double entry recordings on accounts as economically grounded on the double appearances of value as use value and exchange value into the classic political economy, including Marxist one, is also strongly linked with the dual (optimal) prices in Marxist mathematical economy.

However during 1970s and 80s the interpretation of accounting basis through historical economic doctrines of value was sharply abandoned on account of its clearness as an information system and function of company management. An important fact is that the soviet representatives of TOPM justifiably recognized the fruitful contribution of American economists like T.Kupmans, P.Samuelson, G.Danzig and others, nevertheless that regretfully due to ideological reasons their all-over accepted concepts did not find clear reflection into the ex-Soviet complex economic analysis.

b) American “*Theory for optimal capital structure*” created from the Nobel prise winners F.Modigliani and M.Miller that is a nucleus of the contemporary economics. Even under the totalitarian regime (the middle of 1980s) the ideas and methods and models (so called “*Mo – Mi models*”) of this theory could be used for company’s equity and long- and short liabilities optimization, but the process subjectively destroyed. The strange paradox is that under the command economy the application of the “bourgeois” *Mo – Mi models* in accounting field could be easier in comparison with the Marxist mathematical economy’s achievements because they were cleared out of any ideological prejudices.

The argumentation of Bulgarian accounting analysis’ methodological fundaments was presupposed by the comparatively high explanation of the basic accounting theory as conditioned by the economic schools of value – mercantile, classic, neoclassic, a process which is enough completely characterised but not finalised yet. That is Bulgarian scholars put emphasis upon the accounting optimization as a necessary reflection of the adequate problematic in the area of international economics in 1970s. The Bulgarian accounting analysis’ promoters very clearly understood the necessity of no formal use but the proper specification and representation of both two microeconomic optimization parts for accounting purposes. The question was on their basis to make rational propositions for the

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perfection of production cost calculation system and the Income statement structure, and
the use of new useful accounting-analytic approaches and value measures. The respective
task was solved through the development of the already mentioned both ongoing directions
into internal accounting analysis:

a) Under the impact of the ex-soviet TOPM to create the accounting assets
optimization.

b) Under the influence of the American applied financial economics to develop
accounting equity and liabilities optimization.

From the distance of time a conclusion is made that if these both directions into
the accounting process optimization were properly realized under the totalitarian
regime today Bulgarian academicians would have been disposed with very good
scientific base for integration of the native accounting methodology with this in the
area of European Union. The considered efforts for finding out a proper Bulgarian
ingredient in the framework of the international management accounting expressed
itself into creation of the approach “Balance-accounting optimization” of the
company’s assets, equity and liabilities. Purposely for dissemination of the
characterised accounting knowledge of small Bulgaria in international scale the
essence of the relative approach for optimal balanced-accounting measurement was
presented in a paper for the American journal “Cost Management”. It was of
considerable methodological interest how do the representatives of the leading
American accounting science will accept and evaluate the modest efforts of some
Bulgarian theoreticians into accounting field to have their own word in the grate area
of the international management accounting.

Basic moments of their comments as regards the sent to them and published
Bulgarian paper are as follows:

Accounting assets optimization. The developed algorithm containing the
accounting assets optimal measurement, especially the born value of them on the
products under the form of material and labor costs in 1970s included:

1. “Neoclassical” costs differentiation – a continuation of the routine groupings
into Cost accounting as product and non-product, direct and indirect, etc. Used are
methods of functional mathematic analysis for learning the costs dynamics under the
impact of production volume (progressive, variable, fixed and digressive). By its
essence this represents recovering of the achievements of Bulgarian pre-war
calculate-analytic accounting in this direction.

2. “Neoclassical” scheme building up of the internal Income statement
identifying the production cost with so called “basic production (variable) costs” and
leading to calculation of an intermediate result “contribution margin” for recovering of
non-product costs. The scheme is an alternative to the pre-war “cost value” and the
overwhelming marginal product cost calculation but for pragmatic purposes detailed by the economic nature of the encompassed revenues and costs.

3. Production break-even point in single product’s production process following the perfectly proved formulae in the works of Bulgarian pre-war scholars A. Georgiev and B. Boichev in 1940s.\textsuperscript{10} Cleared out is the knowledgeable role and inescapable limitations of “Costs-Volume-Profit” analysis as regards the economic reality.

| Double entry recording’s principles and understanding of its appearances under both phases of the centralized economic development – extensive and intensive |
| Under extensive economic development after 1950s |
| Realized as double entry assets and liabilities book-keeping in financial accounting and considered as a primary accounting analysis form from the viewpoint of classic theory of value |
| Under intensive economic development after 1970s |
| Realized as the research “costs - volume” into the currently born accounting analysis: marginal costs are considered as result of the internal accounting analysis of XX century under influence of the ex-soviet “theory for optimal planning and management” |

\textbf{Kinds of production resources} |
- Alternative calculation scheme based on the Marxist mathematical economy, ending with optimization of the link “costs – volume”

\textbf{Kinds of constrained resources} |

Realization through next phases with different production structures and resources limitations

| Single-product structure |
- a) Accounting analysis “Cost-Volume-Profit” under single product structure without resources limitations
- b) Accounting analysis “Profit - Volume” under multi product structure without resources limitations
- c) Accounting analysis “Profit - Volume” under multi product structure with one resources limitation
- d) Accounting analysis “Profit - Volume” under multi product structure with multitude of resources limitations
- e) Accounting analysis “Cost – Volume - Profit”’s transformation under multi product structure with multitude of resources limitations into optimizing production accounting analysis – calculation of the marginal (dual) prices of resources

| Multi-product structure |
- No resources constraints
- One resource constraint
- Multi resources constraints

\textbf{Exhibition 1}

4. Construction of the analysis “Volume – Profit” as a continuation of the foregoing analysis with production break-even point establishing under two or more products without resources limitations and outlining of the contribution margin’s knowledgeable effect. The same kind of analysis’ building up under multi-product production structure with available different resources constraints – for materials, working time, production capacity, market consumption and others.

\textsuperscript{10} Georgiev A. Cost calculation in industrial production, Sofia, 1941.
5. Specific accounting approach application for optimizing through the linear programming with dual (shadow) prices’ establishing for the used resources. Emphasis is put on the contribution margin inclusion into the objective function of the linear programming model instead of the conventional net income. The presented algorithm scheme for the connection between the accounting revenues and costs searching and the calculation of their optimal parameters is presented in exhibition 1.

Accounting assets optimization build up under the totalitarian regime in accordance with the ex-Soviet TOPM was not at all easy. At a general economic plan it was argued that TOPM contradicts to Marxist theory of value, because the advocated dual prices (marginal costs) in it denied the socialist pricing on the basis of average full costs. In fact this was not at all the reason for rejection of cost calculation scheme perfection, derived on the optimization ideas of the Marxist mathematical economy. On accounting level the respective scheme and analytic methods were rejected because of the strong abandon of Bulgarian accounting science from the modern cost calculation knowledge – a starting process with the elimination of pre-war native accounting school after 1950s. In this aspect the reasonable appeals of the outstanding Bulgarian accounting scholar D.Dobrev had remained “voice in desert”. He had provide an exclusively true warning: “Ideological interests, socially-politically views and ethical ambitions gave priceless impulses into directions of economic progress… but they no once remained fruitless when they had missed the basis of one real and constructive economic thought, i.e. when the manifested economic idealism had not been combined by a spirit of economic rationalism and from the succession of economic empirism.”

Under the command economy inescapably had risen question for the practical use of the proved new calculative-analytic procedures under the impact of accounting assets optimization. Naturally was that when they missed theoretic recognition they could not be properly used into accounting practice. However in our days it was recognized that the use of the optimization techniques had been with a weak economic effect. According to Russian economist their direct economic effect is no more 5 to 10 per cent. Nevertheless the development of Bulgarian accounting analysis accordingly to the ideas and methods of Marxist mathematical economy under totalitarian regime deserved the efforts because if it does not solved at least clearly put in turn actual scientific challenges in front of the conventional accounting knowledge. It is true that the new cost calculation scheme and analytic methods were overthrown because of the

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11 Dobrev, D. Structure problems of the technical economy, Sofia, 1944/1945, p. 3.
orthodox subjectivism but remained the wisdom of accounting theory development in a close unity with worldly recognized achievements of the fundamental economic thought and not blindly to follow elementary dogmas.

**Accounting liabilities optimization.** One of the Marxist-accountants’ objections against the development of accounting theory under conditions of economic optimization was that the assets optimization was not entailed by a parallel approach to the liabilities. That conditioned the facing of the ideas and methods of American theory for optimal capital structure from 1960s, well known as “Mo – Mi models”. The challenging problem was that the respective theory from the western applied financial economics should be properly interpreted from the viewpoint of accounting equity and liability research. But in the ex-communist Bulgaria there were not adequate microeconomists able properly to explain the positive aspects of Anglo-Saxon theory of capital structuring and its positive contribution for the corporate value’s accounting optimization. Because the western financial economics researched the relationship “risk – return”, the ideological objections were that under the all-over planned socialist economy there was no option at all for any kind of risk for the state enterprises in their road to develop more and more progressively and without economic or financial crisis. That created a lot of headaches and loss of time and efforts for Bulgarian accounting theoreticians facing the problems of accounting equity and liabilities optimization. Finally was developed *accounting optimization approach to the capital structure* specified by the following algorithm:

1. Accounting research of methodological link “risk – return” trough the well known conventional statistical methods. The defined popular measures for this logic connection (average income, dispersion, standard deviation, coefficient of variation) are used to study its appearance under a multitude of investments with and without full or partially risk constraints.

2. Equity and the liabilities are structured in the light of the link “risk - return” and its positive impact on the matching costs – revenues process. Cleared out is the connection between the economic risk and liabilities structure, from one hand, and the degree of kinds of risk’s impact (production, financial, market or systematic and non-systematic) upon the liabilities changes. It is stressed on the new category in the internal Income statement – *accounting profit before interests and taxes*. It is effectively used for the accounting measurement’s actualization and specification of the above mentioned kinds of risks and for expected additional income’s calculation. The latter is due to the entrepreneurial risk from the part of the corporate capital’s owners in the process of forming a homogeneous or heterogeneous liabilities structure.
3. Financial break-even point analysis and measurement of the different kinds of leverages (operational, financial and combined) on the basis of suitable interpretations of the applied financial economics’ thesis. They concern the equal corporative worth under homogeneous or mixed (heterogeneous) structure of the items in the right half of the company balance sheet.

4. Equity and liabilities accounting optimization according to theory of applied financial economics with specification of the thesis for corporate value and financial expenses (dividends on equity and interests on long- and short-run liabilities). Corporate value and financial expenses’ accounting analysis is successively realized complicating as follows:

First, for the activity of non-taxable or taxable enterprise]

Second, for enterprises that financed exclusively with equity capital and financed with mixed capital structure.

This permits the clearing of:

a) Dependence of corporate value and financial expenses on the structure of the unified capital substance;

b) Connection between the intermediate result “Accounting profit before interest and tax” and one of the basic financial ratio “Return on equity”; 

c) Calculation of balanced accounting profit before interest and tax, nevertheless from the type of capital structure.

Accounting assets and liabilities optimization is not purpose in itself but a base for analytic perfection of intracompany Income statement with sectors:

➢ Revenues and costs matching up trough hybrid cost calculation scheme – alternative to the correspondent conventional neoclassical scheme;

➢ Analysis of production break-even relationship and financial security;

➢ Efficiency measures under actual capital structure;

➢ Analysis of financial break-even relationship under availability of homogeneous and heterogeneous liabilities.

Very difficult is to say that accounting optimization liabilities’ theory is fully finalized. Its basic methodology is quite clear by principle but its practical employment requires specification as regards the different sectors of national economy. Regretfully the research activity in this domain are almost symbolic and does not permit in a small Bulgaria to be build a full adequate theory that unify scientific achievements in the field of real and financial microeconomics.

**Conclusion.** Under the contemporary transition to market economy obviously there are no objections against development of the coherent assets and liabilities’ accounting
analysis of corporate activity in accordance with the worldly recognized concept for economic optimization. Also to enrich its content with the modern research directions like value-chain analysis, activity-based costing, strategic analysis and others. This is however relatively fully reflected in the substance of the newest Bulgarian textbook for accounting analysis, comprising the next three major parts:

1. Accounting optimization of assets and liabilities.
2. Systems and methods for cost analysis and production cost calculation.

The above shortly presented methodology of the coherent assets and liabilities’ accounting analysis and optimization in nowadays faces considerable interest and approval. Of course under the heavy economic and financial crisis the professional accounting interest for a long time will be focused mainly on the use of *International accounting standards* (IAS) and tax accounting’s perfection. Inconsistencies among the requirements to the accounting guild in a great part educated in socialist time and its abilities to encompass the contemporary economic, financial and accounting knowledge add substantial troubles. There is no also official institution like *Chartered institute of management accountants* (CIMA) and quite weak is the interest of Bulgarian managers to the qualities of the presented to them managerial accounting information. But as American authors has written the question is to give “picture of the much more formidable issue in a former soviet satellite Bulgaria, where accountants still battle the legacies of Marxist economics as they work to introduce compatible Western management accounting practices into their business and educational curricula. T.Trifonov… and his colleagues are catching up to the rest of the world… of the ways that international management accounting interests can help their work.”

From the above said the single consolation remains that in a small Bulgaria an original attempt is already made to form more or less sophisticated alternative of the international management accounting which one day may raise larger interest and stimulates further managerial accounting research activities. By that time the managerial accounting of East-European (Slavonic) type really could be qualified as a work in process.

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LITERATURE: