STANDARD COSTING: FIRST STEPS IN THE USSR (1930–1934)

Sidorova Marina
Financial University under the Government of the Russian Federation, 49 Leningradsky Prospect,
Moscow, 125993 Russia

Nazarov Dmitry
Financial University under the Government of the Russian Federation

Listopad Ekaterina
Financial University under the Government of the Russian Federation

Abstract
Standard costing is considered as well-known technique of management accounting today. But the story about first steps of standard costing in USSR is not so widely known. In the 1930s, active industrialization of the economy in the USSR was impossible without using modern management techniques and accounting methods. In order to increase the manageability of industrial enterprises, attempts to introduce standard costing were undertaken, but most of them failed. This led to the fact that standard costing was recognized as a calculative technique not corresponding to the goals of the Soviet state. Then the Soviet researchers formulated the principles of the normative cost accounting, which was based on standard costing. The method in the new version was greatly simplified and lost its analytical focus. The paper investigates the influence of state policy on the transformation of standard costing methodology during the construction of the socialist economy. The authors conclude that the transfer of the method developed under some political conditions to another political system should not be carried out mechanically; otherwise, it can lead to transformation of its essence.

Keywords: accounting history, standard costing, normative cost accounting, state policy

JEL code: M41, B24, P27

Introduction
It is generally accepted that standard costing is considered as one of the traditional techniques of management accounting today. This calculative technique was formed by American researchers in the late 19th - early 20th century in response to the challenges of the enlarging capital. Russian research in the field of cost accounting was carried out in isolation from the world scientific community during most of the 20th century. In the 1990s, the international exchange of scientific achievements resumed in Russia, and scholars and practitioners actively began to study western technologies of management accounting. Russian Management accounting textbooks traditionally include a comparative description of foreign system standard costing and local normative cost accounting (see Vakhrushina, 2012; Ivashkevich, 2011). However, the origins and reasons of the differences between the two methods were not fully analyzed.

The October 1917 revolution led to a drastic change in the political system in Russia. The new state – the Union of Soviet Socialist Republics (the USSR), existing in the encirclement of the capitalist countries, for many years entered a period of political confrontation between the two economic systems – capitalist and socialist. The political authorities of the USSR were desperate
to prove the leadership of socialism in the economic sphere of society, and this idea became predominant, determining economic decisions of government. In the 30s of the 20th century, active industrialization of the economy took place in the USSR. The construction of large industrial complexes was impossible without using modern management methods and improving accounting techniques. In order to increase the manageability of industrial enterprises, the attempts to introduce standard costing were made at the largest soviet enterprises - Kharkov Agricultural Machinery Plant Serp i Molot, Moscow Electrotechnical Plant, Confectionery factory Marat and other in the years 1929-1931.

Most of these attempts to implement standard costing failed. A discussion about the causes of these failures and the advantages and disadvantages of standard costing was started in the Soviet professional press. The political tendencies influenced the fact that, in essence, this discussion was transformed to a dispute about 'Marxist accounting methods', as a result of which standard costing was declared harmful, hostile and not applicable in a socialist state. A few years later Soviet scholars developed normative cost accounting based on standard costing, but significantly modified.

The aim of this paper is to analyze the influence of the state policy on the transformation of the principles of standard costing in the 1930s during the construction of the socialist economy. Accounting practices have long ceased to be seen as something static, not changing. The number of attempts to examine how various economic, social, and cultural factors affect the development of accounting methodology have grown in the last ten years. Politics is one of these factors. One important aspect of the problem is the application of the accounting method developed under the conditions of one political system to other political conditions. This transfer should not be carried out mechanically; otherwise it can lead to transformation of the method’s essence. Therefore, it is necessary to consider more carefully historical experience in the relationship between accounting and policy.

There are a large number of publications in English on the essence of standard costing, its origins, its implementation in different countries, and the changing role of this method in the modern environment. Miller and O’Leary (1987) presented an original view on standard costing. Instead of an interpretation of standard costing as one stage in the advance in accuracy and refinement of accounting techniques, it was viewed as ‘an important calculative practice which is part of a much wider modern apparatus of power which emerges conspicuously in the early years of this century’. We agree with these authors that there is a close connection between the processes of politicization of public life and the ways of monitoring the effectiveness of the individuals. This relationship is particularly evident in totalitarian political regimes. The story about standard costing in the USSR is an argument for this statement.

The following issues are consistently disclosed in the article: the explanatory framework of research; planning and performance measurement of a socialist; the acquaintance of Soviet accountants with standard costing at the III International Congress on Accounting in 1929; the first attempts to introduce standard costing in the USSR in 1930-1932 and the essence of change in standard costing due to political influences during this process. Concluding remarks are presented in the final part of the paper.

**Literature review and explanatory framework**

Recent decades have seen an interesting debate concerning the respective merits of different approaches to accounting history (Hoskin and Macve, 1994; Napier, 2001; Boyns and Edwards, 2013 and oth.). Hopwood (1987, p.209) wrote, that we need 'understanding both the forces that put accounting into motion and the ways in which the accounting craft becomes
intertwined with organizational and social action’. This statement fully applies to the history of management accounting. Some of the authors distinguish a political factor as the most important for accounting changes. In a political process interrelations between accounting and state have been seen to be central for reform (see Burns, 2000; Hopwood, 1987; Napier, 2001; Gipper et al., 2013 and oth.). In our paper we investigated the influence of state policy and ideology on the transformation of standard costing in USSR in 1930s.

Standard costing began to be actively used in large industrial corporations in order to improve control and to increase their efficiency at the beginning of 20th century. First, it was described systematically in the works of Charles Harrison (1918-1919). Practical application of standard costing had some peculiarities in different countries. Edwards et al. (1995, p.6) contrasted the nature of cost accounting developments in Britain and the United States. Xu et al. (2014) consider the role of accounting in a socialist state and how accounting change came in China. Guilding et al. (1998), on the contrary, examine the similarity of the practice of applying standard costing in the UK and New Zealand.

The introduction of standard costing in Russia has its own story. The problems of preliminary planning and standardization of production processes were investigated in the works of Russian authors P.Reinboth, Ed.Feldgauzen, R.Veizman, A.Rudanovsky at the end of 19th - beginning of the 20th century. In the 1920s and 1930s these issues were studied actively due to the introduction of system of plans to manage the national economy. Soviet academics and practitioners conducted an active scientific search in the direction of rationalizing the cost accounting practice, intensifying of accounting work and measuring production productivity. These problems were often discussed by the accounting community. Many Soviet researchers dealt with the problem of planning and cost accounting at that time: V. Bazanov, N. Bogorodsky, M. Zhebrak, V. Kiparisov, G. Kryukov, L. Levin, E. Lieberman, M. Rubinchik, V. Stotsky. The works of well-known foreign authors such as I. Sher, J. Nicholson and J. Rohrbach, P. Gerstner, A. Kalmes, E. Léautey and A. Guilbault were translated into Russian and published. All these studies served later as a theoretical basis for creating a concept of normative cost accounting. These developments were greatly influenced by the visit of the Soviet delegation to the International Congress of Accountants in New York in 1929, where they got acquainted with standard costing.

Many scientific works in this field were published in the USSR during the 1950s-80s: E. Gilde, A. Dodonov, A. Margulis, P. Novichenko and others. Most of the Russian publications consider the technical side of the issue - the procedure for calculating the variances of actual results from normative ones. The history of the development of calculative methods in the USSR was considered in the writings of V. Mazdorov, I. Mackevichius, Ya. Sokolov. However, the influence of political factors on the formation of normative cost accounting was not investigated. Meanwhile, studying the evolution of methods under the influence of politics is very important for understanding their essence and perspectives.

This study analyzes one of the examples of the political influence on the transformation of the accounting techniques. While our research results may be interesting to scholars and practitioners, they have some limitations. Our research is based on the analysis of publications in professional journals of the USSR in 1930s. The works of Soviet authors of that time are the subject of study in this paper. Future research may include empirical data collection from the archives of manufacturing enterprises.
Socio-economic and methodological challenges of socialist performance measurement

After the October 1917 revolution in Russia centralized management and planning were declared as the main principles of the national economy. Accounting, as well as counting in general, was given a special place in the system of governance and regulation. An active introduction of the planning principle in the practice of accounting began; accounting services in enterprises were designed to turn accounting into an effective instrument of control over the implementation of the plan. The supreme bodies' decisions of the Communist Party stated the change in target orientation of accounting and its significance to the national economy (XII Congress, 1923). Leading Marxist thinkers wrote about the public significance of accounting. For example, the following statement of Karl Marx is well known:

‘Bookkeeping, for the control and ideal survey of the process, becomes necessary to the extent that the process assumes a social scale and loses its purely individual character. It is, therefore, more necessary in capitalist production than in scattered handicraft and agricultural production, and still more necessary in co-operative than in capitalist production’ (Marx, 1909:93).

At the state level, the following activities had been carried out: from 1917 the Financial-accounting department of the All-Russian Supreme Economic Council (ARSEC) included the Board of Accounting; in 1920 the People's Commissariat of the Workers’ and Peasants’ Inspection was established; in 1924 the Institute of Public Accountants Experts (I.P.A.E) was founded.

The subjective circumstances led to the impossibility of widespread application of scientific methods of management accounting in the 1920s at Soviet enterprises: the instability of the Soviet currency, uneven work of enterprises, frequent breakdown of equipment, poor quality of raw materials, volatility in labor rates and norms for depreciation. The revolutionary processes and the Civil War led to the fact that the old accounting system was destroyed, and a new one was not created. The Chairman of the Supreme Council of National Economy F.E. Dzerzhinsky noted that ‘...the situation with reporting and statistics is directly catastrophic ... Reporting begins to be measured by kilograms. At the same time, its quality is very poor ... Regulation and management of industry with such reporting, besides chronically delayed, is very difficult’ (Dzerzhinsky, 1926).

As a subjective circumstance, we call the psychology of paternalism and dependency, which was formed in the top management of manufacturing enterprises (Calculation, 1924, p.123).

In these conditions, practical counters and economists focused on the creation of new methods of rational accounting, reflecting the specificity of the socialist economic system. Changing relationship between the state and workers - the reduction of the working day, the improvement of social welfare, the satisfaction of cultural needs and the labor protection - all this entailed a significant increase in production costs and required the most careful and intensive work in seeking compensation for these expenses. Another problem for the new state under construction was the issue of accounting personnel. The democratization of social life led to a change in the accounting staff. The level of education of accountants fell sharply. To increase the level of qualification of a growing number of accountants in the late 1920s, financial universities were created, professional associations of accountants appeared, and professional journals began to be published.

The main change in accounting was associated with the transition from private ownership to state ownership. The objective of the single economic entity changed from profit-making and increasing the owner capital to meeting the needs of all members of society in the best way. The aim of a company was correlated with the objectives of the whole society (Zhebrak, 1935, p.43). The criteria for performance measurement of a company in the process of building socialism...
changed also (Smirnov, 1926). The result of industrial activity was not measured by the size of the profits; it was measured by a comparison of planned and actual data. So the concept of 'standards' has gained a public importance.

**Acquaintance of Soviet accountants with standard costing**

In 1929 the Soviet delegation took part in the III International Congress of Accountants in New York. This event was extraordinary and required decision-making at the highest levels of the Soviet government. In the 1920s the need to restore the national economy, destroyed during the Civil War and foreign military intervention, a change in the foreign policy course, associated with the transition to the New Economic Policy (NEP) and the collapse of plans for non-slow world revolution, prompted the Soviet government to establish diplomatic and economic relations with influential foreign partners. The stumbling block in relations with the United States of America was the need for the Soviet Union to recognize pre-revolutionary debts to this state. All decisions on contacts with American organizations were made by the Political Bureau of the Communist Party. On September 1, 1927, the Political Bureau adopted a decision on the creation of a special commission for preliminary consideration of all the necessary materials - the American Commission (the initial name - Permanent Commission of the Political Bureau on technical and scientific contacts with America). From the minutes of this commission, it followed that each member of a delegation sent to the United States was carefully checked for political loyalty (Moscow-Washington, 2009).

Members of the Soviet delegation did not make presentations at the congress (International Congress, 1930; Littleton et al., 1929; Littleton, 1930). In the Soviet press, on the contrary, enthusiastic reviews of this event were published. It was mentioned that the Soviet delegation was greeted with a stormy ovation (Boryan, 1930a, p.140). During the Congress the members of the Soviet delegation visited industrial enterprises in the US and Germany. After that they published detailed descriptions of the application of standard costing system at these enterprises. Boginsky (1931) described cost accounting at the Allis-Chalmers plant (Springfield, US) and the Claytrack plant (Cleveland, US). Zhebrak (1931), Davidson and Ilyin (1930) analyzed cost accounting system at the Westinghouse machinery plant (Pittsburgh, US), General Electric Company (Schenectady, US), Ford automobile plants and General Motors, the American engineering company (Brooklyn, US), the AEG general electricity company (Germany). The professional society acquainted with the new method from these publications.

General impressions and conclusions about foreign practice of standard costing were formulated in the article by Davidson and Ilyin (1930, p.129):

'...1) the setting of accounting and calculation in America and Germany is more clear, more transparent and more simplified than in the Soviet Union; 2) the cultural level of accounting workers is higher than in the Soviet Union; 3) various counting machines are widely used .... Finally, as a consequence of these three circumstances, a fourth, very important circumstance, is the timeliness of the reporting data ...'

Without dissentient voice standard costing was recognized as advanced, progressive and very useful method.

**The first attempts to introduce standard costing in the USSR**

As mentioned above the concept of standard costing was developed by the American economists. The essence of the method was to compare the actual costs with standard costs and analyze the differences; this idea was fully consistent with the settings of the planned economy. In the 1930s, acquaintance of Soviet economists with the ideas of the standard costing system served
as an impetus for new theoretical and practical developments in the field of accounting. The Institute of Management Technology of the People's Commissariat of Workers 'and Peasants' Inspection headed this work. In 1930–1931 the series of articles published in the journals Schetovodstvo (Bookkeeping), Za socialistichesky uchet (For the socialist accounting) and Predpriyatie (Enterprise) has been devoted to the attempts of the practical introduction of standard costing system at Russian industrial enterprises (see Mamontov, 1931; Liberman, 1931; Shevelev, 1931; Belkind, 1931 and oth.).

One of the first experimental plants was the mechanical workshop of the agricultural machinery plant Serp i Molot in Kharkov. At the plant, specifications were compiled for all manufactured products, the routes of machine components with time norms were prepared, standardized blank forms for standard and additional wages were printed, the card file of details was made. At the end of each month, the sheet of wages variances was compiled. The main difficulty of implementation was recognized ‘the insufficient elasticity of the accounting system’ (Liberman, 1931). The economist of the Moscow electric plant, G. Belkind, described the process of introducing standard costing in such terms:

'It should be noted difficulties due to the lack of full description of the technological process, the incorrect material standards and production rates. All this negates any attempts to make a system for calculation of variances. Before starting the implementation of this system, we had to take the most serious steps for the description of technological processes and on the basis of this we already have to build the accounting system for calculation of variances’ (Belkind, 1931).

Dulkate et al. (Normative cost accounting, 1933) described a project for a factory of turret lathes. They made a nomenclature of variances for different reasons, used cards of two colors – for favorable and adverse variances. The Production planning bureau compiled plan-cards for a month for each machine.

In June 1932 the standard costing was introduced at the Rostovs ky agricultural equipment plant (Zhebrak and Shukhatovich, 1934). Zhebrak noted that only 57,9% of transactions were covered by the norm at the plant. The first count of machine downtime for a month showed inconsistency between the data provided by the workshop master and the controller. To strengthen the control, the decade reports on additional wages, downtime and material variances were proposed, a classifier of factors and causers was developed. At the same time, the commission eliminated the double counting of time made by master and the controller because 'their data did not always match'. Zhebrak also notes conservatism and passivity of accounting and operational personnel to the problems of cost accounting.

The attempt to introduce the standard costing system at the Leningrad telephone factory Krasnaya Zarya was a little more successful. Managers of the factory carried out preparatory work before the experiment – they organized courses for counting staff, created the Bureau of standard calculations. According to the results of the first months, the number of documents for variances were only 12-14% in the total amount (Normative cost accounting, 1933).

Overall, the results of the implementation were disappointing. The authors of the collective work Normative cost accounting in industry (1933) noted the ineffectiveness of methods for planning, accounting and distribution of overhead costs, frequent changes in the production program, incomplete equipment loading, low labor discipline.

Change in standard costing due to political influences
Since 1930, active politicization of the professional activity of accountants has begun. The
ruling Communist Party set the task to prove the leadership of the USSR in all spheres of activity, including in the economic sphere. At the end of 1930, the First All-Union Conference of the professional organization Association of Accounting Workers was held, which was soon reorganized into a mass voluntary All-Union Society for the Promotion and Organization of Socialist Accounting. The accounting press played an active role in the politicization of professional activity (Figure 1). In February 1930 the magazines Schetnaya Mysl (Accounting thought) and Schetovodstvo (Bookkeeping) were combined under the name Za socialistichesky uchet (For the Socialist Accounting).

The press began an active company against the professors of the old pre-revolutionary school. Some outstanding accountants were persecuted, they were removed from work in higher educational institutions, and their writings were not published. In April 1931, a public trial over Professor A. Galagan as a bourgeois ideologist and vulgarizer of Marxism was held.

Figure 1. Soviet professional accounting magazines (1930-1931)

A year later the brochure of Adrianov On bourgeois ideology in accounting theory was published in Rostov. In this book the famous Russian scholars A. Galagan, N. Kiparisov, R. Veizman, N. Blatov and A. Rudanovsky were sharply criticized as authors of harmful accounting theories. As a result, scientific research has been replaced by mass character propaganda, which inexorably lowered the level of accounting science. For young people scientific criteria did not exist: they were differing from the previous generation not just by thinking about accountancy, but by the whole mentality.

The leaders of the country promoted, first of all, the right political orientation of accountants. Thus, I.V. Stalin wrote in the newspaper Pravda for December 29, 1929: 'The scheme of the balance of the national economy of the USSR must be worked out by revolutionary Marxists'. The essence of fundamental science was formulated as follows: 'the theory cannot be apolitical and supra-class' (Boryan, 1930b). At this period of politicization of the professional activity of accountants, the number of truthful, critical articles in magazines is gradually decreasing, and in the press and monographs the ceremonial reporting style began to predominate. In 1930 a discussion about the Marxist sustained calculation methods was held. It was required '... to justify their pre-Soviet-style, certainly filled their Soviet attitudes and Soviet content' (Zhebrak, 1935, p.287). The true reasons for failures in the implementation of the standard costing system are
obscured. This led to the fact that the principles of standard costing were rejected and deformed. The authors of the publications in professional journals began to call the standard costing as bourgeois, harmful, incomplete and capitalist and not corresponding to the goals of the socialist state (Liberman, 1931; Zhebrak and Shukhatovich, 1934; Zhebrak, 1935; Bogorodsky and Rubinchik, 1937 and oth.).

In 1932-1933 soviet researchers Zhebrak, Stotsky, Lieberman formulated the principles of normative cost accounting, created on the basis of standard costing. The characteristics of the changes that occurred in the soviet version of standard costing are given in Table 1 in comparison with the principles formulated by American researchers.

**Table 1 - Key differences between standard costing and normative cost accounting used in the USSR in 1930-1934**

<table>
<thead>
<tr>
<th>Key differences</th>
<th>Standard costing</th>
<th>Normative cost accounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main objective</td>
<td>Establishing standards, comparing actual performance against them in order to recommend corrective actions for decision makers</td>
<td>Analysis of variances of actual costs against planned norms in order to regulate prices for production by the government</td>
</tr>
<tr>
<td>Results of calculation process</td>
<td>Variances between standard costs and actual costs</td>
<td>Total actual costs</td>
</tr>
<tr>
<td>Principal formula</td>
<td>Variances = Standard costs - Actual costs</td>
<td>Actual costs = Normative costs + Variances + Deviations</td>
</tr>
<tr>
<td>Accounting for variances</td>
<td>Operative elimination of variances</td>
<td>Variances are calculated and added to actual costs by index method</td>
</tr>
<tr>
<td>Standards’ setting process</td>
<td>Technical justification for standards</td>
<td>Directives of government bodies</td>
</tr>
<tr>
<td>Limitations for application</td>
<td>Separate entity</td>
<td>Trust or branch of industry</td>
</tr>
<tr>
<td>Deviations in standard</td>
<td>Standard setting for a long time</td>
<td>Frequent changes of standards</td>
</tr>
<tr>
<td>Organization of calculation process</td>
<td>Focus on the planning and analysis of variances</td>
<td>Focus on the registration of variances on financial accounts</td>
</tr>
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</table>

The developers wrote that the method was redesigned in accordance with the goals and conditions of the Soviet state. In reality, the method in the new version was greatly simplified and lost its analytical focus. There was a gradual abandonment of the technical approach for setting the standard costs, because it 'determine the measure of labor on the basis of technical data outside public relations, completely distracted from the fact that the development of productive forces occurs in our system of fundamentally different production relations' (Zhebrak, 1935, p.58). In fact, such a political formulation of the issue, despite the 'socialist-organized will of the working class', led to the randomness of norms.

**Concluding remarks**

The analysis of publications in professional accounting journals for 1930-1934 leads us to the conclusion that initially in the USSR the standard costing system was implemented. But the unsuccessfulness of these attempts combined with the political attitude to create a 'socialist' method, better than 'capitalist' methods, resulted in the formation of the Soviet 'normative cost accounting'. The real reasons for the failure of the introduction of the standard costing system at an early stage of building socialism were such problems as the unreasonable desire for rapid results, the lack of explanatory work among workers and accounting workers, the lack of an elementary production discipline. The lack of qualified and experienced staff made adoption of the method more difficult. However, these real reasons could not be recognized, since it would discredit the
political course of the USSR.

The present paper reveals both technical and behavioral problems in implementing the new accounting method. In order to justify organizational and technical failures in the process of implementation under the influence of political attitudes, the method was modified and deformed. There was a transformation from a method of performance measuring into a technical way for computing of actual costs of production. The authoritarian style of public administration and the political attitudes of Communist party were not the only but important factor that determined these changes. The excessive politicization of scientific theoretical researches has become later the real obstacle to the improvement of the theory and practice of accounting in the USSR. The general management style of command economy in the USSR became the cause of excessive indoctrination of accounting systems. The monopoly-state form of ownership, centralization of management, rigid planning system could not adequately motivate the application of the analytical approach to reducing production costs by structural divisions of economic entities. This approach to accounting has determined the way of thinking of several generations of soviet accountants, and this fact must be taken into account when reforming the accounting standard-settings process today.

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