

BALANCE-SHEET THEORY OF A.P. ROUDANOVSKY**Svetlana Karelskaya¹, Ekaterina Zuga²**¹*St. Petersburg University, Russia, SNKarelskaya@mail.ru*²*St. Petersburg University, Russia, ekaterinazuga@mail.ru***crossref** <http://dx.doi.org/10.5755/j01.em.17.1.2249>**Abstract**

One of the actual problems of modern accounting theory consists in preparing of reliable financial statements. Among different approaches it may be found a substantiated opinion that it appears impossible to prepare reliable financial statements because of existing informational restrictions on the balance sheet. These restrictions are specified in the static and dynamic balance-sheet theories. Only few know that at about the same time back in Russia rather special balance-sheet theory was elaborated by A.P. Roudanovsky. This theory provided an opportunity to partly overcome the major conflict of the two classical theories. The aim of this study was to analyze the historical, economic and theoretical premises of the origin of balance-sheet theory by Roudanovsky, describe its subject, determine the influence of his works on accounting development and describe the value of his ideas for modern accounting theory and practice. Also different comments on Roudanovsky's views of his contemporaries and modern accounting historians were studied. The analysis was performed using the system analysis, modelling and comparison methods.

Keywords: accounting, balance sheet, theory.*JEL Classification:* M41.**Introduction**

In the history of accounting the acknowledged role of its creation belongs to German scientists who developed the static and dynamic balance-sheet theories. Herman Veit Simon (?-?) is deemed the founder of the first one, and Eugen Schmalenbach (1873-1955) that of the second (Бетре, 2000). The static balance sheet is a true reflection of the property cost, whereas the dynamic one shows the financial result. The former one complies with the requirement for the analysis of the company solvency, while the latter one deals in profitability. The foregoing balance-sheet theories represent two polar opposites, i.e. the more precise the property appraisal (the static balance sheet), the less exact is the financial result; the more precise the financial result (the dynamic balance sheet) the less exact is the property appraisal (Соколов, 2003). Judging from the provisions of these two theories, it appears impossible to solve two mutually exclusive tasks in one and the same balance sheet.

Only few know that at about the same time when the German scientists were working on their theories, back in Russia rather special balance-sheet theory was elaborated by A.P. Roudanovsky. This theory provided an opportunity to partly overcome the major conflict of the two classical theories.

A.P. Roudanovsky dedicated his whole life to the practical side of accounting, and did spare but little time on science. He created the balance-sheet theory that was based on the division of the balance sheet into three parts. The provisions of this theory remain topical until currently.

So the goal of this study was to analyze the historical, economic and theoretical premises of the origin of balance-sheet theory by Roudanovsky, describe its subject, determine the influence of his works on accounting development and describe the value of his ideas for modern accounting theory and practice. Also different comments on Roudanovsky's views of his contemporaries and modern accounting historians were studied. The analysis was performed using the system analysis, modelling and comparison methods.

Balance sheet is the matter of accounting

Alexander Pavlovich Roudanovsky (1863-1931) got a degree in mathematics, yet, he spent his life working as an accountant. He started his career working for the railway department, and then was promoted to chief accountant at Moscow city council, and in the Soviet period served as chief accountant in a number of trust companies (Пятов, 2010; Медведев, 2011). He also edited '*I.G.B.E. Bulletin*' and was the coeditor of '*Accounting Bulletin*'. In the scientific world he is known as the author of fundamental works in accounting (Соколов, Соколов, 2009).

A.P. Roudanovsky based his balance-sheet theory on the joint ideas belonging to Italian, French and German schools of accounting. He relied on the works by the leading theorists of his time, i.e. those by Fabio Besta (1845-1923), Giuseppe Cerboni (1827-1917), Giuseppe Rossi (1845-1921), Emmanuel Pisani (1845-1915), Friedrich Hügli (1833-1902), Adolf Guilbault (1819-1895) and Eugene Pierre Léautéy (1845-1908).

Roudanovsky believed that a balance sheet is the matter of accounting (Рудановский, 1926). He claimed that *'a balance sheet should be interpreted not as a table or, in general, not as some form of showing the results of the accounting registry. It should be interpreted as an aggregate concept of the company activities which are inherent to it in reality, irrespective of how and to what extent they are covered by accounting'* (Рудановский, 1926). He considered the balance sheet not as a form of reporting, but as an economic category existing independent of accounting. *'The Company economy rigorously observes its own balance sheet, i.e. it does its best to preserve the equilibrium under any circumstances, be they internal or external'* (Рудановский, 1926). An accountant does not make the balance sheet; he just puts things down using accounting methods. The more perfect the methods are, the more reliable the true standing of the Company is. The author insisted that *'the balance sheet shall be settled as a system of equations, and never be restricted to balancing it to the net position'* (Рудановский, 1925).

Roudanovsky held that the reliable Company standing could be defined only through the observance of the joint axioms drawn by Pacioli and Pisani, i.e. through the simultaneous observance of the equilibrium of the assets and liabilities (*note – liabilities hereinafter mean sum of liabilities and capital*), and the balance equilibrium of the static and dynamic accounts. The latter one allowed to correctly calculate the profit, *'otherwise, with just one single Pacioli's axiom we would move no further than the static accounting and would have to face the situation of a vessel which sails without a steering wheel and goes astray all the time'* (Рудановский, 1926). The balance sheet drawn up on the basis of Pacioli's axiom, in his opinion, would be like *'a line of hieroglyphs'* which could be deciphered only with the help of special methods (Рудановский, 1926). Such type of a balance sheet cannot provide a reliable disclosure of information on the Company economic standing and makes it possible for *'accounting manipulations'*.

The background of Roudanovsky's balance-sheet theory implies separation of static from dynamics. The scientist borrowed the interpretation of these concepts from Pisani who identified the economic process with a mechanism and who was the first one to introduce the mechanic terms to characterize the balance-sheet theory (Пятов, 2010). He interpreted static as everything that permanently remains in the balance sheet, or, in other words, its assets and liabilities; he also interpreted dynamics as anything which has its special fixed term or periodical recurrence, i.e. a change in the assets and liabilities (Рудановский, 1926). Therefore, the scientist understood the static as all the non-recurring and non-fixed in time operations, and the dynamics as those fixed in time and recurring. So, the static stands for the permanent parts of the balance sheet (the assets and liabilities). *'Following Pisani's axiom, the balance sheet can be completely divided into two categories, but they are unstable, and hence, do not make up what is called account; these two categories are the static and dynamic parts of the balance sheet, the monetary appraisal of which must always maintain an equilibrium, i.e. the static part must be always equal to the dynamic one'* (Рудановский, 1926).

The balance-sheet equation is artificial

Among the major provisions of Roudanovsky's concept there appears his acknowledgement of the idea that the equality of assets and liabilities in the balance sheet, so customary for the accountants for many decades and never disputed, is artificial. *'As our day-to-day practice shows us, the assets and liabilities may change irrespective of each other, as long as they are involved in business transactions'* (Рудановский, 1926). He made this statement as a result of his understanding of the balance sheet assets and liabilities not as components of a balance sheet which reflect distribution of the same capital sum, but as its absolutely different elements. *'In any business its assets stand for its property – all its belongings and, in general, all its business relations – and its liabilities reflect the origin of this property and its belonging or relation to different persons and entities. In other words, the liabilities represent a complex of legal relations, i.e. rights which include an economic component, and in such understanding these economic rights are capitals proper'* (Рудановский, 1925a). The author interpreted the assets as the company's property, i.e. a complex of things and matters which represent the company's internal business relations. The liabilities in their turn reflected the information in respect to the origin of the property or where it belonged, in other words, the liabilities stood for a complex of the property legal rights and reflected the company's external business relations. It is important to emphasize that the scientist believed that the liabilities included all and any legal relations of the company which were reflected in the personal accounts (trade accounts), that is the total of not only the obligations (of the creditors), but also the rights (of the debtors) (Рудановский, 1926).

In defining the balance-sheet components in this way Roudanovsky formed an opinion that the assets and liabilities may alter unequally. In order to level the balance sheet, i.e. to observe Pacioli's axiom,

Roudanovsky introduced an additional component to the balance sheet which he called ‘a budget’, or ‘a turnover account including all the changes’ (Рудановский, 1926). The budget provided for the observance of the equality of the balance-sheet results and reflected independent changes in its other two components. ‘*The budget serves a junction of the balance sheet, which brings together all the key factors and in which the inequality of the income and expenditure plays the decisive role for leveling in the balance sheet the cost of the assets with the value of the liabilities*’ (Рудановский, 1926). Thereafter he wrote that ‘*leveling the assets and liabilities without the budget is in essence a falsification and is possible only in some particular case of leveling the income with the budget expenditure*’ (Рудановский, 1926).

Turnover - a new element in the balance sheet

In the graphic presentation introduction of the turnover into the balance sheet looks as its supplement with the data from the profit and loss report. This idea was not new for Russia. A similar proposition was made by Z.P. Evzlin (1869- ?) already in 1901 (Евзлин, 1901). However, he just mechanically combined the two financial statements, whereas Roudanovsky formulated the theoretical background of their combining.

The turnover in the balance sheet enables to present the whole body of the changes happening to the property and rights. ‘*The budget, or the turnover of the business, serves as a total uniting the assets and liabilities, or separating them for a certain period or time*’ (Рудановский, 1926). The composite parts of the balance sheet, as proposed by Roudanovsky, can be shown in the following layout (FIG. 1) which includes the permanent balance-sheet components connected with each other by a changeable one, i.e. the budget.



Figure 1. Balance sheet composition after A.P. Roudanovsky

Source: cited after Помазков (1929)

Roudanovsky borrowed the idea of such balance-sheet composition from Italian and French authors. Besta had before that written about the correlation of the income and expenditure on a special account. Léautey had insisted on the necessity to distinguish between the assets and liabilities and on opening for that purpose a special type of a turnover account. Rossi, while advocating the principle of duality, had said that ‘*three parts should be distinguished in business, and they are economic relations, legal relations and relations which he called administrative*’ (Рудановский, 1926). He also claimed that administrative relations brought forth the business turnover which linked together economic and legal relations. To lay out the balance sheet, Pisani introduced specific accounts (Рудановский, 1926).

For his own balance-sheet theory Roudanovsky made a critical analysis and supplemented these ideas. For instance, in Rossi’s concept he specified the provision on administrative relations which could produce changes in economic and legal ones (Рудановский, 1926). He borrowed Léautey’s idea of a separate account to reflect the turnover and labeled it with the key ‘term-fixed’ feature (Рудановский, 1926). He complemented Pisani’s statmography with highlighting the main feature in the separation of dynamics and static, i.e. flexibility or ‘*the ability to exempt*’ (Рудановский, 1926). These elaborations made it possible for him to distinguish between assets and liabilities as well as static and dynamics.

Balance sheet is a total of all the accounts

Therefore, Roudanovsky saw a balance sheet as a unity of three components: the assets, liabilities and budget, where ‘*the difference between the assets and liabilities always equals the budget balance*’ (Рудановский, 1926). In other words, ‘*their monetary value is leveled, i.e. makes a zero*’ (Рудановский, 1926). He understood the balance sheet as ‘*a total of all the accounts, i.e. a number of the accounts making a single joint account*’ (Рудановский, 1926). On the other hand, for record keeping of the balance-sheet accounts Roudanovsky introduced sets. While holding a conventional view on the assets as the company property, he apportioned it onto a set of material accounts (Рудановский, 1926). ‘*Material accounts – or accounts of things – i.e. the labour produce which serves a means of business tasks accomplishment and with*

which the company makes certain operations', wrote J.M. Galperin while describing A.P. Roudanovsky's theory (Гальперин, 1930).

Following Cerboni's concept of logismography, Roudanovsky split the liabilities into three sets of accounts: agency, correspondence and capital (in Roudanovsky's terminology, 'funds') (Рудановский, 1926). Agency accounts implied those '*of all third parties who shall pay and return to us all the property they received from us in advance*', correspondence accounts were personal accounts of the debtors and creditors, and the capital account was the proprietor's account (Рудановский, 1926; Рудановский, 1925a). On the agency and debtors' accounts the debit turnover always exceeded the credit turnover. It is important to point out that agency accounts are meaningful only in public (government) companies, because it is only in this type of enterprises that agents correlate with the budget, in private companies this account is rather difficult to separate from the correspondence account (debtors' accounts), Pomazkov wrote explaining Roudanovsky's balance-sheet theory (Помазков, 1929).

The turnover and budget were split in the current accounting into two sets of accounts: expenditure and income, which reflected the processes occurring through change in the assets and liabilities accounts. The key feature of this account is the fixed-time character of the relations. The turnover and budget account makes it possible to distinguish between the static and dynamics, because it is through their connection with the budget that '*permanent accounts turn into accounts of more or less fixed time period; property accounts, i.e. the assets, and personal accounts, i.e. the liabilities, acquire the fixed-time mobility; and the latter ones also a fixed-in-time stability which is short-term*' (Рудановский, 1926). The turnover is requisite in the balance sheet for the performance of Pacioli's axiom; it provides for the equilibrium of the balance sheet when the assets and liabilities change independently. At the same time this type of account remains '*a most essential one, for it implies the very purpose of accounting*' (Рудановский, 1926).

Roudanovsky's most important conclusions

The peculiarities of the turnover (budget) account are connected with the type of the company in which it is used. In private companies the budget and turnover are the result of the assets and liabilities change, i.e. the company activity begins and ends with the assets and liabilities. Consequently, the completion of the turnover brings to the dissolution of the budget account in the capital account which is an integral part of the liabilities, or in the assets account. In case the turnover has not been completed by the time of the balance sheet drawing up, it is shown in the balance sheet in a detailed way. The detailed turnover separately shows the change in the assets and liabilities. With this the author succeeded in making it possible to simultaneously reflect in the balance sheet the accountancy data for the valid results of solvency and profitability analysis. Thus, Roudanovsky settled the contradiction between the static and dynamic theory of the balance sheet. M.L. Pyatov, a contemporary researcher into Roudanovsky's theory, was absolutely just in his appraisal, when he emphasized that '*That was one of the most important conclusions. Nevertheless, it has not been appraised properly by our colleagues in Russia and abroad. To ignore this conclusion means to ignore significant restrictions of information possibilities of modern accounting methods based on the balance-sheet model of company's financial position*' (Pyatov, 2010).

On the contrary, in government economy the assets and liabilities result from the budget. The budget in this type of companies is the source of their business activity and, therefore, it '*splits into two parallel processes: one of which is an active process which specifies the budget expenditure, and the other one is a passive process specifying the budget income*' (Рудановский, 1925a). The active process originates a series of legal relations which form the liabilities; the passive process leads to the appearance of economic goods which form the assets of the public (government) company.

The distinction of a public (government) company from other types of companies lies with the given estimate (budget) 'which sets the strictly fixed limit for the turnover and fully defines the essential content of the permitted turnover' (Рудановский, 1926). This is the reason why they use cameral accounting the main task of which is examination of the budget performance. Taking into consideration Hügli's approach to the cameral accounting, Roudanovsky combined those principles with the principles of commercial book-keeping. For this purpose in the public companies' accounting he divided the budget account into two sets of income and expenditure accounts which he filled with particular operations accounts (budget items) or also accounts of this particular public company divisions which have their own separate budget (Рудановский, 1926). The use of budget items as accounts made it possible in the accounting to compare the planned and real payments (Львова, 2010). Application of the commercial accounting principles in the public companies'

accounting made it possible to show the receipt of property, and the addition of the cameral accounting principles made it possible to reveal the data on the budget performance.

With the split of the balance sheet into three components or accounts Roudanovsky achieved reproduction in the balance sheet of all and any relations of the company which result from its business activity, i.e. the way economic relations corresponded to the property, legal relations to the rights and obligations, and specific relations to the time fix connected with the turnover. Roudanovsky characterized those relations as spatial, and showed them in the following way (FIG. 2).

He believed that their reflection in the accounting was ‘a complete representation of the business activity’ (Рудановский, 1926).

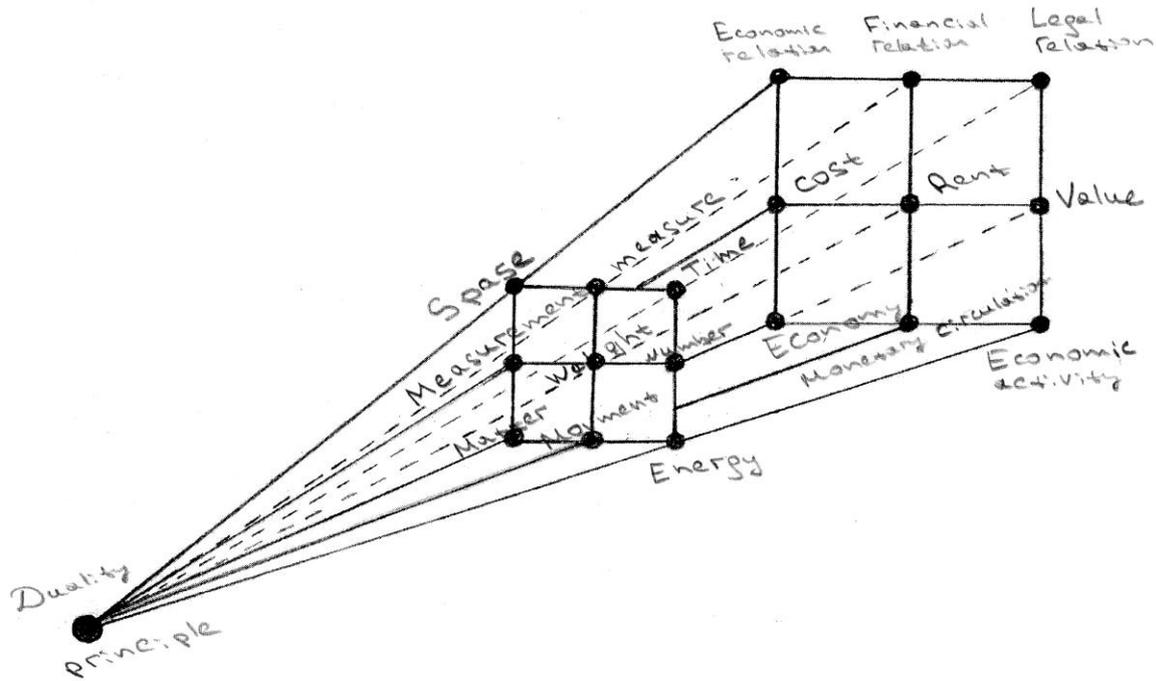


Figure 2. A.P. Roudanovsky’s description of a company’s business relations
Source: Рудановский (1926)

Roudanovsky likewise believed the balance sheet, that revealed the company’s actual standing and specified its activity, to be volumetric (FIG. 3).

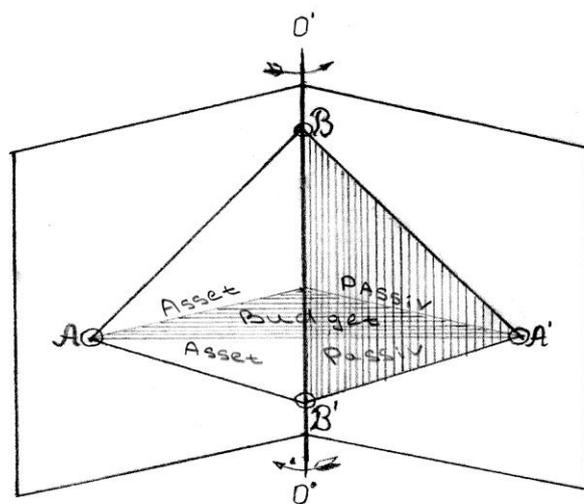


Figure 3. Balance sheet after A.P. Roudanovsky
Source: cited after Медведев and Назаров, (2007)

In the author's opinion, such composition of a realistic balance sheet, i.e. the one existing in the company irrespective of its coverage by the accounting methods, hampers its depiction 'on paper', i.e. in one dimension, and 'requires a certain degree of conventionality' (Рудановский, 1926). In Roudanovsky's opinion, such balance sheet can be represented on paper only in a digraph manner, because only two sides of the balance sheet and only two accounts out of three can be shown in one dimension. In practical life it is customary to use the assets and liabilities accounts; some conventional placement is needed for the turnover account. Furthermore, not all the liabilities accounts have outstanding loan balances (agency and debtors' accounts), which is also important to show in the balance sheet. This results in the necessity to split the assets and liabilities in the balance sheet into two parts: the real and conventional, and to place on the respective sides the accounts data which are only conventionally related to them, but which are requisite for leveling. The balance sheet after A.P. Roudanovsky can be shown in a schematic way as follows.

Table 1. Content of the balance sheet after A.P. Roudanovsky

Balance Sheet	
Assets	Liabilities
Absolute Assets Material Accounts	Absolute Liabilities Capital (Fund) Account Creditors' Account
Conventional Assets Agency Accounts Debtors' Accounts Expenditure Accounts	Conventional liabilities Income Accounts

Such composition of a balance sheet makes it possible to fully specify the company activity and its economic and legal relations. For business companies the balance sheet proposed by A.P. Roudanovsky is close in its essence to the dynamic balance sheet proposed by the German scientist E. Schmalenbach, the purpose of which was to show the financial result of the company's activity. However, as opposed to Schmalenbach, Roudanovsky provides a full picture of the company's financial result and also his balance sheet separately represents the changes in the assets and liabilities. Following Roudanovsky, 'the balance sheet general formula' (Рудановский, 1925), or the balance sheet equation (1) looks as follows:

$$A + E = I + P \quad (1)$$

where A stands for assets, E for expenditure, I for income, and P for liabilities (Рудановский, 1925).

In public companies such balance-sheet composition makes it possible to provide information on the company property and its budget performance.

Therefore, already in the beginning of the past century this Russian author could offer a solution to issues which the scientists have been trying to resolve until currently, i.e. the combination of the ideas in terms of cameral and commercial accounting and resolution of the controversy between the dynamic and static theories of the balance sheet.

Conclusions

A.P. Roudanovsky had a fresh glance at the balance sheet. He proved that the balance sheet is an objectively existing category which an accountant cognizes through bookkeeping and accounting methods, and which he does not draw up on the grounds of book entries. He designed a balance-sheet theory that was based on the rejection of commonly recognized equation of the assets and liabilities and in this way allowed to overcome the informational restrictions on the balance sheet.

Balance-sheet theory, proposed by Roudanovsky, provides for an opportunity to comprehend by way of the methods of accounting registry the three spatial types of business relations, i.e. economic, legal and administrative. In the balance sheet of a business company this makes it possible to disclosure required information for the solvency and profitability analysis. Also in the balance sheet of a public company this helps to show its budget performance.

Roudanovsky's theory is based on the balance-sheet split into three parts. As a result Roudanovsky broadened the limits of accounting by combining two forms of accounting: commercial and cameral, and

provided in this way for the representation in the accounting of the material assets, the rights for them and budget performance.

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