HISTORICAL ASPECTS OF THE DEVELOPMENT OF ACCOUNTING IN THE WORLD

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LIST OF ABBREVIATIONS

AAA – American Accounting Association
AE – Accounting event
AICPA – American Institute of Certified Public Accountants
APB – Accounting Principles Board
ARS – Accounting research study
ASOBAT – A Statement of Basic Accounting Theory
CAP – Committee on Accounting Procedure
CAPM – Capital Asset Pricing Model
COCOA – Continuously contemporary accounting
EU – European Union
FASB – Financial Accounting Standards Board
FRC – Financial Reporting Council
GAAP – Generally Accepted Accounting Principles
GAAP US – Generally Accepted Accounting Principles in the USA
GAAP UK – Generally Accepted Accounting Principles in the UK
IAS – International Accounting Standards
IASB – International Accounting Standards Board
IASC – International Accounting Standards Committee
IFRS – International Financial Reporting Standards
ILO – International Labour Organisation
LID – Linear Information Dynamics
LUOAFRU – Law of Ukraine On Accounting and Financial Reporting in Ukraine
NAS – National Accounts System
NAS(S) – Ukrainian National Accounting Statements (Standards)
NEP – New Economic Policy
SATTA – Statement on Accounting Theory and Theory Acceptance
SEC – Securities and Exchange Commission
SFAC – Statement of Financial Accounting Concepts
SFAS – Statement of Financial Accounting Standards
TFV/FRC – true and fair view / fair representation concept
UAS(S) – Ukrainian Accounting Statements (Standards)
USA – United States of America
USSR – Union of Soviet Socialist Republics

FOREWORD

The system development of the scholarly accounting knowledge as a basis for the formation of new information models for accounting reflection of economic reality involves not only the analysis of accounting practices but as well forecast of its further development and improvement of the existing means of its regulation (regulatory imperatives and alternatives). It also considers and analyses the current developments in accounting, identifying historical trends in its development, which is an essential source of understanding the role of accounting practices in the functioning of enterprises, their associations, and society's development. As noted by C.W. Haskins, the history of accounting allows us to become better; knowing our past, we better understand our present and forecast or control our future (Haskins 1904: 141). For many years, the history of accounting has been the subject of research not only for accounting scholars but also to historians, economists, archaeologists, linguists, political scientists, sociologists, psychologists, etc., helping to develop these areas of research by improving the information base for the process of implementation of their professional judgments.

The study of the accounting history allows the accounting profession to self-identify, reveal its unique features and historically formed traditions, and determine the accounting system's value aspects that should serve the basis for the development of the accounting subculture. As Prof. L. Parker emphasises in this regard, the history of accounting can offer empirical evidence of historical traditions, assumptions, beliefs, and practices. It can contextualise current phenomena in accounting and provide interpretive links to its interaction with the environment, reflecting and determining its environment (Parker 2015: 153).

At the same time, despite the importance of historical research in accounting, this issue is given little attention by Ukrainian scholars, which highlights the crisis of historical and theoretical research in accounting. Prof. C.J. Napier gives one of the main reasons for this situation, noting that for many scholars in accounting, the implementation of historical research is largely superfluous. Based on the understanding that accounting methods and practices result from rational economic choice, researchers are not ready to acquire the technical skills needed to obtain more information from historical archives to understand the deep structure of accounting (Napier 2006: 453). The solution to the above problem can be found both by increasing scientists' motivation to such research, and by force, through the mandatory inclusion of them to teach for the masters and PhD programmes in speciality "Accounting and Taxation".

The presented monograph provides for the achievement of two main goals set by historians (Previtz 1990: 2): 1) Establishing and describing items of facts that influenced the formation of the accounting system in historical retrospect and current conditions, as well as establishing the relationship between such facts (Narrative History); 2) Interpretation of the established relationships, explanation of the causes

and occurrence of certain events, their impact on the current state of development of the SNA, as well as informing the decision-making process on the policy of accounting regulation and accounting practice (Interpretive History). To achieve the above goals, we consulted and analysed many professional sources (monographs, textbooks, scientific articles and regulations) and specialised research on historical aspects of accounting in Ukraine and the world.

It is peculiar of this monograph that while analysing the historical features and interpreting the relationship of historical events in the development of accounting as a science, accounting principles and individual objects of accounting, the emphasis is placed on the achievements of the Anglo-American School of Accounting, who developed the IAS / IFRS and GAAP US.

The monograph is based on the authors previous publications on historical issues, which have been clarified, supplemented, and interpreted taking into account changes in the accounting regulation system in recent years and the latest accounting trends, prepared by a team of authors:

– Doctor of Economics, Professor Serhii Lehenchuk (chapter 1);
– Ph.D. in Economics, Associate Professor Yuliia Serpeninova (chapter 2, foreword, bibliography);
– Doctor of Economics, Professor Olha Kryvytska (chapter 3).

CHAPTER 1
HISTORICAL ASPECTS OF THE DEVELOPMENT OF ACCOUNTING AS A SCIENCE

1.1. Accounting as a science

The Scientific Status of Accounting and its Criticism. In the current state of accounting in Ukraine, many theoretical, methodological, and organisational issues need to be addressed. However, attention is rarely paid to one of the main questions, "Is accounting a science?". This situation can be explained by its irrelevance, as many scientists understand the scientific nature of accounting at the level of proven fact. However, at the same time, some researchers in accounting and representatives of other sciences question the scientific status of accounting, which is not accidental. In most cases, accounting itself provokes them with its theoretical imperfection (lack of academic rigidity like the natural sciences), methodological uncertainty (proposals for improving accounting principles, methods, qualitative characteristics of accounting information can be found in a large number of modern research), systemic dispersion (debates do not subside on the division of accounting into financial, managerial, strategic and other types) and low accuracy of scientific accounting knowledge (which is confirmed by world-renowned corporate scandals). All this at the moment can not but cause criticism of accounting by users of accounting information and arouse doubts about its scientific status among representatives of other sciences.

One of the problems that need to be urgently addressed is to substantiate the scientific status of accounting, determine its place within the scientific knowledge system, and establish scientific research areas that can enhance its importance. Professor H.R. Hatfield (1924: 1-2) proclaimed the main idea of such a search almost a century ago, and it was confirmed nowadays by J. Demski (2006: 9). It represents the fact that respect for accounting as a science and a separate academic discipline depends on the level of development of its fundamentals. Therefore, another urgent problem is establishing the features and directions of further evolution of accounting as a science.

Today there are two alternative approaches to defining the period of formation of accounting as a science. According to the first approach, the origins of accounting as a science date back to the second half of the 19th century and are associated with F. Villa, A. Guilbeaux, L.I. Gomberg, E. Léautey and G. Cerboni. According to the second (Anglo-American) approach, accounting received its scientific status in the early twentieth century thanks to W.A. Paton, H.R. Hatfield, J.B. Canning and DR Scott[*]. Professor Ya.V. Sokolov explains this feature: the authors of the late

[*] Professor Scott's parents named him DR (two capital letters), forming his name from the first two letters of his their own names ("D" and "R").

nineteenth century did not write in English, and therefore their ideas are not reflected in Anglo-American studies (quoted in Mathews and Perera 1999: 641), as a result, the representatives of the Anglo-American school of accounting refer to themselves as pioneers of scientific theorising of accounting practice.

The first critique of the understanding of accounting as a science appeared in the late nineteenth – early twentieth century (Table 1.1).

Table 1.1. The first critique of the understanding of accounting as a science appeared in the late 19th – early 20th century.

Author	*Reasons for critique*
A. Skvortsov	Attempts to consider accounting as science are detrimental to the case; it diverts the thought away from the actual task of accounting as an art (1889: 259)
L. Ivanov	Accounting is not a science; it is a set of rules that make it possible to present the actual state of affairs of the enterprise at any time (1889: 454)
I.A. Golubev	Accounting is the art of keeping accounts (1910: 2)
A.T. Malev	Accounting cannot be called an independent science due to the lack of its own laws (1913: 1)

The reason for this criticism was a significant set of options for classifying accounting in various fields of scientific knowledge: mathematics (N.F. von Dietmar, E. Léautey, N. Popov, Ch.E. Sprague, J.F. Schär), statistics (E. Bunfy, P. Struve), law (G. Cerboni), political economy (V.D. Belov, L.I. Homberg, P. Proudhon), etc., as well as a complete rejection of the possibility of separating accounting from practice. As noted by Ya.V. Sokolov, one of the issues of the magazine "Commercial Worker" in 1891 wrote: "For the vast majority of accountants of that time, the very idea that there may be a science of accounting, separate from practice, seemed absurd, dictated by the 'ignorance of the latter-day philosopher' (A.M. Wolf)" (1996: 253). Such views were supported by many researchers and were not questioned.

After the adoption of the first five-year plan for the development of the USSR's national economy in 1929 and the "great accounting purge" of the early 1930s, the development of accounting science was reoriented from the universal to Soviet accounting, which was based on socialist accounting theories and oriented towards planned economy (Lehenchuk 2017: 27).

The concept of "science of accounting" as part of a single science of business accounting was introduced into scientific circulation by Prof. R.S. Rashitov (1979: 3-4). Accounting as science was also considered by the pioneers of normative theorising accounting in the USSR, Professors V.F. Palii and Ya.V. Sokolov (1981: 3).

Among modern researchers-accountants, the issue of the scientific status of accounting is almost unquestionable and is used as a fact that does not require proof. Prof. M.T. Bilukha notes the existence of such a status in accounting: "In the CIS countries, in the classification of economic sciences "Accounting, analysis and audit" is logically and reasonably allocated to a separate economic science" (1998: 33). Prof. S.V. Bardash confirms it, noting that among modern researchers, the issue of the scientific status of accounting is used as an axiom that does not require proof

(2016: 10). Also generally accepted is the attribution of accounting to economics, which Prof. K.Yu. Tsigankov convincingly proved (2009: 114).

Peculiarities of Understanding Accounting as a Science by English-Speaking Researchers. Given the peculiarities of the formation of accounting as science in English-speaking countries, in contrast to post-Soviet countries, controversy over its scientific status in them began a little late, closer to the middle of the 20th century. However, accounting as an independent scientific knowledge system appeared in the early 20th century.

However, a direct call for the need to raise this status was first made by Prof. H.R. Hatfield in 1923 in an official message to the American Association of Accounting Instructors, which was caused by the low level of recognition of accounting in scientific circles: "I am sure that all of us who teach accounting in the university suffer from the implied contempt of our colleagues, who look upon accounting as an intruder, a Saul among the prophets, a pariah whose very presence detracts somewhat from the sanctity of the academic halls" (1924: 2). Biblical metaphorisation of the role of accountancy in the group of other academic disciplines by H.R. Hatfield's is a shred of convincing evidence that accountant researchers still had to make a significant effort to gain recognition and take their rightful place among them. In 1927 at the annual meeting of the American Institute of Chartered Accountants, H.R. Hatfield said that over the previous four hundred years, the natural sciences had made tremendous strides, while accounting had hardly moved. Accounting needed to formulate a correct theory that could be crystallised in clear terminology. Progress in other sciences had several strictly developed theories, clear and significant. In this sense, accounting had been left far behind (1928: 119). Thus, the author was the first to state the need to form a conceptual framework that will contribute to the unification of terminology and methodology of accounting and bring accounting closer to other academic sciences.

In 1950, K. Gruneberg in work *Is Accountancy a Field of Science*? (1950: 161) analysed the "ambitions" of accountants to call themselves scientists. As a result, he concluded that there was no reason at all for accountants to be ascribed to the scientific field and for their work to be considered scientific in nature. The author's views are entirely correct, as in this case, the accounting practice was considered, as well as its similarity to the natural sciences – physics and chemistry. The activity of an accountant-practitioner is to perform accounting procedures, and it has nothing to do with science. However, when we talk about accounting research, highlighting in the accounting such an area as a scientific activity, then such activity can be regarded as a scientific one.

In the works of the late 1950s, Prof. R. Chambers (1955) and Prof. R. Mattessich (1956) emphasised the need to increase the scientific status of accounting as a science, as was the case with other disciplines (management, economics, social sciences, etc.), by increasing the level of scientific excellence and rigour of accounting research.

In 1963 Prof. R. Mautz (1963: 329), having analysed the essence of the concept of "social science" and the criteria for belonging to it, found that accounting meets the established social science criteria. The release of this work had a significant impact on attitudes toward accounting in the United States. According to prof. M. Gaffikin (2006: 4), as a result of the emergence of such views, educators and researchers were forced to rethink the approaches to this discipline, taking into account the requirements of social science, based on which accountants-practitioners were able to make more profound use of research results.

In the second half of the 20th century, there happened the assertion of the role of accounting as a science; however, at the same time, there is a reorientation of the part of science itself in connection with the change of the defining approach to the further development of accounting from normative to positive. This transition was made possible by R. Watts' and J. Zimmermann's (1978) development of the basics of positive accounting theory, as a result of which the accounting science did not only acquire normative nature but began to be considered in the light of explaining and forecasting the development of accounting practice.

At the beginning of the 21st century, representatives of the Anglo-American school have already entirely shaped views on the understanding of accounting as a science. Prof. E.S. Hendriksen and M. Van Breda note that if understood correctly, accounting can be considered among humanities (2000: 27), which is also a social and applied science, which largely depends on wisdom, honesty and position of accountants (2000: 62). According to Prof. G. Wolk, J. Dodd, and M. Tearney (2004: 39), accounting has the potential to become a science, and it can be placed alongside economics and other social sciences that are estimated and predicted to be less accurate than the natural sciences. Prof. A. Riahi-Belkaoui is fully convinced that accounting is a full-fledged social science; it meets all the criteria for being considered a science (2004: 322). Professor D.B. van der Schyff also notes that accounting is a social science and fully deserves a developed social science status in college (2008: 12-13). At the same time, there is no unity in the views of Anglo-American researchers as to which sciences accounting can be referred to. Today, there are plenty of discussions about the attribution of accounting to the social or empirical sciences.

Accounting as a social science. Interpretation of accounting as a social science originates from the work of M. Weber *Protestant Ethics and the Spirit of Capitalism*, where the author notes that the modern rational organisation of capitalist enterprise can not be imagined without two essential components, the separation of an enterprise from the household and the accounting, which is closely related to that (Weber). Thus the author tried to emphasise the importance of accounting in the capitalist society to show the interdependence of its values and the social values of capitalism.

The ideas of M. Weber as an economist were heard by the researchers-accountants, particularly by DR Scott (1931). He was the first representative of the accounting community. He substantiated the social significance of accounting its

dependence on societal changes (in the external environment from the standpoint of accounting).

Today, in the works of many researchers of the Anglo-American school (E. Hendriksen, M.J. Gaffikin, A. Riahi-Belkaoui, R. Roslender, etc.), the concept of accounting as a social science is used as an established phenomenon. For example, according to prof. M. Gaffikin, instead of using the methods of natural sciences, accounting tends to use the methods that determine the social aspects of the discipline, rather than the requirements of intellectual excellence, by which natural science is characterised. However, unfortunately, over the past fifty years, accounting theorists have been slow to recognise this obvious evidence in their complex, confusing neo-empirical research programs (Gaffikin 2006: 1).

The understanding of accounting as a social science is also unquestionable due to the significant spread of sociological and behavioural fields of accounting, the development of which is supported by professional journals and individual accounting scientific schools, such as the English positive school, founded and headed for a long time by Prof. A. Hopwood. In the book written by representatives of this school, dedicated to his memory, the authors note that without A. Hopwood, "as a discipline would not be the creative and respected social science that it is today." (Accounting, Organizations and Institutions 2009: V). Other evidence of understanding accounting as a social science in the scientific community is its inclusion in the encyclopedia of social sciences (The Social Science. Encyclopedia) as well as into the research network of social sciences (SSRN - "Social Science Research Network").

Accounting as an empirical science. The understanding of accounting as an empirical science originates from the research of Prof. R. Sterling and is supported by a large number of modern researchers. Thus, in 1979, Professor R. Sterling put forward the thesis that we must eliminate the belief that accounting can not be an empirical science (1979: 213) because it meets empirical controllability and expediency requirements. According to the author, the consideration of accounting as empirical science is the first and most crucial step towards establishing its scientific status (1979: 218). Professor S. Salvari follows the same approach. He defined accounting as an empirical science, an open system of incentives and responses (2007: 3).

To be an empirical science, accounting must meet the criteria for such sciences, in particular, to have its own laws. Therefore, both authors have made attempts to identify such empirical laws. Professor R. Sterling (1979: 32) substantiated the example of accounting law, which can be empirically verified: depreciation of car equipment should be carried out based on reducing the residual value at a rate of 1.5. Professor S. Salvari (2007: 3) have substantiated productivity and capitalisation as empirical deterministic laws, while continuity and bankruptcy are considered empirical statistical accounting laws. It should also be noted that the study of Prof. R. Chambers is devoted to the selection of 12 empirical laws of accounting (1991: 14-15). However, the author did not recognise accounting as an empirical science.

The understanding of accounting as an empirical science has significantly strengthened since the late 1970s with the spread of positive accounting theory through the fundamental work of R. Watts and J. Zimmerman *Positive Accounting Theory* (1986) that actually shaped new standards for scientific research in the area of accounting. One of the most striking examples of such empirical research in accounting is the confirmation of opportunistic behaviour hypotheses by the subjects of accounting in the enterprise (the idea of premium plans, debt hypothesis, the political cost hypothesis).

The Current Debate among Anglo-American Researchers over the Recognition of Accounting as a Science. In August 2006, at the annual AAA meeting in Washington, Prof. J. Demski and Prof. J. Fellingham made presentations on "Is Accounting an Academic Discipline?". Both authors assumed that today accounting is not, although it could and should, be an academic discipline and occupies a relatively low place in the hierarchy of university disciplines. As noted in this regard by Prof. J. Demski, "today, our research is mainly derivative, bifurcated, and far from foundational. Our textbooks are intellectually embarrassing. Our intellectual contribution to the academy has curved asymptotically to nil. How to make accounting academic discipline? (2006: 9). According to the author, the only path is mutiny. It's time to strike out, to change the game, to ensure accounting has an honourable presence in the academy (2006: 9).

Were there similar appeals in the Ukrainian scientific community of accounting? Yes, there were, however, unfortunately, in most cases, only appeals. For example, in 2001, Acad. M.H. Chumachenko proposed to organise a special seminar for specialists to discuss the problem of the structure of accounting theory (2001: 44). However, this idea remained unrealised and is unlikely to be implemented in a similar form in the future. Today, the process of "blurring" the basic foundations of accounting formed by the Soviet accounting school is coming to its end. At the same time, there are no significant changes made by Ukrainian scientists in the formation of new theoretical basics of a modern accounting system based on IAS / IFRS.

The debate over the usefulness of accounting as science compared to other sciences has arisen before. For example, in his research, Prof. R. Sterling (1979: 39-41) determined that accounting will solve all its problems only when it becomes a science like physics. Perhaps this thesis is objective because using the experience of empirical research in this area can increase the intellectual excellence of accounting. However, "Accounting is a science like physics" is an entirely different thesis that needs to be proved because it aims to study a completely different reality: the enterprise's economic activity. The one who disagreed with this thesis was Prof. E. Stamp, who noted that the complexity, large number and variability of the pathways leading from the initial measurement to the set of possible results and the impossibility of demonstrating any formal links between the beginning and end of the "measurement chain" are so profoundly different from the typical sequence in the physical sciences, that the difference between them is not only in degrees but also in the form of measurements. Therefore, there are no prospects for finding parallels

between accounting and physics because the nature of physical reality is entirely different from the reality that accountants deal with (Stamp 1981: 25).

Prof. M. Gaffikin shares E. Stamp's position in this dispute, noting that accounting refers to the socially constructed world associated with human activity, so accounting will never be completely objective, free from specific values attributed to the physical sciences (2008: 16). E.S. Hendriksen and M. Van Breda also confirmed this: "Accounting is a creation of humans. There are no "right" ways to develop it because the study of fundamental truths does not generate it. It is just a convenient way to implement a certain order of things, which corresponds to many rules that the organisation must describe, like the FASB " (2000: 74).

Professor G. Porter and K. Norton generally contrast accounting as social science with the natural sciences, particularly physics. The authors note that accounting principles as a social science are significantly different from the rules that govern the physical sciences. The principles that guide the preparation of financial statements are not of natural origin, but they are developed to improve business conditions (2010: 23-24).

On the one hand, the position of critics of the thesis of Prof. R. Sterling is clear and correct, which can be confirmed by the fact that accounting as a science does not allow scientific discovery with the help of available methodological tools. Because scientific discovery is the establishment of previously unknown but objectively existing laws, properties and phenomena of the material world, which make a radical change in scientific knowledge due to its methodological diversity, variability and multiplicity of possible results (according to E. Stamp), accounting can not identify specific laws or properties that other disciplines can use. However, this position is not indisputable, as modern interdisciplinary research confirms the connection between thermodynamics first and second principles and double-entry in accounting. M.Yu. Medvedev also holds a similar view: "An incredible number of theories were formulated, but they were all "invented" and not "taken out of nature", as physicists, chemists and other professions have done and continue to do – areas of activity that are not questioned as scientific disciplines. However, it is possible to "extract from nature" not only the physical formula but also the not less "objective" law of accounting. As already mentioned, they are implicit but still detected, so their search does not seem to us a hopeless occupation" (2004: 153-164). Given the fact that the double record was discovered much earlier than the principles of thermodynamics, it can be stated that the available example just shows the patterns of accounting, which have found use in other sciences.

Another relevant area of research considered by the Anglo-American school of accounting representatives is the new search for methodological tools according to which the science of accounting should be developed. And is it necessary to do it? Over a long historical period, scientists have already used many methodological tools that have not led to radical changes in accounting practice and have not ensured the formation of a universal accounting theory. The answer to this question was provided by the participants of the conference "Intellectual Foundations of Accounting" (Some

thoughts on the … 2001) held in 2001 at Carnegie Mellon University. They identified the main theories, methods and methodologies used by researchers in accounting to develop its foundations since the mid-twentieth century (Table 1.2).

Table *1.2.* Suggestions for improving the foundations of accounting

Author (year)	*The proposed methodology*
R. Mattessich (1964), Y. Ijiri (1967)	Mathematics
T. Mock (1976)	The formal theory of measurement
J. Gonedes and N. Dopuch (1974), W. Beaver (1981)	Capital market theory
J. Demski, G. Feltham (1976), J. Christensen, J. Demski (2002)	Information economy approach
R. Watts, J. Zimmermann (1986)	Positive theory
S. Sunder (1997)	Contract theory

Given that this list (Table 1.2) was formed in 2001, as well as existing trends in the development of accounting towards integrated reporting, it is safe to add the concept of sustainable development, based on which the accounting system should provide information not only about the financial condition of the enterprise, its financial results and ability to create value in the future but also about its impact on the natural and social environment. Based on the above, it can be stated that one of the directions of development and improvement of the foundations of accounting is the application of new theories, methods and methodologies that raise accounting science to a new level, allowing to achieve the goals set out by the modernity.

1.2. Accounting theory development in English-speaking countries

At the present stage of accounting development, in the context of its harmonisation and standardisation, we should talk about the clash of world views of accounting theorists representing the Anglo-American and Soviet accounting schools. Today, there is a situation in which the national accounting system has introduced rules, principles and standards based on the principles of the Anglo-American model. Still, the general theory of accounting taught to students, in most cases, almost remains unchanged and corresponds to the classical Soviet approach. As a result, there is a discrepancy between the theoretical foundations of accounting and the practice of maintaining it based on the NAS(S). The main reasons for the existence of the above problem relate to the differences in the conditions and features of the historical formation of accounting theory in English-speaking and post-Soviet countries.

Many modern studies reveal general issues of the historical development of accounting (R. Brown, R. Bryer, J.R. Edwards, V.M. Zhyk, S.A. Zeff, M.I. Kuter, R. Mattessich, T.A. Lee, M.Y. Medvedev, K. Napier, R.H. Parker, G.J. Previts, M.L. Piatov, Ya.V. Sokolov, R. Fleischmann, K.Y. Tsyhankov, etc.), but not enough attention is paid to the formation of its theory. There are still discussions among

scientists about which of the works is the first full-fledged theoretical work in accounting.

The researchers paid little attention to the peculiarities of the development of the Anglo-American accounting theory laid down as the basis of IAS/IFRS. The defining work in this direction among post-Soviet scientists is the one by Ya.V. Sokolov (1996), which was interpreted and treated differently by many researchers and has provided a common characteristic to the accounting system of the United States and English-speaking countries in general. However, without undermining the role and significance of this work, it reveals only some aspects of the development of accounting theory in the English-speaking countries based on literature sources that characterise the development of theory before 1970 and do not take into account the achievements of the accounting theory's "Golden age", Positive Accounting Theory, the new normative theories. Also, the peculiarities of the development of Anglo-American accounting theory are covered in very few translated publications (Mathews and Perera 1999; Hendriksen and M. Van Breda 2000). The above mentioned makes it necessary to study the features of the development of Anglo-American accounting theory and compare them with the development of accounting theory in Ukraine. Identifying the features of the historical development of accounting theory is the key to solving the problems in accounting at the present stage. Conducting such research can help solve the problem of unacceptability and unsuitability of "western" accounting concepts to Ukrainian accounting practice.

The analysis of English-language primary sources on accounting allowed us to establish that the issues of accounting theory began to be considered in separate manuals from the middle of the 18th century. Although their theoretical research level was not high enough, since the accounting manuals were compiled by describing the existing accounting practices, we can distinguish subsequent periods in the development of accounting theory in English-speaking countries.

Primary Period. In 1841, the accountant-practitioner C. Marsh published the book *The Science of Double-entry Book-keeping...*, which addressed specific theoretical accounting issues. C. Marsh treats book-keeping as the science of accounts, which is "a systematic representation of everything we owe to others and everything others owe to us, they are our creditors and debtors. The whole science is built on two words "debtors" and "creditors". C. Marsh also noted that "understanding the science of book-keeping allows us to "adapt it to any businesses" (1841: 10). In this way, the author emphasised the universality of the accounting theory presented in his manual.

In 1873, the Canadian accountant and auditor W. Orr published *The Dominion Accountant Or New Method of Teaching the Irish National Book-Keeping*. This book is one of the most exciting works of the late 19th century as it sets out a significant number of original ideas and conclusions of the author, which are the product of his work experience in the speciality. The first chapter of the work "General Questions, on the Theory and Practice of Book-Keeping" is constructed in the Q-A form and reveals the following issues of accounting theory: the object and methods of book-

keeping, the essence of Double Entry, types of accounts and their nature, advantages and disadvantages of Simple and Double Entry, etc. The peculiarity of W.R. Orr's book, as its editor A. Dredge states, is in "its criticism by the Canadian press and by the best businessmen of the Dominion" (1873).

In 1881, the Canadian authors S. Beatty and S. Clare in *Book-Keeping by Single and Double Entry* (1881) revealed many questions related to accounting theory. Even from the title of the book, one can see that the authors analysed and compared two separate scientific research accounting programmes, their advantages and disadvantages (differences in fundamental principles, types of accounts, auxiliary and primary forms of reporting, etc.). In their work, S.G. Beatty and S. Clare consider the object of book-keeping, the nature, types and forms of accounts, present their classification.

In 1894, professor of pure mathematics at the University of Cambridge A. Cayley in his work *The Principles of Book-Keeping by Double Entry*, notes that the principles of book-keeping with double entry make up a theory that is mathematically not uninteresting: it is – in fact, like Euclid's theory of rationality – an absolutely perfect theory (1894: 10). The author thus tried to emphasise the need to develop the theoretical foundations of accounting at the level of mathematics.

In the 19th century, the first attempts to raise theoretical accounting issues appeared, but they were fragmentary; in the vast majority of cases, the authors applied a positivistic approach, which presupposed the development of accounting theory based on the description of the existing practices. As a result, as Prof. M. Gaffikin noted, "at the end of the 19th century, dissatisfaction with the existing texts prompted some researchers to study the subject more intellectually" (2005: 5). These studies, carried out in the second half of the 19th century in line with such a direction as "the science of accounts", provided the intellectual and theoretical basis for developing the accounting profession in the USA (McMillan 1998: 28-29).

Pre-classical Period. The name of the "pre-classical period" is caused by the fact that the works of researchers of this period significantly impacted the later, classical phase of the development of accounting theory in English-speaking countries.

The first full-fledged work on the accounting theory was the book by Ch. E. Sprague, *The Philosophy of Accounts* (1907), which passed five reprints over the next fifteen years and significantly impacted the development of accounting in English-speaking countries. In this regard, the researcher himself mentioned that the purpose of his treatise is not to teach the art of book-keeping or transaction registration since it is pretty successfully described in many manuals published by specialised educational institutions and individual instructions. In his opinion, it is necessary to develop knowledge about the scientific foundations of all systems, in particular, the accounting system.

"As a branch of mathematical and classification science, accounting principles can be defined by apriori reflection and do not depend on the customs and traditions surrounding the art. I tried to form these principles simply and naturally, without

resorting to fictitious ways of representation, but firmly adhere to fundamental equations and their subdivisions" (Sprague 1919: 7). The author introduced the term "proprietorship" as a collective term for all accounts that represent value. It allowed him to formulate the balance sheet equation "Assets = Liabilities + Property", based on which he developed a new concept of Capital theory – Property theory. This theory was also called the Proprietary theory, where the proprietor is the centre of accounting interests.

By property, Ch. E. Sprague understood the capital in both accounting and economic terms, or simply as the sum of assets of one of the parties to the balance sheet (1919). Although some of the ideas of Ch. E. Sprague were previously described by some authors (for example, I.F. Cher also wrote that the capital is the owner's interest in a particular enterprise), it was Ch. E. Sprague who first built a solid theoretical foundation by combining these individual elements into a single system. As a result, new qualitative results were obtained, for example, that ownership increases due to profit. The approach developed by Ch. E. Sprague, according to Professor M. Gaffikin (2005: 5), became the dominant thought presented in many works published in the first decade of the 20th century.

In 1908, W.M. Cole published a paper entitled *Accounts: Their Construction and Interpretation for Business Men and Students of Affairs*, in which considerable attention was paid to the principles of book-keeping and accounting, the principles of cost accounting. The author reveals the following theoretical issues: the difference between capital and income, the relationship of principles and interests in valuation, the place of statistics in accounting, the tenets of depreciation and capitalisation, the main characteristics and interpretation of the Balance sheet, as well as the principles of industry accounting (on the railway, in the bank, in trusts, in insurance companies, in the factory, in municipal institutions) (Cole 1908).

In 1909, H. R. Hatfield's work *Modern Accounting, Its Principles and Some of Its Problems* was published (1909). E. Hendriksen and M. Van Breda refer to it as one of the outstanding works of researchers of accounting thought, which became the foundation for many further theoretical studies (2000: 66), and M. J. Mumford calls G.R. Hatfield one of the principal founders of modern accounting and a pioneer of academic accounting (1980: 151). Professor G. Waymire and S. Basu note that this work was one of the leading books of the time written by the first full university accounting professor in the United States history (2008: 124).

In his research, G.R. Hatfield used the ideas of Ch.E. Sprague, considering accounting through property theory. He examined the fundamental book-keeping equations, the development of the accounting system, proposed his own classification, the principles of double accounting, the principles of asset and expense valuation, the theoretical foundations of accounting for intangible assets and goodwill, the economic value of depreciation and its reflection in accounting, the theory of calculation, and so on.

In 1918, the joint work of prof. W.A. Paton and R.A. Stevenson *Principles of Accounting* was published, which allows us to talk today about the level of

development of accounting theory of that time. The authors revealed the nature and possibilities of accounting, the need to conduct an accounting analysis of the company's activities, determined the difference between accounting and statistics, and emphasised the need to develop accounting theory. Prof. W.A. Paton and R. A. Stevenson identified the following main accounting problems: the need to determine the income of the shareholder at the time of determining the size of his share; the impact on accounting upon the interests of employees and investors; the lack of development of cost accounting, which allows determining the effectiveness of business processes of the enterprise (1918: 13).

In 1914, A.L. Dickinson's work *Accounting Practice and Procedure* (1914) was published, which today is considered the classic work on accounting theory in American literature. In this work, the author tried to avoid a simple discussion of existing accounting practices and made significant theoretical generalisations about accounting principles and methods. A.L. Dickinson considered the following theoretical accounting issues: the basics of understanding accounting principles; approaches to evaluating balance sheet items at current value, which was considered at that time the "cornerstone" of accounting; problems of financial consolidation; theoretical aspects of accounting valuation and depreciation; the influence of the cultural factor on the development of accounting.

In 1919, P.-J. Esquerre, in his work *The Applied Theory of Accounts* (1919), highlighted the principles of simple and double book-keeping systems and compared them; the author considered triple and quadruple systems (logismography and statmography), proposed his own classification of accounts, revealed the theoretical aspects of accounting for assets and liabilities, the features of preparing financial statements under the conditions of using simple and double accounting systems, the characteristics of drawing up a consolidated balance sheet, the theoretical aspects of accounting for the liquidation of an enterprise. It is worth mentioning that the author considered the issues of accounting for various intangible assets – goodwill, patents, trademarks, copyrights and franchises, and the problems of forming a *Statement of Affairs*, or as it was also called – the recipient's report. The report made it possible to determine the actual number and value of assets and liabilities an enterprise can have to repay claims that may arise. The report structure was as follows (Table 1.3).

Table 1.3. The structure of a *Statement of Affairs*

Assets			*Liabilities*		
Asset items	Book value	Realisable value	Liability items	Book value	Realisable value

The evaluators evaluated the report items. Resulting from the discrepancy between the book value of assets and liabilities and the value set by the evaluators, there appeared a deficiency account. Such a report made it possible to identify the reserves of the enterprise's activities and determine the probable results in case of the fictitious liquidation of the enterprise. The study of the report using experience is particularly relevant in the context of the active development of the theory of

accounting engineering (V.I. Tkach, M.V. Shumeiko) and introducing the concept of "pure liabilities".

In 1920, E. Saliers published *Accounts in Theory and Practice Principles* (1920). It was one of the first works devoted to the principles of keeping records on accounts. It covered the following theoretical accounting issues: the aims of accounts, functions and classification of business operations, the theory of accruals and future payments, the structure and interpretation of the Balance and Profit and Loss Statement, the theory of accounting in companies and corporations, and so on.

Also, in 1920, G.D. Greeley published 'Theory of accounts' in the collective three-volume edition of *Business Accounting* (1920). It revealed the fundamental principles of accounting and reporting and the theoretical side of accounting methods used in practice. The author explained the key accounting terms – interpreting various organisational and legal forms of making business, assets, liabilities, capital, profits, and losses. The author devotes a separate section of the work to the capital as an object of accounting. G.D. Greeley considered the theoretical aspects of depreciation in accounting, the features of accounting in the corporate sector and developed his own classification of accounts. Prof. L. Goldberg (1965: 112) notes that G.D. Greeley was one of the first American scientists to openly defend the economic unit's theory.

Professor G.R. Hatfield (1928: 85), speaking at the annual meeting of the American Institute of Certified Public Accountants in 1927, recognised significant progress in accounting at the beginning of the twentieth century in the United States. In his opinion, this was due to the emergence of serious scientific literature. In England, L.R. Dixie and F.W. Pixley can be considered the pioneers in this field. In particular, the latter published a two-volume *The Accountant's Dictionary: a Comprehensive Encyclopaedia and Direction on All Matters Connected with the Work of an Accountant, Illustrated with the Necessary Forms and Documents* (1922), which may indicate the level of development of accounting in England at the time. Ch.E. Sprague and W.M. Cole initiated scientific discussions on the theoretical foundations of accounting in the United States.

Analysing the contribution of this period representatives (V.M. Cole, P.-J. Esquerre, A.L. Dickinson, G.R. Hatfield, R.B. Kester, R.H. Montgomery, Ch.E. Sprague, J.R. Wildman), H. Johnson admits that their work has significantly transformed financial accounting in the United States (1977: 122-123). Among the main achievements of the accounting scientists at the beginning of the twentieth century, according to G.J. Previts (1984: 3), were the theory of property (proprietary), based on variable prices, double-entry methodology, as well as accounting statements based on nominal balance accounts and activity accounts.

Classical Period. *Search for principles (1920-1939).* Highlighting the very name 'classical period' means that the results of scientific research obtained during these years were the basis for what is now mainly understood by accounting and its methodology. The allocation of the first sub-period is due to the fact that it was

during this period that the search for basic accounting laws or rules took place, which should become a solid basis for accounting in practice.

W.A. Paton is considered the visionary of this period. In 1922 he published the work *Accounting Theory: with Special Reference to the Corporate Enterprise* (1922), which, according to E. Hendriksen and M. Van Breda (2000: 66) and according to modern concepts, is quite radical. The reason for writing this work, according to the author, was the fact that accounting techniques at that time met the conditions for the development of large enterprises. Still, accounting theory lagged far behind the practice. Thus, the book's main goal was to reform the theory of accounting to meet the needs and conditions of functioning of large corporations.

Professor W.A. Paton applied an individual approach (the author himself called it 'postulating'), which he described in Chapter XX, 'The Postulates of Accounting'. It implies that the author identifies fundamental postulates (assumptions) used by an accountant to implement assessment and professional judgment in accounting. The reasons for consideration and analysis of postulates and their application were not to prove the necessity to exclude them but to search for restrictions in their application. W.A. Paton identified and conducted a critical analysis of the following postulates: business entity, the continuity of this entity, the balance-sheet equation, financial condition and the balance sheet, cost and book value, cost accrual and income.

The author's views on asset valuation were revolutionary. He stressed the need to reflect any changes in the value of assets on accounts. In his opinion, the non-reflection of changes in the value of assets in the monetary meter in the existing accounting system is a significant limitation of the latter. The researcher suggested reflecting short-term assets at their original (historical) value and using other estimates for long-term assets.

Over time, the contribution of professor W.A. Paton to the development of accounting as a science and professional activity was appreciated in academic circles, as evidenced by the recognition of W.A. Paton in 1987 by the American Institute of Certified Public Accountants "the best teacher in the field of accounting in the 20th century". He was also the journal's founder, *The Accounting Review*, and its first editor during 1926-1929. The main scientific achievement of W.A. Paton appears to be that he was the first among accounting theorists who, when presenting the financial condition of a company, carried out not only a description of the assets and liabilities of the owners belonging to the enterprise but also began to take into account the influence of such economic factors as inflation and the interest rate.

In 1927, H.R. Hatfield published the work *Accounting, Its Principles and Problems* (1927), in which he defended the use in the accounting of historical cost, as well as the principle of conservatism – lower cost on the market, for the valuation of stocks. It was not his invention, but he borrowed it from the United States and German practices. As prof. R. Bryer (2007: 6) notes, H.R. Hatfield used Karl Marx's theory of value but adhered to dogmatic theoretical agnosticism and became famous for the idea of "relative truth" in accounting since "profit" was an illusory, infinitely contradictory intellectual idea.

In his speech at the annual meeting of the American Institute of Certified Public Accountants in 1927, H.R. Hatfield spoke about the need to develop a solid accounting theory. Among the main accounting problems, he attributed to the following: the lack of unified accounting terminology; the absence of a coordinated position on applying a single assessment in accounting that would meet its goals. The author raises the problem of using historical cost and market valuation in accounting, unification of balance sheets and existing approaches to their compilation, choosing a specific method of depreciation accrual (1928: 181).

In 1929, J.B. Canning published *The Economics of Accountancy: A Critical Analysis of Accounting Theory*. The author was the first to develop a concept for measuring and evaluating assets based only on future expectations. Like the work of W.A. Paton, J.B. Canning's book was based upon his PhD thesis and influenced many authors who later researched the field of accounting.

The research of J.B. Canning was of considerable interest because it was written not by an accountant but by an economist since the author was primarily an expert in economics. As noted by Professor G. Waymire (2008: 124), an economist first attempted to understand the theory of accounting to settle it with the economic theory of that time. J.B. Canning was not a "prolific" author in accounting; his scientific heritage includes only one book and five scientific articles devoted to accounting topics. However, thanks to these works, he, along with W.A. Paton, is considered the founder of modern accounting theory in the United States.

One can divide the work of J.B. Canning into two parts, the first of which was devoted to criticising the current accounting practice as the user of accounting information since, as an economist, he studied macroeconomics issues. The second dealt with the need to improve the measurement system in accounting based on the theory of I. Fischer. In his opinion, there were the following problems in accounting theory: lack of consistency with economists in the terminology used; misinformation about accounting conservatism; lack of discussion about the nature of income; inability to recognise goodwill as an asset, etc.

Professor J.B. Canning raised two crucial questions in his research – asset valuation and profit measurement. His comments on these issues, as well as the definition of assets and liabilities, are still mentioned in the FASB memoranda (quoted in Hendriksen and Van Breda 2000: 66).

In 1931, DR Scott's published *The Cultural Significance of Accounts,* where he defended the idea that accounting is the primary means of political and economic control in society. As R. Elam states, "he concluded that our culture was in a time of relative turmoil because the market was no longer the primary controlling force within our institutions. Accounting as a vehicle of the scientific method would replace the market as the synthesis of institutions which make up our culture" (1981: 51).

According to M.A. Covaleski and M.W. Dirsmith (1991: 1), the work of DR Scott is one of the first significant works in which he predicted the emergence of a crisis in the field of his research and identified the problems and ways to solve them

to get out of such a crisis. R. Elam (1981: 57) because of the accuracy of his forecasts, called DR Scott the accounting Oracle of Delphi. DR Scott based his research on M. Weber, T. Veblen, F. Taylor and other institutional scientists who have studied the changing roles of society and economic organisations. According to him, it is precisely this change in relations between economic organisations and society that has caused the emergence of fundamental threats to research in accounting.

According to Professor G.J. Previtz (1984: 2), DR Scott first justified the social significance of accounting. DR Scott predicted the emergence of a social perspective that recognised the scientific method and objective analysis as a unified philosophy of our culture. Professor A. Riahi-Belkaoui calls DR Scott the developer of an ethical approach in accounting theory, the core of which are equity, justice, equality and trust (2004: 113).

In general, it can be stated that DR Scott was among the first institutional accounting scientists. Studying changes in cultural institutions, he found that they occur periodically. There is a stage of relative stability between shifts when society (culture) is in harmony with the interconnected environment. However, existing scientific abstractions and theories are in no hurry to adapt to environmental changes. In the 1920s, in the United States, it was just the time for such changes. In our opinion, such a shift happened in Ukraine when the accounting system has changed in two vectors – formational and civilisational. And while the adaptation of accounting to the market (formational vector) gradually took place due to the active use of NAS(S) and the direct implementation of IFRS, there is almost no change along the civilisational vector. Thus there is a strong need to conduct thorough research in this area.

DR Scott was an active member of the AAA and the American Association of University Professors. In 1936, the AAA, particularly a group of scientists led by E. Kohler, published a regulatory *Tentative Statement of Accounting Principles*. DR Scott was one of its commentators. As Professor M.R. Matthews notes (Mathews and Perera 1999: 49), DR Scott was quite critical of the temporary situation since it created the ground for inflexible practices that would not respond to economic and social changes. In his opinion, the *Statement*, if adopted, would lead to a slowdown in the development of accounting since it does not anticipate any constructive development of accounting theory, something that should form the basis of such a document.

It should be taken into account that with F. Roosevelt's coming to power in the United States, in just three months, the "financial world of non-interference" turned into a world of strict regulation (Hendriksen and Van Breda 2000: 48), which could not but affect the formation of accounting theory, in particular, the development of a normative approach in the shaping of accounting theory.

In 1938, a commission consisting of T. Sanders, G. Hatfield and A. Moore, customised by the Haskins & Sells Foundation, published a positive *Regulation on Accounting Principles* in the form of a monograph to formulate accounting principles

and rules. The basis for writing the monograph was an analysis of existing practices. The authors focused more on the codification of accounting practices than on studying particular methods; herewith, they did not very critically research the current accounting methods. As Professors G. Waymire and S. Basu stated, this book caused significant controversy when published. The authors used a non-normative approach to determine accounting principles based on conventions developed in practice (2008: 125). Despite this, the book has become an authoritative source for many members of the Committee on Accounting Procedure (CAP) (King 2000: 4).

In 1939, K. Macneal's work *Truth in Accounting* was published (1939). It was one of the first full-fledged normative works in accounting theory. According to Professors G. Waymire and S. Basu (2008: 118), this was a reasonably early attack on the accounting system based on historical costs, which bore many provisions regarding the fair assessment of balance sheet items disclosed in FASB's conceptual framework. The author was one of the first in the English literature to suggest using an approach based on current market value to evaluate assets in financial statements.

K. Macneal was a revolutionary because, in general, his work was a collection of critical statements about existing accounting practices. His work contained a significant critique of current practices. He believed that the function of accounting was to reflect economic truth. But the financial statements did not reflect the truth; they only misled investors and creditors. In particular, he notes that the principle of historical cost and the convention of conservatism do not allow financial statements to reflect the actual true financial position and operating results of activities (Kabir: 2005).

The work to finish this stage was the one by S. Gilman, *Accounting Concepts of Profit* (1939), in which, for the first time in accounting theory, the main focus of the study of financial statements was shifted from the 'Balance Sheet' to the 'Income Statement'. One of the main achievements of S. Gilman was the distinction between the concepts of 'rules' that one can create and 'principles' that should be an ideal, universal construction. The author noted the existence of a general trend, according to which many researchers claiming to study accounting principles, do not mention the word 'principles', even in the terminological index (Hendriksen and Van Breda 2000: 67). It should also be noted that it is S. Gilman, who, for the first time, attributed the principle of prudence to the concepts of accounting in the United States.

The work of S. Gilman reflects a profound and comprehensive attempt to consider the measurement of income in accounting from the perspective of the historical development of accounting practices and principles (Waymire and Basu 2008: 124). The author tried to deduce the theory of valuation in accounting based on a positivist approach. As noted by M.R. Matthews and M. H.B. Perera, all researchers of this period used this method of scientific research: "Researchers ... followed a positivist approach to the construction of theory, which, as a rule, creates a closed cycle "Practice – Theory – Practice", which contributes to the same use of dubious and outdated methods" (1999: 47).

The contribution of scientists of the period under review (C. Gilman, A.C. Littleton, A. Moore, W.A. Paton, T.G. Sanders, G.R. Hatfield) is a detailed description of accounting conventions, in particular, the principle of conservatism, the concept of materiality, the principles of consistency, an economic unit, compliance (Deegan 2004: 36), as well as a change in the wording of the purpose of accounting and the pursuit of reporting (Hendriksen and Van Breda 2000: 66), when the primary users of financial information began to be considered not managers and creditors, but investors and shareholders. As a result, there was a decrease in the role of the balance sheet as a statement of value (value); an increase in the part of the profit and loss statement and the meaning of the concept of profit; the need for a more complete description and introduction of notes and additions to it; an increase in attention to the content and consistency of reporting data, especially data on profit (Hendriksen and Van Breda 2000: 66).

In this historical period, in which we highlighted the sub-stage mentioned above, significant changes in the US economic system characterised an unprecedented development of the corporate sector. As a result, the practice of accounting was far ahead of theory, leading to the development of a new theory based on the analysis of "what is" – according to the positivist approach. The result of applying this approach was the gradual formation of a significant number of diverse non-unified theories, which were quite challenging to combine into a single general theoretical construction.

The Unification of Accounting (1939-1960). The starting point for highlighting this sub-stage was in 1939 when the Committee on Accounting Procedure of the American Institute of Accountants began issuing bulletins containing provisions on the unification of accounting. Since 1942, the Institute of Chartered Accountants in England and Wales has also published a series of recommendations but rather general. A detailed list of bulletins and guidance is given in the work of M.R. Matthews and M. H.B. Perera (1999: 55-56). The issue of such regulatory accounting documents outlined the general trend that accounting began to develop in the 1940s and 60s, which "set the regulatory tone" for researching the field of accounting.

R. Watts and J. Zimmermann determine the reason for the overall development of the normative approach in this period. It is that after the issue of the laws "On truth in securities" of 1933 and "On securities" of 1934, regulating the disclosure of information by corporations that issue securities listed on stock exchanges, that the accounting theorists became more interested in justifying what should be reflected by enterprises in reporting (1986: 4-5).

The publication in 1940 of the monograph by W.A. Paton and A.Ch. Littleton *An Introduction to Corporate Accounting Standards* has made accounting as science even more academic. This monograph supported the ideas laid down in the Provisional regulations (1936). It was based on the fundamental assumption that accounting is a distributive process conducted on compliance using a valuation model considering the historical costs. The primary intention of the researchers writing the

monograph was to build a conceptual framework on which accounting standards should have already been made to eliminate the tension between the academic community and professional accountants in the United States.

The monograph was a significant success and sold tens of thousands of copies with many reprints later. As M. Gaffikin (2005: 8) notes, this was one of the most significant works in the accounting literature, written by two of the most influential accounting professors in the United States, which had a conscious theoretical approach. It is still used in some university courses.

Particular attention should be paid to the author's development of the essence of the concepts of costs and income (Hendriksen and Van Breda 2000: 64), the idea of matching income and expenses used by the authors, which was different from the works of that time, promoted the use of the theory of economic units in accounting (Gaffikin 2005: 8). By many authors, for example, Zh. Cao (2001), this work is considered the founder of the process of modern standardisation of accounting, which is explained by the problematic issues that the authors considered in the book: the need to create accounting standards; what should be the nature of standards; the justification of assumptions serving the basis of standards; the development of different standards for costs, profit, income; consideration of individual issues related to the interpretation of accounting standards, for example, the cost versus value, etc.

To unify financial statements in various industries (profitable, non-profit, state, divisional structures, corporations, etc.), in 1947, W.J. Vatter published the paper *The Fund Theory of Accounting and Its Implications for Financial Reports* (1947). In it, the author questioned the theories of capital that have so far been used in accounting (the proprietary theory and the economic unit theory) and developed the fund theory of capital, according to which an economic unit is called a fund that includes a particular set of assets and liabilities, as well as restrictions representing a specific economic activity. According to him, the reason for the need to form a new theory is its focus on the personalisation of accounting information. The centre of interest should not be the owner but the activity. He defined a group of assets, liabilities, and other restrictions related to the fund in its function. By receiving information about various funds, the manager will have the best budget indicators of expenditures and revenues. As noted by E. Hendriksen and M. Van Breda (2000: 302), W. Vatter offered particular reporting forms that displayed the company's liquidity status. They were to show the common sources and restrictions while using certain assets or sources of cash generation.

In 1950 W. Vatter published another work - *Managerial Accounting*, based on the experience of teaching this course in educational institutions. Subsequently, it became a model for all management accounting manuals for the next thirty years (Waymire and Basu 2008: 125). It confirms the fact that this book later had eighteen reprints. It was published in paperback when it was first published because the publisher was unsure whether academia would use it. The book of W. Vatter was unique for the 1950s. Most of the works of this direction covered approaches to property valuation, and W. Vatter focused on budgeting and management control.

The author was convinced that only internal users, not the external ones, should use the information from the management accounting system.

In 1953, A.C. Littleton's monograph Structure of Accounting Theory (1953) was published. It contrasted the inductive and deductive approaches to formulating basic accounting principles. It made it possible to establish how accounting principles can evolve and how new regulations can be discovered through an induction approach. To build his own theory, the author used five main assumptions, the first four of which were the principles of an enterprise (the principle of enterprise services, the principle of economic unit, the principle of frequency of the activity of an enterprise, the principle of correspondence of entrepreneurial efforts (costs) to the achievements (income)), and the fifth – the assumption of the continuity of activity. The application of the induction approach became the defining distinguishing feature of this monograph from the collective work written by A.C. Littleton in 1940 in collaboration with W.A. Paton.

A.C. Littleton considered determining income for a particular period by allocating expenses and revenues accordingly to be the primary purpose of accounting. He considered the income statement the primary form of financial statements and the balance sheet to be a form of secondary significance. In his work, he also raised some philosophical issues, such as the nature of accounting theory, the relationship between accounting theory and practice.

Since the late 1950s, the American Institute of Accountants has issued recommendations to the organisation's members and other stakeholders. As noted by E.S. Hendriksen and M. Van Breda (2000: 68), their release pursued the solution of problems in the following directions: the adoption of accounting postulates; the formulation of principles; the development of instructions for the application of principles in various situations; the study of problems.

In 1961 A.C. Littleton published a voluminous work, *Essays on Accountancy* (1961), which consisted of the revised excerpts from his previous works and articles. It outlined his ideological vision of the process of the historical development of accounting, its current state, and it formulated prospects for further development and directions for improving accounting as a science, professional activity and academic discipline. In terms of accounting theory, the author considered the ideological aspects of its formation, theoretical principles of capital accounting, features of accounting valuation in conditions of price fluctuations, the role of professional judgments and making a choice among accounting alternatives, and also devoted considerable attention to analysing the essence of accounting principles.

In 1961, the Committee under the leadership of M. Moonitz issued ARS № 1, *The Basic Postulates of Accounting*, to meet the special Committee's recommendations on developing basic accounting concepts. In this monograph, fourteen postulates were formulated that characterised what should or should affect existing accounting practices. One of the committee members, L. Spacek, noted that the purpose of the study was to establish fundamental postulates based on

observations of practices, which in the future can become the basis for formulating accounting principles (King and Slocum 2000: 8).

In 1962, under the co-authorship of M. Moonitz and R. Sprouse, ARS № 3, *A Tentative Set of Broad Accounting Principles for Business Enterprises,* was published. In ARS № 3, they didn't just generalise the practices. According to the authors, the experience should be supported by logic, and conclusions based on experience cannot go beyond this experience. The postulates and principles formulated in the report should provide a conceptual framework of a recommendatory nature for considering specific situations and problems in accounting. As noted by T. King and E. Slocum (2000: 12), ARS № 3 did not receive recognition; the representatives of the accounting profession treated it with contempt and sometimes even behaved quite hostile. It happened so due to the disappointment of the results obtained at ARS № 3, for which they had significant expectations. ARS № 3 actually signalled the impossibility of developing accounting principles based on applying a regulatory approach.

In 1965 P. Grady developed ARS № 7, *Inventory of Generally Accepted Accounting Principles,* which was an attempt to restore confidence in the professional image of accounting after the damage caused to him by the release of ARS № 3. In contrast to the postulates identified by W.A. Paton (1922) and the principles of accounting formulated by a team of authors headed by M. Moonitz (1962), P. Grady (1965) formed ten basic accounting concepts[*]. They were further considered a conceptual basis for codifying accounting principles, providing a comprehensive discussion of them, and became the basis for auditing those areas of activity where there was a significant variety of accounting practices.

ARS № 7 consolidated accounting thinking when the development of the profession and the standardisation process required a positive approach that contrasted with ARS № 3. A special committee observed that ARS № 7 provided a modern basis for accounting principles that seemed generally accepted, discussion of accounting functions, and fundamental concepts that accounting focused on. ARS № 7 was considered the "raw material" required to prepare a document or documents recommended by the special Committee. However, as a research paper, ARS № 7 was not officially accepted as a written embodiment of generally accepted accounting principles.

The Rise of the Normative Theory of Accounting. In the Anglo-American scientific accounting literature, the 1960s, using the epithet provided by C. Nelson in his work, *A Priori Research in Accounting* (1973), was often called the "golden age" in accounting. Professor R. Dyckman and S. Zeff also call it the "decade of awakening" – the decade during which accounting research awakened the use of the scientific method since there was a more rigorous and educational understanding of the core of traditional accounting theory (1984: 233-234). This period is characterised

[*] The choice of "concept" instead of "postulate" or "principle" was made under pressure from AAA, which determined that the term "concept" was more acceptable.

by the fact that normative methodology has become mainstream in accounting research.

The emergence and widespread use of the normative methodology in accounting was not a revolution since many previous scientists had applied this methodology. Mainly, the scientists whose works belong to earlier periods (K. Macneal (1939), W.A. Paton, A.C. Littleton (1940), A.C. Littleton (1953)) followed the normative approach. Also, as prof. R. Mattessich notes, the following scientific directions can be attributed to the normative methodology: German ethical and normative theory (J.F. Shaer, H. Nicklish, E. Schmalenbach); British normative theory (A. Hopwood, D. Cooper, T. Hopper, A. Powell and others); pragmatic-normative theories (W.A. Paton, M. Moonitz, R. Sprouse, L. Goldberg) (1992: 182-187). However, during the "golden age", the normative approach's application reached a new qualitative level. It gave a significant impetus to identifying and solving problems in accounting and its development in general. The prerequisite for it was 1955-1960, marked by a noticeable increase in researchers' understanding of the normative methodology.

The most significant contribution to the development of the normative theory was made by four researchers: R.J. Smith. Chambers, R. Mattessich, R. Sterling and C. Devine. The first three authors have published a considerable number of works devoted to the theory of accounting, and C. Devine was better known as a commentator (critic) since he was little published until today. Therefore it wasn't easy to assess his contribution to the development of science (Gaffikin 1988: 17). The scientific works and critical research of these four authors were the reason for highlighting the "golden age" in accounting as a separate stage of its development.

As part of this stage, there are two sub-stages – the preparatory and the "golden age" as it is.

The preparatory sub-stage is characterised by works published during 1955-1957. R.J. Chambers (Australia) and R. Mattessich (Austria, Canada) first applied an integrated regulatory approach.

As M.J.R. Gaffikin writes, the mid-1950s were marked by a change in the type of the published accounting literature. Articles by R.J. Chambers and R. Mattessich called on scientists to take accounting thought more seriously, following the widespread trend of modernism, which led to the ideas from the philosophy of science. These articles form the central part of the intellectual heritage of accounting science (Gaffikin 2005: 16).

The letter in 1983 to R. Matterssich from M. Moonitz, his colleague from the University of Berkeley, also confirms the defining role of their research of that time. Moonitz wrote: "you and Chambers independently began exploring the problem of a comprehensive theory of accounting in the 1950s. Bob Sprouse and I came along a few years later, indebted to both of you in different ways, for showing us a new way to look at old problems; then many others came aboard" (Mattessich 2006: 24).

The preparatory sub-stage includes two articles by R.J. Chambers in 1955 and 1957 and two articles by R. Mattessic in 1956 and 1957. In particular, S. Henderson

and J. Peyrson considered the article by R.J. Chambers, "Blueprint for a Theory of Accounting", in which the author defined and justified what should be expected from the theory of accounting, "the first of a series of articles which were to exert a considerable influence on accounting research and the development of accounting theory" (Gaffikin 1988: 17).

Professor R.J. Chambers, having defined the purpose of accounting as performing the function of providing users with the necessary information, tried to improve the accounting methodology to achieve this goal. He believed that accounting should follow other disciplines in this regard (Al-Hogail and Previts 2001: 8).

The contribution of R.J. Chambers and R. Mattessich at the preparatory stage in the development of accounting theory can be generalised as follows (Table. 1.4).

Table 1.4. Contribution of professor R.J. Chambers and professor R. Mattessich in the development of accounting theory

Authors' contribution	
R.J. Chambers	*R. Mattessich*
1. Justification of methodological monism; 2. Conducted a thorough assessment of existing academic papers in the field of accounting; 3. Abandoned descriptive-induction methodology as a method of research in accounting; 4. Determined that the accounting function is to serve users of accounting information; 5. Determined the place of accounting in the company; 6. For the first time, applied an interdisciplinary approach in research on accounting theory; 7. Proposed four closely interrelated prerequisites as the main ones in the theory of accounting (the subjects of accounting are combined systems; such systems are rationally managed; the use of the necessary current financial information; the performance of accounting service functions)	1. Synthesised existing accounting theories; 2. Proposed alternative methods of research on accounting theory; 3. For the first time, applied the matrix approach in accounting to highlight accounting axioms; 4. Tried to develop a universal theory of accounting in the context of computerisation

Both authors used new research methods for the development of accounting theory. However, they mostly applied only individual methods but not holistic methodology. At this stage, unlike the next one, the authors did not consider the philosophical aspects of accounting.

A distinctive feature of the methodological works of the "preparatory sub-stage" presented by R.J. Chambers and R. Mattessich was rejecting the perception of theory as a simple, descriptive practice. To improve it, as they treated this, one has to apply scientific perfection in accounting research and explain the theory (Gaffikin 1988: 19).

The "golden age" is the second stage, characterised by total acceptance of the methodology proposed by R.J Chambers and R. Mattessich as the primary tool for developing accounting theory. It was evidenced by the oversaturation of professional accounting journals with articles with deep methodological polemics. As professor

M.J.R. Gaffikin writes, in the 1960s, the following titles of articles appeared: 'Metaphysics of Pragmatism and Accountancy' (N. Dopuch), 'Absolutism and Accounting Theory' (D. Green), 'Axiomatic Method and Accounting Science' (M. Spencer), 'Accounting, Systematised Learning, and Economics" (D. Flanders) and 'Indicators of Pragmatism and Empiricism in Accounting Thought' (F. Beams) (Gaffikin 1988: 20).

In the 60s, apart from R.J. Chambers and R. Mattessich, a significant influence on the development of accounting theory was exerted by E. Edwards and F. Bell, C. Devine, Yu. Ijiri, R. Sterling and N. Bedford.

In 1961, E. Edwards and F. Bell published their main work, *The Theory and Measurement of Business Income*, which was the answer to the problem that accounting scientists in the 1960s most worried about – estimating the value of assets in the face of rapid changes in prices for them, during inflationary processes, and providing users with reliable information. Theorists of the time suggested applying many different conservative and radical approaches. E. Edwards and F. Bell were the first accounting economists to point out the inexpediency of using an estimate based on historical costs since it did not meet the needs of users of accounting information. The authors suggested using current market prices, particularly the cost of asset reproduction, to preserve its significance.

Prof. E. Edwards and F. Bell identified enterprise managers as the primary users of accounting information, while the needs of other users were less critical. The point of view of external users of financial statements was not, in their opinion, dominant in making decisions regarding the preference of individual accounting procedures. As a result, they defined the accounting function as providing management needs as a means of protection against fraud and theft, which was much more important than evaluating decisions made in managing the company's activities (Fraser and Nobes 1985: 144).

In 1966, with *Accounting, Evaluation and Economic Behavior*, R.J. Chambers proposed his own approach to solving the problem of valuing assets in the face of changes in their prices, agreeing that it is necessary to have information about the value of assets that will allow us to make decisions about them in the future. He called this approach COCOA (Continuously Contemporary Accounting). It was based on applying current market prices and was very similar to the strategies used by K. Macneal and R. Sterling.

The introduction of the COCOA system in practice presupposed a change in the "accounting consciousness" (there were two balance sheets – based on historical expenses and based on COCOA; goodwill was not recognised as an asset since it could not be sold). It was based on the application of current market prices and to a certain extent contradicted the principle of continuity of the enterprise since this method predetermined the sale of assets, for which E. Edwards criticised the COCOA. As a result, the accounting community did not accept COCOA, and the ideas of R.J. Chambers have never been put entirely into practice. However, according to the author, the COCOA approach was not correctly perceived and

interpreted by scientists, as he noted later in 1976 – in "Continuously Contemporary Accounting: Misunderstandings and Misinterpretations".

Professor R.J. Chambers tried to turn accounting into a real scientific discipline throughout his life, forming several scientific hypotheses to protect its basic theoretical and methodological foundations. We can see it even in the last article published in his life, "The Poverty of Accounting Discourse" (1999).

Professors R. Mattessich and R.J. Chambers tried to strengthen the intellectual excellence of accounting as a scientific discipline. However, their views differed in how to achieve this goal. R.J. Chambers attempted to create a new accounting theory, which eventually led to the creation of the COCOA, and R. Mattessich paid more attention to developing a solid intellectual basis for accounting practices based on applying the author's approach. R. Mattessich is also considered a modernist researcher because he used various methods from various disciplines to develop his own recommendations.

In 1955 R. Mattessich, in his first work in English, *The Constellation of Accountancy and Economics*, attempted to search for the areas of intersection of accounting and economics, which attracted the attention of a significant number of scientists (A.Ch. Littleton, J. Powelson and others), in particular R.J. Chambers, with whom he began a correspondence. His 1957 article "Towards a General and Axiomatic Foundation of Accountancy – with an Introduction to the Matrix Formulation of Accounting Systems" had an even more significant impact and played a decisive role in his future career, since after this publication, he was invited to the University of California, Berkeley, where he met and later collaborated with the Nobel laureate in economics, J. Debre. His scientific views were also formed under the influence of his teachers – M. Moonitz, R. Sprouse and C. Devine. His students were such well-known scientists in accounting as J. Butterworth, G. Feltham, J. Olson, V. Kam and others.

In a 1957 article, the author identified types of accounting at the micro and macro levels; in particular, he distinguished financial and managerial accounting as part of micro-accounting. For the first time, he presented an accounting system using matrix algebra. However, as R. Mattessich notes himself (2006: 23), the main legacy of this article is the understanding that the basics of accounting require meaningful justification. Although much research has been done in this area over the past three decades, this idea has not lost its relevance. Many experts mislead themselves into believing in the stability and safety of our discipline, but quite often, they build rather complex theoretical structures on unknown and unstable grounds.

In 1964, R. Mattessich's fundamental work *Accounting and Analytical Methods* was published, in which the author, like many researchers of that time, tried to identify the theoretical structure of accounting. However, as it was noted by S. Archer (1998: 297), his research differed from the existing books on accounting theory of that time in that it could be seen from the introductory paragraph of the work, where the author demonstrated a deep understanding of accounting tools, epistemological and methodological problems of accounting, originating from his

apparent confidence in the received ideas and dogmas. The work of R. Mattessich made a significant contribution to measurement theory in accounting by combining various quantitative measurement theories and methodologies, as well as all the existing problems related to measurement in accounting, into one whole.

It was the first attempt to develop an analytical accounting framework. However, having received many positive reviews in various professional, scientific journals, it was heavily criticised by R. J. Chambers. His criticism mainly concerned the method chosen by R. Mattessich – a synthesis of existing theories. In his opinion, the author could not move away from old habits to conduct a total synthesis. R. Mattessich himself explained the existence of such criticism as follows: "Chambers and I … had very different notions of what the nature of accounting is or ought to be. Apart from the fact that he wanted budgeting, macro-accounting and similar issues to be banned from our discipline, he approached foundational issues from what one might regard a "behavioural" point of view, while I tried to clarify them by logical and mathematical rigour" (Mattessich 2006: 41).

This situation was typical for representatives of the "golden age" when each of the authors criticised the developments of other colleagues. For instance, R. Chambers also criticised the works of E. Edwards and F. Bell, who "gave him as good as he got."

Another representative of the normative theory was Yu. Ijiri, whose main goal was to find a primary theoretical basis for accounting based on historical costs, but today for the vast majority of scientists in accounting, he is known as the developer of an accounting system based on triple entry book-keeping.

The main research area of Yu. Ijiri was measurement and evaluation in the accounting system. In 1967, he published a paper, 'The Foundations of Accounting Measurement: A mathematical, Economic and Behavioral Inquiry'. It consisted of eight chapters devoted to the fundamental problems of accounting. The issues discussed were not limited only to historical costs but also concerned the essence of cost, the axioms of valuation, the structure of double entry and the possibilities of its extension to multi-dimensional accounting, the analysis of linear aggregated measurement methods, the objectivity and reliability of accounting measurement, the relationship of accounting measurement and management decision-making.

Yu. Ijiri was the youngest of the triad of scientists of the 1960s who tried to postulate accounting, and he also had the best mathematical training among them, which he showed very well in his work (Mattessich 2006: 44). From the point of view of construction, his work is consistent and quite broad and is considered the most potent modern accounting theory. Numerous publications of Yu. Ijiri and his diligent work at AAA had a much more significant impact on academic accounting in the United States, perhaps than his own (Mattessich 2006: 45).

The defining feature of Yu. Ijiri's theory focused on traditional measurement based on historical costs and derivation of the axioms of conventional accounting measurement (ownership, quantity, and exchange) from which he derived the

measurement rules. In his opinion, it should be the basis for developing accounting practices (table. 1.5).

Table 1.5. Axioms of Measurement according to prof. Yu. Ijiri (1965: 38)

Name of the axiom	*The essence of the axiom*
Axiom of Ownership	A set of all resources under the control of a business unit at a particular time (t); it can be uniquely identified at a given time or later
Axiom of quantities	All resources under the control of an economic unit at time *t* can be uniquely divided into resource classes at a given time or later so that a non-negative and additive quantity meter can be defined for each category. This metric has a property where two sets of resources of the same class are treated as substitutes if and only their quantities are the same
Axiom of exchanges	Each change in the set of resources under the control of a business unit can be uniquely classified

In contrast to the three above-mentioned representatives of the "golden age", C. Devine has more modest achievements over this period. Officially, he published only one major work, "Research Methodology and Accounting Theory Formation", in the journal *The Accounting Review* (1960), where he dealt with such issues as logical structure and deductive systems, measurement and induction, behavioural relations, improvement and regulatory responsibilities. C. Devine analysed the works of A.Ch. Littleton and R. Mattessich and concluded that only the latter is an uncompromising advocate of the axiomatic structure of accounting, a supporter of the development of a deductive accounting system. Considering such a small number of printed works of C. Devine, Professor M.J.R. Gaffikin suggests he was personally satisfied by conducting a philosophical analysis of accounting. He was the best in the role of commentator and philosopher-analyst. However, even with the help of criticism, his understanding and his own interpretation of other people's ideas, he influenced other researchers (Gaffikin 1998: 22).

In 1970, prof. R. Sterling published his most significant work, *Theory of the Measurement of Enterprise Income*, based on his PhD thesis defended in 1965. Unlike E. Edwards and F. Bell, he looked at the requirements of some user groups, to which he directed his research. In particular, R. Sterling tried to analyse existing problems based on the "trader model", which allowed him to identify different groups of users and their different information needs. According to his approach, the author classified information users into "managers", merchants of goods, and "other users". These other interested recipients should include creditors, owners (opposed to managers), employees, and the government. He did not study in detail the information requirements of each group of external users because he did not consider them essential. This was because all external users were considered homogeneously competent, and, accordingly, they were interested in obtaining accounting information.

Prof. R. Sterling, as well as R.J. Chambers, was an early proponent of market-oriented accounting, which can be traced in the above work (Waymire and Basu

2008: 125). He is also known for his publications devoted to the construction and structure of accounting theory, accounting principles (conservatism, continuity of activity), asset valuation, problems of applying market value, positive accounting theory in the world's leading professional journals (*Abacus*, *Journal of Accounting Research*, *The Accounting Review*, etc.).

The conducted analysis of the studies of "golden age" representatives allows us to establish that R.J. Chambers and R. Mattessich were the classics who set the tone for developing scientific research in this area. They used the general philosophy and philosophy of science to study the methodological structure of accounting. According to A. Riahi-Belkaoui (2004: 112), they invented the axiomatic method in the development of accounting, which included mathematical and analytical representation and testing.

A significant number of like-minded people followed the appeals of R.J. Chambers and R. Mattessich to improve the intellectual perfection of accounting theory. These efforts also coincided with the considerable development of the accounting profession starting from the 1930s, namely, searching for the theoretical foundations of accounting. They adhered to modernist views and tried to develop accounting science, believing that science represents the highest standard in determining intellectual perfection (Gaffikin 2005: 15).

As for the other leading works of the period, despite their mathematical direction, the work of Yu. Ijiri did not have such a generalising character as the works of R.J. Chambers and R. Mattessich. When other researchers were focusing on the general theory of accounting, Yu. Ijiri tried to theoretically justify the application of an estimate based on historical costs. The same comments could be applied to N. Bedford (1965), who tried to substantiate the theoretical foundations of income measurement and accounting.

In the work of 1961, N. Bedford with N. Dopuch proposed an alternative version of the development of the theory and methodology of accounting, entering into a discussion with C. Devine, who saw the function of accounting in achieving social goals, changing social order, and not just in drawing up a balance sheet and performing correct arithmetic operations (1960: 398-399). The authors proposed their own vision of the structure of accounting theory, which states that the accounting function limits the nature and depth of study of related relations of measurement and behavioural areas (Bedford 1965: 354). Therefore, accounting is not a measuring process of the economic efficiency of an enterprise but a process that is subject to certain restrictions on its depth and breadth. The authors also clearly emphasised that the structure of accounting theory should be defined at a more fundamental abstract level than suggested by C. Devine and is built in such a way as to be ready for the emergence of new accounting theories and not prevent their incorporation into the general system of accounting knowledge.

Another critical aspect considered by N. Bedford and N. Dopuch in their article was accounting communications and the possibility of applying communication theory in accounting. In particular, the authors asked which measurement and

communication methods should be developed to ensure the expansion of current accounting practices? Which reporting forms and detailed sets of credentials are needed to ensure that the complete picture of the company's operations is disclosed? How much communication theory contributes to ensuring the disclosure of the accounting function (Bedford 1965: 361). Thus, the authors created the necessary prerequisites for the development of a communication theory of accounting (one of the developers of which in the future will be N. Bedford (Bedford and Baladouni 1962)) and, in general, for the development of an approach in accounting science to understand the accounting system of an enterprise as a tool for forming and transmitting information to interested users.

In 1965 N. Bedford published *Income Determination Theory: an Accounting Framework*. He tried to build basic theoretical foundations for determining the income of an enterprise based on the use of a new concept of operational income (income from clearly defined business operations). In general, the author understands income as a generalised means of satisfying various human needs and identifies three types: subjective income, real income, and money income. The author based the concept of the operational income on the idea of "income recognition points", which provided a more consistent and objective definition of it. He considered the main problem of determining income – the inability of management to separate the actual realistic measurements of future revenues from their emotional opinion about future revenues (1965: 27). To solve it, he proposed to estimate operating income at the present value of monetary resources and the cost of selling non-monetary resources less the costs incurred for their acquisition.

Professional recognition of normative theory. The quintessence of the development of the normative approach in accounting was the publication of a document of a professional accounting organisation that contained the provisions of normative theory, which actually recognised the crucial role of normative theory in the development of accounting at the level of the professional accounting community. So, in 1966, AAA, being the leading academic accounting organisation, in particular, the Special Development Committee, published ASOBAT (A Statement of Basic Accounting Theory). The Committee sought to develop an integrated provision on accounting theory that would serve as a guiding principle for accountants-educators, practitioners, and anyone interested in accounting. The provision had to include adequate support for each of its adopted positions, which could be explained to provide clarity and at the same time be laconic and could be implemented.

This provision was written by a nine-member committee, consisted of 5 chapters and was 98 pages in size. It provided for the use of a compromise option in approaches to measuring accounting objects. The compromise was to expand the amount of data disclosed in the financial statements; for example, information was disclosed both using the principle of conservatism and at market value. Such information was placed in separate reporting lines. The application of the normative approach in ASOBAT is evidenced by the words of one of its developers: "The AAA

committee worked to identify the fundamental concepts based on which accounting practices can be evaluated" (Zlatkovich 1966: 31).

The ASOBAT provision included the following chapters: introduction, accounting standards, accounting information for external users, accounting information for internal management, an extension of accounting theory, and two appendices. The appendices illustrated recommendations for implementing accounting information reflection in financial statements, some general suggestions for changing existing accounting practices. Still, their primary purpose was to establish the basis of a concept that would allow us to judge individual cases from accounting practices.

The publication of ASOBAT caused a wave of scientific publications devoted to reviewing the prospects for further development of accounting and analysing changes in its content. For example, N. Bedford noted that the assumptions contained in ASOBAT contradicted several forecasts. For instance, the accounting will stall in the atmospheric explosion conditions currently taking place in our society (Bedford 1965). Thus he tried to answer the sceptics about the scope and methodology of accounting, their ability to develop in New changing conditions, and in general, about accounting in the management of enterprises in the future.

Prof. R. Sterling evaluated the output of ASOBAT as follows: "The Committee has invited us to view accounting as a measurement-information system. This new view precludes some questions but poses others. … Under the new view, measurements in accounting are a function of some end (1967: 100). "… this document is a revolutionary one when its contents are compared to contemporary practice and education. The differences are … in two more essential respects: methodology and world-view (Sterling 1967: 95).

According to professor S.A. Zeff, the ideas laid down in ASOBAT have changed the direction of scientific research in accounting from asset valuation models to the "decision usefulness" of financial statements. The provision defined accounting as "the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information." Although such a definition is not exceptional today, however, at that time, in the context of discussions about choosing one of the alternative methods of asset valuation, it was just "a breath of fresh air" (1999: 96).

From the point of view of further development of accounting, the determining factor was that it was in ASOBAT that they declared that the latter is an information system. Scientific research in accounting is related to converting data into accounting information and transmitting it to users in the necessary form for decision-making. Based on understanding the concept of information, accountants' activities aim to reduce uncertainty, so enterprises should build appropriate information systems that will meet the growing management needs. The appearance of ASOBAT officially declared a new direction of scientific research in accounting, which concerned the transformation of accounting data, processing and transmission of accounting

information, functioning of accounting information systems and information support of the enterprise management system.

In 1977 the Committee published a SATTA (Statement on Accounting Theory and Theory Acceptance) to describe the existing structure and knowledge of accounting for internal users and its occurrence. In this provision, for the first time, it was documented that the development of accounting theory should be considered based on taking into account all approaches, since "even existing sets of approaches (paradigms) cannot be considered the only correct ones, and may have their own understanding of the truth" (Statement on accounting theory … 1977: 50). SATTA developers have provided their own interpretation of the existing shortcomings of accounting theory based on one of the stages of science development using the T.S. Kuhn paradigm approach – the stage of the paradigm crisis. Representatives of the Committee considered various theories as paradigms following a cycle of anomalies, doubting the reliability of new theories and their dominant role.

According to the developers of SATTA, despite the fact that the evolutionary approach to the formation of accounting theory is quite common and has significant advantages and development prospects, an alternative option should be used – the concept of paradigms by T.S. Kuhn. The main reason for this is the fact that over the past two decades (the 70s-80s), in the accounting literature, there are works that characterise the inconsistency of the evolutionary development of accounting theory (Statement on accounting theory … 1977: 41). Changes in accounting theorising are more revolutionary than evolutionary, and accounting, as a scientific discipline, has experienced periods of war of paradigms of different schools. The Committee identifies three main theoretical approaches: 1) Classical (of "real income" and inductive); 2) Utility for decision-making; 3) Information economy Statement on accounting theory … 1977: 5). They made it possible to create the grounds necessary for further verification of the reasons for the failure of accounting to ensure mutual agreement on issues of the "general" theory of financial reporting. That is, the Committee tried to justify the apparent difference in existing theories by identifying the stage of the revolution of science based on the concept of T.S. Kuhn.

The appearance of SATTA aroused considerable interest among many researchers and scientists, some of whom supported the declared provisions, while others criticized SATTA. Thus, Prof. T. Mouck (1992: 36) identified two main disadvantages of the classification of theoretical approaches proposed in SATTA: 1) it does not distribute accounting theorists until the 1960s and theorists of the 1960s.; 2) in the "utility for decision-making" approach, they mixed the accounting scientists engaged in empirical research of the capital market (J. Gonedes, W. Beaver, R. Ball and Ph. Brown) and the representatives of the normative approach, the researchers-apriorists (R.J. Chambers, R. Sterling).

The application of T.S. Kuhn's paradigm approach in SATTA, in general, opened up a new direction of research in the field of accounting theory – the development of accounting based on the application of concepts for analyzing the dynamics of scientific changes (building an accounting metatheory). A significant

number of researchers, namely M.C. Wells, D. Flamholtz, A. Riahi-Belkaoui, J.E. Butterworth, H. Falk, R.W. Mattessich, B.E. Cushing, R.K. Elliott, B. Lev, V. Kam, D.G. Gouws, A. Rehwinkel, M. Glautier, began to use the paradigm approach of T.S. Kuhn; R.S. Laughlin – the ”epistemological anarchism” by P. Feyerabend, T. Mouck – “falsificationism” by K. Popper and “research programme” by I. Lakatos; P. Quattrone and N.J. Foss – the concept of “research traditions” by L. Laudan (for more information, see point 1.3).

Despite the criticism of SATTA from many scientists, the publication of this provision solved the goal set for it – to summarize existing developments in accounting theory. Even if the results of the provision itself were not comprehensive, criticism of the regulation, which appeared in many leading publications of the world, made it possible to identify the state and existing directions of development of accounting theory at that time. Comparative characteristics of ASOBAT and SATTA are given in the Table. 1.6.

Table 1.6. Comparative characteristics of ASOBAT and SATTA

Comparison criteria	*ASOBAT*	*SATTA*
Developed by:	Both provisions were written by the teams of reputable scientists of their time, who significantly impacted the development of accounting theory during this period	
	Ch. Zlatkovich – the Chairman, M. Bedford, N. Churchill, P. Fertig, R. Morrison, R. Salmonson, G. Sorter, L. Vance	L. Revsine – the Chairman, J. Demski, J. Kennelly, K. Larson, G. Staubus, R. Sterling, J. Weigandt, S. Zeff
Development goal	The parameterisation of accounting theory	Description and analysis of existing literature on accounting theory, development of approaches to the development of accounting theory
Existence of a unified (general) accounting theory	Attempts to develop a unified, universal accounting theory based on the use of the deductive research method	Proclamation of the ideas of theoretical pluralism and denial of the search for a universal accounting theory, due to the inability of one approach to explain all the problems facing accounting
Orientation of accounting theory	Considering accounting as a separate institutional structure	Meeting user needs

The primary trend in the development of accounting theory, which can be identified by comparing ASOBAT and SATTA (table. 1.6), is that there is a change in the role of accounting. It can even be said that, starting with the user-oriented approach specified in ASOBAT and finalised in SATTA, the accounting acquires certain functions or goals set by the accounting entity. In other words, the stability of accounting as a separate established institutional structure disappears, which is replaced by user-oriented accounting information. Prof. M. Gaffikin notes on this matter that, from this time on, accounting begins to depend on the whims of the

accounting information market. "… There was a change in accounting theory formulation to an emphasis of satisfying users' wants …" (2005: 15).

Despite the importance of the representatives of normative theory in the development of accounting in English-speaking countries, Prof. T. Mouck notes the irony of the future fate of their developments. The central irony is that accounting researchers who were "awakened" to the scientific method during the decade (the 1960s) witnessed the disintegration of the "received view" of scientific methodology as a result of the "growth of knowledge" debate. The second level of irony is related to the scientific heritage of the "golden age" representatives, the accounting methodology and the growth of knowledge movement in the philosophy of science. The legacy of the "golden age" seems to have been a consolidation of dogmatic reverence for positivist/empiricist research methodology and a research environment characterised as "methods in search of questions" (1989: 104). Thus Prof. T. Mouck emphasised that by accelerating the development of normative theorizing of accounting, normative scientists themselves, having provided an increase in scientific knowledge, brought accounting science closer to the transition to a new, positive stage of their development.

The Current Stage of Development of Accounting Theory. *Positive theory*. Already in SATTA, you can trace a departure from the purely normative approach to the development of accounting theory, which was focused on by the developers of ASOBAT. In accounting, there has been a transition from a normative to a positive accounting theory. It is evidenced by the fact that after the 1960s, research in accounting became utterly different since the current leading journals reflected the idea of conducting empirical research, as expected, corresponding to scientific principles. Journals were overloaded with mathematical models, empirical evidence of hypotheses put forward, esoteric and statistical techniques, etc.; even having a variety of scientific theories, they were all agreed within a single methodology (1989: 86).

As noted by Professor M.J. Gaffikin, in general, empirical research since the 1970s was perceived as the only acceptable, which was the result of substantial direct or indirect influence on researchers from many sides. They were the preferences of some journal editors, research teaching, research technology, "official" research "editions", modern research trends (for example, awards to the members of the Rochester School[*]), and influential economic "theories" (1988: 29). So, for example, N. Dopuch, being for a long time the editor of the *Journal of Accounting Research*, expressed the opinion about the need to kill the "traditional form of normative theorizing" (1988: 24). One of the reasons for this was that the management of this magazine tried to contrast itself with another leading accounting edition in the English-speaking world – *The Accounting Review*, where a significant number of articles published in those years were based on the use of a normative approach.

[*] The concept of "Rochester School of Accounting" was first introduced in May 1976 by M.C. Jensen during the "Price Waterhouse Lectures in Accounting" held at Stanford University. In addition to himself, he also included G. Benston, W. Meckling, F. Meyers, R. Watts and J. Zimmerman.

Also, the application of positivism as the leading theory of accounting was influenced by the widespread positivism in economics, particularly the theoretical and methodological views of M. Friedman, W. Meckling, M. C. Jensen. As L. Boland and I. Gordon (1992: 142) note, positive accounting theory shows a way to apply economic positivism.

The official date of the emergence of positive accounting theory can be considered 1978. In *The Accounting Review,* R. Watts and J. Zimmermann published an article titled "Towards a positive theory of the determination of accounting standards". However, the first familiarisation of the scientific community of the United States with its elements took place back in 1976 thanks to the public speech of M.C. Jensen during the "Price Waterhouse Lectures in Accounting", which took place at Stanford University, as well as thanks to the unpublished manuscript of the article by R. Watts and J. Zimmermann, which was discussed at the University of Rochester.

M.C. Jensen (1976) noted that the lecture's provisions were borrowed from his colleagues in Rochester. For the first time, he publicly stated that most of the research available in accounting (with some exceptions) is unscientific since it is based on a normative approach. At the same time, many regulatory theories in accounting appear as quickly as the SEC raises its disclosure requirements. It was a direct challenge for normative scientists both from the standpoint of the available scientific results and the research methodology they used. It aimed at establishing "what should be done" with the solution of accounting problems, and not at justifying and explaining the reasons for their occurrence ("why?") and forecasting the further development of accounting practices, as required by the positive methodology.

According to R. Watts and J. Zimmerman, the purpose of creating a positive theory of defining accounting standards is the need: to justify the pressure on the process of standardisation of accounting; to explain the effect of the influence of various accounting standards on individual subjects; to justify the desires of different groups to spend resources to influence the process of standardisation (1978: 112). The authors' research caused the emergence of a whole wave of scientific publications. They were characterised by a crushing criticism of the normative methodology in M. Friedman way and scientists who use it, primarily, representatives of the "golden age". In these publications, some authors – defenders of the normative methodology, criticized the positive theory. For example, after analyzing the proposed theory, Professor C. Christenson concluded that it does not correspond to the one identified by K. Popper, offering a demarcation of science from metaphysics. His main areas of criticism of the methodology used by representatives of the positive theory were as follows: 1) The Rochester School's claims that such "positive" research is a prerequisite for normative accounting theory and is mistaken; 2) The concept of "'positive' theory" comes from an obsolete philosophy of science and is, in any case, incorrect since the theories of empirical science make no positive statement of "what is"; 3) Although a theory can only be used for prediction, even if it is known to be false, an explanatory theory of the type that the Rochester School is

looking for, or one that should be used to test normative proposals, ought not to be deliberately false. The method of analysis, which reasons backward from the phenomena to premises based on independent evidence, is the appropriate method for constructing explanatory theories; 4) Contrary to the empirical way of falsifying theories, the Rochester School introduces unique arguments to justify failures of their theories. This tactic is a violation of the norms which, according to Popper, should be observed if the system of propositions is "scientific" (1983: 20). The general position of Ch. Christenson's positive accounting theory was that its authors, without properly formalizing their proposals into a complete construction, lure other researchers into a trap, offering to join the development of some individual provisions and correct its shortcomings. Therefore, such a theory must first be completed and clarified, and only then can it be submitted to the discretion of the scientific community. Until this is done, there should be no criticism of normative scientists or calling such studies unscientific.

At the same time, other researchers, on the contrary, defended the positive theory and researched this direction. Thus, L. Boland and I. Gordon, criticizing the position of Ch. Christenson and analysing the criticism of positivism, found out that methodology can be neither normative nor positive since methodologists can serve to reveal and explain the limitations of ideological and methodological preferences implemented in any study. For example, if someone wants to follow Watts and Zimmerman's ideas and assume that the markets are sufficiently in equilibrium to have available equilibrium prices to calculate one's costs and benefits of adopting any particular accounting procedure, one would be reasonable to know the limitations of such an approach, the use of which can lead to incorrect decisions. Therefore, it will be helpful for consumers who make purchases on the methodology market to know exactly what they are buying (1992: 166).

In 1986 R. Watts and J. Zimmermann published the book *Positive Accounting Theory* (1986), which generally considered the role of accounting theory, its importance for accounting science, the relationship between positive and normative approaches to theory development. However, the primary attention in this monograph was devoted to the evolution of positive research in accounting, as well as consideration of the main areas of implementation of such research (market efficiency hypothesis and CAPM, accounting profit and stock prices, hypotheses of positive theory, mutual influence of political processes and accounting, accounting choice, contract process, forecast accounting information, etc.). In the last chapter of the monograph, the authors summed up the results of the ten years after positive accounting theory appeared, justified its role, advantages and limitations in terms of use, and analysed its impact on the scientific community and scientific research in the field of accounting.

R. Watts and J. Zimmerman's monograph has a significant influence on scientific research in the sphere of accounting. Professor T.S. Mouck explains this as follows: "Positive accounting theory was successful because it was perceived by an audience tuned to scientific rhetoric – on the one hand, and to the rhetoric of the

Reagan era of the abolition of state control, thus allowing us to miss some scientific shortcomings for the sake of the rhetoric of the uprising against state regulation of corporate accounting" (1992: 55). Meaning, that the positive theory, as noted by N. Chabrak and A. Burrowes, was a theory of ideological orientation since it was supported by the symbolic figure M. Friedman and the policy of deregulation of R. Reagan (2009).

Publication of the book by R. Watts and J. Zimmermann finally formalized the creation of a positive accounting theory, since representatives of the "golden age" reacted to its appearance with critical articles – R. Sterling (1990), R. Mattessich (1992) and R. J. Chambers (1993).

In the article "Positive accounting theory: a ten year perspective" R. Watts and J. Zimmermann (1990) analyzed the criticism concerning the publications of the authors writing about positive accounting theory. They sorted all the arguments into two groups. The first group contained the criticism of the research methods, including the generalizations and conclusions based on them (P. Ball, J. Foster, R. Holthausen, R. Leftwich, A. McKee). The second category included criticism related to the chosen methodology, including the philosophy of science (Ch. Christenson, G. Whittington, R. Hines). The authors give a detailed answer to critics in the context of the two groups mentioned above. Thus, one of the areas of criticism was the very name "positive accounting theory", to which the authors reply that "the prime reason we attached this adjective … was to emphasize that accounting theory's role is to provide explanations and predictions for accounting practice" (1990: 148).

Positive accounting theory determines that accounting research can predict the securities market's response to disclosure generated in the company's accounting system. But the positive approach cannot determine how income should be determined in financial statements or how stock prices should be set based on accounting information.

In general, positive accounting theory refers to "what is", not "what should be". It tries to answer the following questions: explain why accounting is what it is, why accountants do what they do, and what are the effects of this phenomenon on people when allocating resources. Such positive theory is a prerequisite for answering normative questions that are of interest to us (Kabir, 2010). "Positive Accounting Theory represented an extreme form of empiricism, and a reaction to the normative methodology of the a priori theorists that had reigned for previous decades" (Schiehll, Borba and Dal-Ri Murcia 2007: 87).

Since the mid-1970s, based on neoclassical economic theory, portfolio and agency theories, the positive theory has become the dominant methodology in the development of accounting theory. Since its inception, it has gone through several stages of its development.

Stage I – Research by the Positivism Precursors. The positive theory of accounting did not arise due to the revolutionary scientific discovery of two scientists; it has its roots, that is, research that became a prerequisite for the emergence of the theory.

Prof. A. Melis (2005) found that the predecessor of the development of positive accounting theory was a professor from the University of Genoa, A. Amaduzzi, who in 1949 published the book *Conflict and Balance of Interests in Corporate Financial Statements*. A. Amaduzzi tried to build an accounting theory that would correspond to real-life accounting practice rather than a theory that would attribute financial reporting goals (income-oriented or proprietary approach).

In the late 1960s and early 1970s, the original works of W. Beaver, R. Ball and F. Brown were released where they applied empirical financial methods in financial accounting. Their publications replaced the normative approach with the informational one, reflected in research on financial accounting in the information economy, stock prices, and accounting for the behavioural aspect. Thus, in the 1973 article "What Should Be the FASB's Objectives?", W. Beaver summarized the positive theory of efficient markets, theory, and evidence for how disclosures, accounting techniques, and changes in these techniques affect securities prices. Professor M. Jensen (1976: 18) defines this article as an ideal example of when only applying a solid positive accounting theory can provide an answer to such normative questions as, for example: what should the FASB do?

The beginning of the development of the positivist direction in accounting can also be seen in the earlier works of R. Watts in 1974 and 1977. In particular, he studied the problems of diverse interests of accounting information users – such as corporate management, accounting employees, stockholders, creditors, regulatory organizations, securities market analysts, auditors, etc. Summarizing the research results on the predecessors of positivism, M. Kabir (2010) notes that these scientists studied the relationship between published accounting data and its impact on the stock price. Based on these studies, they used the market efficiency hypothesis put forward in 1965 by Eugene Fama: a market is effective if it adapts quickly to new information. On its basis, mathematical models of CAPM and APM were developed, which made it possible to calculate the prices of options and stocks, and which were used in research by the predecessors of positivism.

Stage II – Research of Positivism Developers. The distinction of this stage is directly related to the research of R. Watts and J. Zimmerman, discussed previously. According to the authors, positive research has made the following contribution to the development of accounting theory: 1) provided an intuitively plausible framework for understanding accounting; 2) researchers in the field of accounting were encouraged to emphasize the central role of contracting costs in accounting theory; 3) explained why accounting is used and created a framework for predicting accounting choices; 4) determined how the choice of accounting methods affects the wealth of the contracting parties; 5) formulated the understanding of accounting from the point of view of contracting costs (1990: 150-151).

R. Watts and J. Zimmermanns formed "new rules of the game" in accounting research, bringing them closer to the requirements put forward for scientific research in other economic disciplines, and had a significant impact on the development of accounting theory and its process standardisation. Thus, prof. V.V. Kovalev (2004:

137) notes that the influence of positivists is clearly manifested in the latest international accounting standards, which are saturated with the terms “value”, “market value”, “fair value”, “risk”, “active market” and the like. However, as the New Zealand researcher M. Milne (2002) writes, in the field of social accounting, empiricists, starting to study the positive theory of accounting as a basis for the behaviour of social information disclosure, could not follow the arguments of the monograph by R. Watts and J. Zimmermann and to support this tone of positive scientific research.

Stage III – The Developments of Contemporary Positivists. The current stage of development of positivism is characterised by the identification of two main independent trends – American and English.

Representatives of American positivism are the scientific schools of the Universities of Chicago, Massachusetts, Rochester, Stanford, which clearly distinguish the directions of scientific research in their scientific PhD programmes. Such well-known professional journals support positive research as *The Accounting Review*, *European Accounting Review*, *Journal of Accounting Research*, *Journal of Accounting and Economics*, *Contemporary Accounting Research*, *Review of Accounting Studies*, etc.

Starting from the 1990s and up to our time, a significant number of representatives of the positive accounting theory have devoted their research to the problems of the significance of accounting information for the capital market, the peculiarities of its perception by users. As a result, since the mid-1990s, due to lengthy scientific discussions, a separate area of scientific research related to conservatism has crystallized. As a part of this field, two areas of research can be distinguished. The first is related to the influence of accounting conservatism on the enterprise's market value (J.A. Olson, J.A. Feltam, B. Lev, R. Watts). The issues covered in this field of research include establishing the role and significance of accounting conservatism, analysing the asymmetry between income, market-book value and conservatism in financial statements, measuring and evaluating the conservatism of a firm, the informational role of conservatism, developing conceptual models for decision-making when applying conservatism in accounting, modelling the analysis of the formation of a firm's value based on accounting data in the context of using the concept of conservatism, and so on. The second is related to the conservatism of accounting information perception, which is based on the hypothesis of S. Basu that the ratio between the annual income and the annual return on shares of firms changes according to the nature of news (accounting information) during the year (P. Basu, R.M. Bushman, J.D. Piotroski, S.J. Ryan, W. Guay, R. Verrecchia, R.A. Bryer, B.H. Kim, M. Pevsner).

Also, one of the most relevant approaches in the development of positive accounting theory is the similar concept of earnings management and the concept of creative accounting, to which the researches of O. Amat, G. Breton, Ya. Griffiths, C. Deegan, P.M. Dechow, M.D. Jones, E.E. Comiskey, B. Lev, Ch.W. Mulford, M.R. Matthews, T. Pfeiffer, M.H.B. Perera, A. Riahi-Belkaoui, J. Ronen,

D.J. Skinner, R. Sloan, H. Stolowy, P.M. Healy, K. Shipper, J.M. Wahlen and others are devoted. The theoretical basis of these concepts is the Neo-Institutional Theory of contracts and Agency Theory. In Ukraine, they found its manifestations in the works of V.M. Zhuk (2018) and I.A. Yukhimenko-Nazaruk (2017), who developed the neo-institutional theory of accounting.

English positivism is represented by scholars such as E. Hopwood, M. Power, P. Miller, K. Chapman, A. Menniken, D. Cooper, and his appearance is associated with the issue of the British Journal, *Accounting, Organization and Society*, dedicated to covering the sociological and organizational aspects of accounting (Schiehll, Borba and Dal-Ri Murcia 2007: 88). The distinction of this area is related to its focus on the application of sociology, psychology, history and political economy to accounting. Its founder, E. Hopwood, pointed out back in the late 1970s that we should pay attention to the social and organizational contexts in which accounting operates. The provisions of this area of research were also transferred to management accounting; in particular, an in-depth study in this area was conducted by M. Bromwich, P. Miller and A. Bhimani from the London School of Economics.

Summing up the impact of positive theory on accounting, it should also be considered that it is not limited only to scientific research but also gradually becomes noticeable in the transformation of accounting as an academic discipline. For example, the textbook by G. Donleavy, *An Introduction to Accounting Theory* (2016), begins with the justification of the role of Agency Theory in the functioning of the enterprise accounting system and includes sections based on the main conclusions and provisions of positive accounting theory: “Conceptual Framework”, “Accounting Standards”, “Accounting and Capital Markets”, “Accounting Pathologies – Fraud, Failure and Evasion”, etc. It proves that specific hypotheses and provisions of the positive accounting theory have found their empirical confirmation and become full-fledged elements of the current system of scientific accounting knowledge.

A new normative theory. Despite the significant achievements and results obtained due to the widespread introduction of positive accounting theory, over time, counterexamples appeared, which turned out to be the “cornerstone” for the adherents of positivism. A new impetus to the development of the normative theory of accounting was caused by three factors: 1) The positive methodology allowed, in addition to itself, to identify the normative theory of accounting, point out its shortcomings and bottlenecks, which allowed us to identify ways and directions of its improvement and development. Authoritative scientists in the field of accounting (R.J. Chambers, R. Mattessich) did not “move away" from scientific research but carefully studied the postulates of positive accounting theory, criticism of positivists in the direction of normative methodology and the obtained normative research results, developed their own and proposed already adapted normative accounting theories; 2) The emergence of new tasks that accounting faced made it necessary to improve its theory. So, for example, the need to ensure the provision of accounting information of a social and environmental nature, information about the intellectual capital of an enterprise, caused by the transition of the economy to the post-industrial

phase of development, led to the need to develop a theory of social and environmental accounting, accounting for intellectual capital. Positive accounting theory was unable to solve this problem, which led to updating regulatory research in accounting. Also, the appeals to regulatory research in accounting are associated with improving user aspects of the financial statements quality characteristics, which FASB representatives emphasize. The matter is that statutory orders can not be made out from the results of the positive research; 3) Some authors, observing the debate of the supporters of the normative and positive theory, came up with a compromise option – that for the development of accounting theory, a comprehensive application of both, the normative and positive methodology is necessary.

The above mentioned allows us to identify the following directions of development of normative theory at the present stage of accounting development (Fig. 1.1).

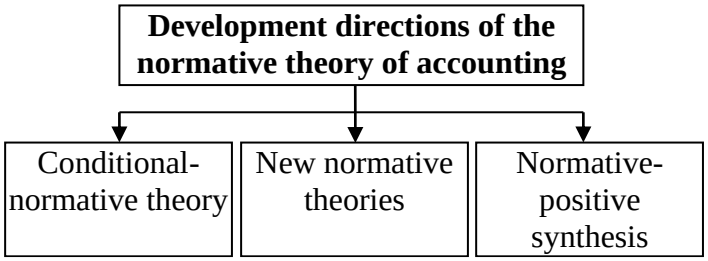

Fig. 1.1. Development Directions of the Normative Theory of Accounting

The development of *conditional-normative accounting theory* is associated with the name of Professor R. Mattessich (1992). Analysing the criticism of the normative theory by positivist scientists, particularly the works of R.J. Chambers, E. Edwards and Ph. Bell, he determined that it was based on the lack of support from empirical research of the developed theories. As Professor W. F. Chua noted, still, normative researchers believed in the possibility of empirical testing of their scientific theories (1986: 602).

Professor R. Mattessich became one of the classics of the normative methodology. He criticised the positive theory of accounting and pointed out its incorrectness as to the normative theories of R.J. Chambers, E. Edwards and Ph. Bell, R. Sterling, in particular, regarding the misconception about the empirical validity of hypotheses in normative theories.

In response to the criticism of positivists and to restore the relevance of the application of the normative methodology, R. Mattessich developed a conditional normative theory of accounting.

The main feature of the conditional normative theory of accounting is the inclusion of the goal, together with instrumental hypotheses (i.e. empirically established values and relationships) in the theoretical structure. It makes the relevant theory conditional in the extent to which included, and well-established norms constitute the conditions under which such a theory is valid. Conditional-normative theory of accounting is a theoretical concept that provides for a set of instrumental

hypotheses depending on specific information goals or goals pursued and is almost optional in the last case (Mattessich 1992: 190).

The development of new regulatory theories is associated with the inability of a positive theory to meet the requirements of the mega-observer of the accounting system (owners, managers, investors, creditors, government agencies, regulatory organizations), which require information about new objects of accounting supervision, in respect of which there is no accounting practice.

So, J. Elkington proposed the Triple Bottom Line Reporting Approach (1997). It was supposed to reflect the results and state of an enterprise's financial and economic activities, social activities, and information about the environment. The new approach gave a significant impetus to developing socially and environmentally oriented accounting in the 2000s and today to form the concept of integrated reporting. However, the development of the theory of integrated reporting is impossible without using the regulatory methodology. Introducing new objects (new types of capital) to the accounting system and new methodological approaches (accounting assessment, non-financial indicators) provides for introducing the norms that will determine what accounting should be but will not describe and predict practices. At the same time, the formation of a positive theory of integrated reporting will be the next stage in the development of accounting theory in this direction; it will begin when scientists have enough empirical material to analyse the existing practices of forming and disclosing information in integrated or separate special reports (sustainable development report, social responsibility report, management report, etc.), which will allow predicting its further development.

As noted by S. Llewellyn (1996: 112), if accounting is not re-connected with normative social and ethical theories, this will significantly limit the scope of its distribution. However, this should not just be an eclectic use of social theories but should establish transparent relationships with social policy, which will affect the accounting assessment. An accounting methodology should be developed to ensure a socially fair allocation of resources and is free from management constraints. H. Schreuder also comes to a similar conclusion, noting that positivist methodology leaves the question of the theories' practical or political usefulness open without providing an unambiguous answer as to how judgments about the meaning of the provisions of the theory will relate to the theory itself (contained in theory or separated from it to increase its practical or political usefulness) (Schreuder 1983: 22-23).

FASB representatives point out the need to use normative theory in research on improving accounting and financial reporting standards: 1) Understanding expediency, neutrality and correlation of accounting rules; 2) The impact of accounting rules on reporting results and their correlation with economic events reflected in the financial statements; 3) Accounting rules concerning costs and benefits (Mozes 1992: 93).

Normative-positive synthesis. Any theory is still a theory, not a law. And suppose it is impossible to certify the final rejection of one of such mutually

contradictory accounting theories as positive and normative. In that case, we can talk about the possibility of their joint use. In addition, as noted by prof. G.I. Ruzavin, this developed scientific theory seeks to reveal the essence of the studied phenomena, the internal mechanism of their course. It serves not only to describe and even predict phenomena but also to explain and understand them (1977: 90). Thereby the author emphasizes the need for synthesis.

Such a normative-positive synthesis can give a new quality of scientific research since applying these theories has one goal – to improve accounting. As noted by R.G. Schroeder, M.W. Clark and J.M. Cathey, ideally, there should be no differences (normative and positive) since a well-developed and complete theory covers both what should be and how it is. Accounting aims to provide principles and relationships that explain practices that can be observed and predict patterns that can not. Therefore, accounting theory should explain why enterprises choose specific methods among the existing alternatives and provide for the attributes of firms that choose different accounting methods (2005: 1).

The fact that Professor R. Mattessich names the English social direction of accounting development called English positivism by its head, E. Hopwood, the British Normative School (1992: 184), which developed the normative and ethical theory of accounting, evidence for the exact orientation of normative and positive theories, but with the help of different tools.

The need for joint application of both theories to develop accounting in the context of its harmonization is noted by professors O.I. Kolvakh and V.Yu. Kopytin: “Without denying the importance of the positivist approach as a systematized way of generalizing practical experience in the form of accounting standards and principles, we note that in the absence of a developed and mathematically based accounting theory, this path of development, if considered as a single one, inevitably leads to solving the problems of harmonization of accounting and its reporting into a natural dead end, which is happening today (2002: 90). Professors E. Hendriksen and M. Van Breda support the same approach in accounting theory development. They state that none of the systems (positive or normative) is based on a single method. The authors (Hendriksen and Van Breda 2000: 25) prefer an eclectic approach, which uses any of the theories, depending on which is acceptable in a particular situation. The main goal of this process is to provide a set of logical principles for evaluating and developing practical methods and procedures that contribute to improving accounting practices.

1.3. Accounting paradigms

The change in the functioning of economic systems during the formal and civilisational transformation of the economy leave a significant imprint on the development of the national accounting system. Its adequate bringing to the domestic conditions and peculiarities of the functioning of the international capital market is

one of the primary assignments for modern researchers-accountants. The set assignment can be fulfilled by applying various tools and scientific research methods, which determines the level of development of the problem and the real possibilities of accounting science. One of such methods is the paradigm of analysing scientific knowledge dynamics, which considers knowledge accumulation as a revolutionary (non-cumulative) process.

T.S. Kuhn's formulation of the concept of scientific revolutions (Kuhn 2001) and its active dissemination in the scientific sphere to explain the peculiarities of the development of natural sciences has led to the fact that since the 1960s, to develop meta-theoretical principles of accounting, they began to apply the paradigm concept of scientific knowledge dynamics. It was exploited by the representatives of the "golden age" of accounting progress in the United States – R.V. Mattessich, R.R. Sterling and R J. Chambers, which can be explained by their desire to find additional arguments in the fight against the positive theory of accounting, as this concept was one of the post-positivist ones, which at that time were actively developed by researchers in philosophy of science (K. Popper, L. Laudan, I. Lakatos, S. Toulmin, P. Feyerabend, etc.). The tendency to use the paradigm concept in accounting research has become much more relevant since the end of the twentieth century. It persists to this day due to the growing number of significant changes in the functioning of the economic system. Many scientists treated the emergence of revolutionary changes in the activities of enterprises in the context of globalisation as the need to apply the concept of scientific revolutions to analyse the dynamics of scientific accounting knowledge. However, in our opinion, the application of the paradigm concept in accounting is not always aimed at solving specific significant problems or at finding revolutionary changes in accounting science, but rather dictated by the fashion for the use of the concept of "accounting paradigm" and the desire to do their "more scientific" and "philosophically sound" scientific research. The current situation implies the need for a detailed analysis of paradigm concept application to solve explicit (can be solved within existing theoretical concepts) and implicit (outside the existing methodological principles and attitudes) problems of accounting, taking into account the substantive characteristics of the idea of scientific revolutions proposed by Thomas S. Kuhn.

The first to apply the paradigm concept of T.S. Kuhn in accounting was R.J. Chambers. In work *Accounting, Valuation and Economic Behavior* (1966: 373), he refers to the early work of T.S. Kuhn, *Copernican Revolution: Planetary Astronomy in the Development of Western Thought* (1957). Later, R.J. Chambers uses the final provisions of the theory of T.S. Kuhn, referring to the work *The Structure of Scientific Revolutions* (1962). In the article 'Profit Measurement, Capital Maintenance and Service Potential: A Review Article' (1975), he mentions the current crisis in accounting. To describe it, the author uses the appropriate phase of science in the model of T.S. Kuhn. In particular, he writes that the book by G. MacDonald, *Measuring Profits: Alternatives to Historical Costs* (1974), is an interesting example of some features of the "crisis" period in the development of the

ideas described by T.S. Kuhn (Chambers 1975: 103). He bases the argumentation of the hypothesis of a crisis in accounting on the presence of a significant number of methods of valuing assets and a significant variation in the concepts of income used.

Prof. R.R. Sterling was the first of the researchers-accountants to apply the paradigm concept at the theoretical level of accounting and use as a model the work *Structure of Scientific Revolutions* (1962). He used the provisions of T.S. Kuhn's theory in 'Regulations on Basic Accounting Theory: A Review Paper' (1967), which discussed the controversial and revolutionary ASOBAT of the AAA Committee in terms of the worldview changes it uses to form new theoretical principles of accounting in the United States. The author wrote that the proposed consideration of accounting as an information measuring system is an example of changing the worldview of its representatives and is an example of a scientific revolution. It was successfully confirmed by changing attitude to understanding relevance in accounting (Sterling 1967: 100). However, this was a rather "vague" analogy because R. Sterling did not try in this or subsequent scientific works, where he used it, to reveal in more detail all the components of the concept of paradigm shifts and give examples of their existence in accounting.

The first to make such an attempt was M.C. Wells, who in the article 'Revolution in Accounting Thought' used the components of paradigm theory and identified the stages of development of science according to T.S. Kuhn in accounting (1976: 471-472). As a result, in many subsequent studies, he is considered the first of the researchers who used the paradigm method to periodise the accumulation of scientific accounting knowledge. The author considered the evolution of accounting as a sequence of periods of cumulative development, interrupted by non-cumulative leaps – scientific revolutions. R.J. Chambers believed that accounting science was in a crisis phase due to estimation based on historical costs, which he attributed to elements of the old paradigm. He associated the development of this paradigm with the works of S. Gilman, T. Sanders and A. Littleton. He attributed the period from the 1940s to the 1960s to the period of normal science.

According to M.C Wells (in the 1970s), accounting was in the third and fourth stages of its life cycle out of the following: 1) Acceptance of the paradigm; 2) Work within the modern paradigm with the creation of "normal science; 3) Formation of dissatisfaction with the existing paradigm; 4) Search for a new paradigm. In particular, he notes that the analysis presented here shows that research in financial accounting is experiencing a revolution. Critics do not recognise the importance of research, which leads to the distinction between alternative ideas. These alternatives are candidates for a new disciplinary matrix (paradigm); they are the basis of competing schools of thought (Wells 1976: 480).

According to T.S Kuhn, he considers the period of normative theorising and research in accounting a crisis, which may be followed by a change in normal science (paradigm shift). In particular, M.C Wells refers to the high-profile debates that have arisen among researchers-accountants about price changes, which are examples of anomalies that will ultimately lead to a change in the existing set of rules (1976: 476).

The primary purpose of the analysis of M.C Wells was to protect the a priori research in accounting from growing criticism, which was a necessary step in changing the existing paradigm. The theory of T.S. Kuhn predicts that the paradigm may change under the criticism of competing paradigms.

Having considered the existing problems in accounting, to eliminate them, he proposes to change the traditional way of "accounting thinking", for which he identifies five schools of thought: 1) Accounting, adjusted for price levels (or accounting for current purchasing power); 2) Accounting for replacement cost; 3) Accounting for residual value; 4) Accounting for continuous current (or net realisable value); 5) Accounting for current value (1976: 478). The emergence of accounting schools of thought in the 1950s and 1960s and their constant development to reflect the economic reality more accurately indicates the gradual exit of accounting from the crisis phase. Based on the identification of modern accounting problems, in particular, which appeared with the manifestations of inflationary processes in accounting, M.C Wells concluded that it was necessary to transit to a new paradigm (disciplinary matrix).

Like M.C. Wells, features of application of T.S. Kuhn's theory in accounting were considered by D. Flamholtz in 'The Structure of Scientific Revolutions and its Implications for the Development of Accounting Policy'. She defined the period up to the 1930s as the pre-paradigm stage of the science of accounting, and the 1930s, are defined as the period of development of the accounting paradigm. Normal science, in her opinion, is the long-term development and promulgation of accounting rules after the 1930s by such professional organisations as CAP, APB and FASB. The existence of a crisis in accounting, according to D. Flamholtz (1979: 128), became apparent in the 1970s, when the accepted accounting paradigm could not adequately reflect the economic reality in various areas: the inability to sufficiently reflect price changes; the increasing complexity of financial operations; the need for accounting for human capital. A new paradigm that will solve existing problems can only emerge due to effective interaction between the government and the representatives of the accounting profession. But the author does not offer a possible model of such a paradigm.

The paradigm method based on the ideas and terminology of T.S. Kuhn to study the peculiarities of changing the fundamentals of the science of accounting was also used in 1977s by AAA in the SATTA provisions to describe the existing structure and stock of knowledge about financial accounting and its origin. According to B.E. Cushing, SATTA does not attempt to historically interpret the evolution of accounting thought in the context of the stages of T.S. Kuhn's; instead, Chapter 4 focuses on the interpretation of the existing shortcomings of the theory, using only one of the stages of development of science, presented by T.S. Kuhn – a stage of crisis, competition of existing paradigms. The document only briefly outlines some consistency of the accounting paradigm in the discipline (1989: 5).

As noted by the developers of SATTA (1977: 41), although the evolutionary approach to the formation of scientific accounting theories is quite common and has

significant advantages and prospects for development, an alternative should be used – the concept of paradigms by T.S. Kuhn because the analysis of the peculiarities of the development of accounting science shows its revolutionary nature. The main reason for this is that over the past two decades (the 1970s-1980s), in the accounting literature, there appeared the works that characterise the inconsistency of the evolutionary development of accounting theory. Changes in accounting theorising are more revolutionary than evolutionary, and accounting, as a scientific discipline, has experienced periods of war of paradigms of different schools.

The SATTA Development Committee distinguishes three alternative theoretical approaches: 1) classical ("real income" and inductive); 2) the decision-usefulness; 3) information economies (1977: 5-25). Their distinction made it possible to create the grounds necessary for further verification of the reasons for the failure of accounting to ensure mutual agreement on issues of the "general" theory of financial reporting. That is, the Committee tried to justify a clear difference in existing accounting theories based on the separation of different stages of development of science, based on the concept of T. S. Kuhn. Representatives of the Committee considered various theories as paradigms following a cycle of anomalies, doubting the reliability of new theories and their dominant role. In this case, they (1977: 41) noted that other models could be used to describe the existing structure of scientific accounting knowledge, in particular, the concept of research programmes proposed by I. Lakatos.

Used by M.C. Wells and SATTA, the paradigm approach was criticised by R. Laughlin. The authors use the concept of T.S. Kuhn for structuring scientific accounting knowledge rather superficially. Although M.C. Wells and SATTA developers have identified accounting paradigms, according to the author, if they used more stringent requirements for understanding accounting paradigms, they would not be able to do so (Laughlin 1981: 332). In the end, R. Laughlin concludes that the use of the paradigm concept of T.S. Kuhn in accounting was justified by the considerable ease of substantiation of scientific status with its help compared to the "research programmes" of I. Lakatos or the "falsification principle" of K. Popper (1981: 337-338).

J.E. Butterworth, M. Gibbins, and R.D. King, in work *The Structure of Accounting Theory: Some Basic Conceptual and Methodological Principles* (1982), proposed to distinguish six interrelated paradigms in the science of accounting: 1) Valuation 1, which is based on the concept of actual value and current costs; 2) Valuation 2, which is related to the theory of assessment and risk; 3) Valuation 3, relating to theories of financial markets; 4) Stewardship I, which applies the concept of historical cost and price of income; 5) Stewardship II, related to agency theory; 6) Stewardship III, relating to the theory of asymmetric information. Highlighted by J.E. Butterworth, M. Gibbins and R.D. King, paradigms played a crucial role in the development of accounting. They became the prototype of many paradigm classifications, which scientists later gave.

In a later work, *Financial Reporting – Theory and Application to the Oil and Gas Industry in Canada* (1986), J.E. Butterworth, together with H. Falk, notes that

over the past 60 years, the accounting literature reflects the disputes between the representatives of the "valuation paradigm" and "stewardship paradigm" (Tab. 1.7).

Tab. 1.7. Characteristics of the "evaluation" and "stewardship" paradigms according to J.E. Butterworth and H. Falk (generalised based on (Cushing 1989))

Paradigm	*Representatives*	*The role of accounting/accountant*
Valuation	J.B. Canning, R.R. Sterling, R.J. Chambers	Providing investors and other interested parties with an estimate of the collective value of the rights to future services owned by a specific accounting entity.
Stewardship	Yu. Ijiri, W.A. Paton, R.V. Mattessich, T.G. Sanders	The accountant acts as a processor of market values, not concerned with their prediction.

J.E. Butterworth and H. Falk suggest that recent research on capital market accounting has its origins in the valuation paradigm. In contrast, the study at the intersection of accounting and agency theories has similarities with the stewardship paradigm. Researchers conclude that accounting is in a state of crisis – a debate over the choice of paradigm. They propose to resolve the conflict between the two existing paradigms by developing a "contracting paradigm", which assumes that the primary purpose of accounting reports is to provide an efficient basis for concluding financial contracts between the management of an enterprise, its owners and creditors.

Prof. M. Glautier, in his work *In Search of Paradigms of Accounting* (1983), considered the application of the concept of T.S Kuhn in accounting based on the analysis of its historical development. He tried to formulate general observations of the historical process through appropriate changes in the structure of society, which can be revolutionary or catastrophic, evolutionary or lead to the gradual emergence of a new paradigm (tab. 1.8).

Tab. 1.8. Accounting paradigms, according to M. Glautier (generalised based on (Glautier 1983).

№	*Paradigm*	*Characteristic features of the paradigm*
1	Ancient world	Creating a prerequisite for the emergence of money
2	Ancient Rome	The emergence of problems related to the structure, control over accounting, the rudiments of capitalism
3	Middle Ages	The transition period reflected the significant social tensions associated with the paradigm shift, primarily due to the conflicts between religion and capitalism, church and state, and the development of restrictive accounting in the form of double-entry accountancy.
4	Western European world of the postwar years	1) Continuation of the trend of centralisation that began with the Renaissance; 2) Belief that the central political power acts directly to provide a structure within which all existing problems will be solved; 3) The growth of knowledge accumulated in a geometric progression leads to problems of control and ever-increasing complexity; 4) The objectives of the central political power completely unlimited economic sphere, and concerning social and cultural areas that concern not only the economic dimension; 5) External and internal threats to the integrity of Western European civilisation are the most significant, and there is uncertainty about the application of ways to eliminate them.

Prof. B.E Cushing (1989: 8), analysing the author's proposals (Tab. 1.8), notes that the existing approach to the allocation of paradigms in accounting has certain limitations because M. Glautier does not try to describe the development of accounting entirely using the terminology of T.S. Kuhn, and makes only one reference to his work.

In his work "A Kuhnian Interpretation of the Historical Evolution of Accounting", Prof. B.E. Cushing considers the possibility of applying T.S. Kuhn's concept of scientific knowledge dynamics regarding accounting. First of all, he proposes to define the concept of "accounting" because according to the theory of T.S. Kuhn, scientific revolutions "result in fundamental shifts in the nature of a discipline, so it is necessary to use a very broad definition that will not inhibit thinking about the possible future evolution of accounting" (1989: 9). Therefore, the author considers accounting as a matter "to deal with making sense out of the economic performance of individuals or groups who are responsible unitisation of economic resources, for the purpose of exerting control over those utilisation activities" (1989: 9). Next, he analyses the possibility of applying the concept of T.S. Kuhn not only to sciences but also to other intellectual disciplines, which can undoubtedly include accounting. He gives examples of using the structure of the scientific revolutions of T.S. Kuhn in sociology, political science, economics, psychology, history, theology, art and literature, education. As a result, B.E. Cushing concludes that since the ideas of T.S. Kuhn can be used by researchers in such a variety of disciplines, then without a doubt, it is advisable to use them in accounting.

To identify the accounting paradigm, B.E. Cushing considers the subject matter of accounting at its elementary level, applying the criteria for determining the paradigm. The accounting paradigm should be shared, agreed with all accounting community members, and not at the pre-paradigm stage of its development. He defines the accounting paradigm as "a set of symbolic generalisations, shared commitments, shared values, and exemplars associated with the double-entry bookkeeping model" (1989: 13). Accounting was in the "normal science" stage during the past four centuries, as the double-entry bookkeeping model has shown considerable stability. With the advent of each new problem, the double-entry paradigm provided the means to solve it (Riahi-Belkaoui 2004: 18). Thus, the main research result of B.E. Cushing was the selection and justification of the dual system of accounting as its paradigm, which can be considered a disciplinary matrix that characterises the set of beliefs of scientists in accounting concerning the theoretical and methodological principles used.

Based on the application of the concept of T.S. Kuhn in accounting, Prof. A. Riahi-Belkaoui in the book *Accounting Theory* (1992: 336) proposed to identify the following types of paradigms: the anthropological/inductive paradigm; the true-income/deductive paradigm; the decision-usefulness/decision-model paradigm; the decision-usefulness/decision-maker/aggregate-market-behaviour paradigm; the decision-usefulness/decision-maker/individual-user paradigm; the

information/economics paradigm. The author identified the above paradigms based on the basic theoretical approaches worked out by the developers of SATTA (classical approach – 1 and 2 paradigms, utility for decision making – 3, 4 and 5, information economy – 6).

To prove that certain accounting scientific theories are indeed paradigms and to reveal their essence, he uses the components of the paradigm defined by a sociologist G. Ritzer: a sample (copy), or part of the work, which acts as a model for those who work within the paradigm; exemplars; theories; methods and tools. The application of G. Ritzer's approach to the analysis of scientific communities in accounting involves the following assumptions: a single comprehensive paradigm is not enough for accounting – it is a multi-paradigmatic science; each of the accounting paradigms fights for acceptance, even for dominance within accounting as a separate scientific discipline. The classification of paradigms offered by A. Riahi-Belkaoui is given in Tab. 1.9.

Tab. 1.9. Accounting paradigms of Prof. A. Riahi-Belkaoui (generalized on the basis of (Riahi-Belkaoui 2004))

The name of the paradigm's	*Model*	*Exemplar*	*Theories*	*Methods*
1	*2*	*3*	*4*	*5*
1. The anthropological/inductive paradigm	Works by H. Hatfield, S. Gilman, W. Paton, A. Littleton, Y. Ijiri, I.M. Gordon, R. Watts	Existing accounting practice and the attitude of management to this practice	Information economy; analytical/agency model; income smoothing hypothesis/income management hypothesis; positive accounting theory	Techniques used in income smoothing research; income management research; positive accounting theory
2 The true-income/deductive paradigm	Works by W. Paton, J. Canning, H. Sweeney, Ph. Bell, K. Macneal, D. Alexander, E. Edwards, M. Moonitz	Accounting theory is based on logical reasoning and conceptual rigour; the concept of ideal income, which contradicts the method of historical value	Accounting of the adjusted price level; accounting for variable costs; accounting for elimination value; accounting for the current value	Various specific methods

Tab.1.9. (continued)

1	*2*	*3*	*4*	*5*
3. The decision-usefulness/decision-model paradigm	Works by R. Chambers, G. May, W. Beaver, J. Kennelly	Accounting theory that provides the usefulness of accounting	Decision-making theories (EOQ, PERT, linear programming etc.); economic	Empirical techniques, discriminant analysis

		information for management decision-making models	divisions that affect the inactivity of an enterprise (bankruptcy, mergers, etc.)	
4. The decision-usefulness/decision-maker/aggregate-market-behaviour paradigm	Works by J. Gonedes, N. Dopukh	Accounting theory, according to which the behaviour of aggregate markets determines the choice of accounting information system	Efficient market model; market efficiency hypothesis; price arbitration theory; CAPM; options valuation theory	Market model; β-estimation model; methods of event assessment; Olson's estimation model; models of the ratio between profit and turnover
5. The decision-usefulness/decision-maker/individual-user paradigm	Works by W. Brus	Accounting theory, where accounting is considered as a behavioural process	Relativism in accounting; behavioural effects of accounting information; information inductance hypothesis, etc.	Observations, interviews, surveys, experimental method
6. The information/economics paradigm	Works by G. Feltham, J. Demski, R. Crandall	Information is an economic commodity; acquisition of information is a problem of economic choice	Team theory; statistical decision theory; economic theory of choice	Bayesian approach to estimating probabilistic relationships; cost-benefit analysis

Professor R.V. Mattessich's work is also dedicated to applying the model of science development of T.S. Kuhn. In the preface to the reprint of his fundamental work *Accounting and Analytical Methods* (1979), he first talks about applying the philosophy of science in accounting, in particular, represented in the works by T.S. Kuhn, J. Sneed, W. Stegmüller. The final design of T.S. Kuhn's science model in accounting can be seen in his work *Critique of Accounting: Checking the Fundamentals and Regulatory Structure of Applied Science* (1995). In this work, some chapters are dedicated to the critical analysis of accounting compared to the development of the post-Kuhnian philosophy of science during the 1970s-1980s and applying the concept of paradigms by T.S. Kuhn in accounting research. Professor R.V. Mattessich believes that no paradigm prevails over others in accounting, and the paradigm defined by M.C. Wells as an old one still plays a significant role in the development of accounting.

Having based his research on the works of J.E. Butterworth, R. Mattessich suggests his own classification of accounting paradigms (fig. 1.2).

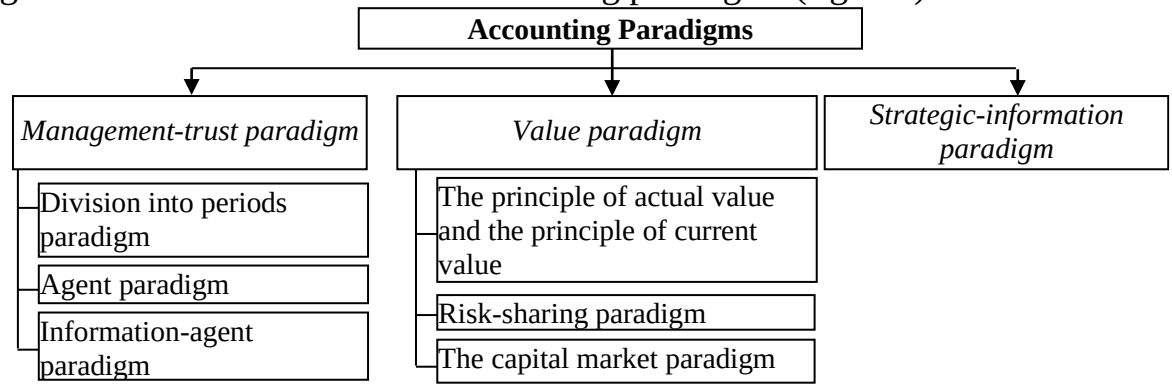

Fig. 1.2. Accounting Paradigms According to R. Mattessich

Prof. R. Mattessich (1995: 125-139) points out three paradigms of accounting: management-trust, value paradigm and strategic-information paradigm. The main task of accounting for the management-trust paradigm is to control the trusted property – a trust function. As to the value paradigm – ensuring decision-making based on valuation at present value, current value and forecast market value; concerning the strategic information paradigm – meeting the various information needs of a significant number of users, which involves creating a theory that would ensure orderliness of accounting systems its different information purposes.

Analysing the work of R. Mattessich, the Polish researcher, Prof. A. Szychta, concluded that the methodology of science by T.S. Kuhn in accounting could be considered from two sides: 1) In the narrow sense – similar to the views of R.V. Mattessich on the formulation of accounting theory, and, as a consequence, on the method of authorising the science of accounting; 2) In a broad sense, like the theory of triple entry in accounting by Y. Ijiri, which expanded the accounting system based on double classification, adding to it a third dimension – analytical-causal (1996: 192).

Prof. W.A. Novak identifies the following accounting paradigms: the anthropocentric inductive paradigm; the real income deductive paradigm; the paradigm of decision-making usefulness in the framework of the suitability of accounting information to this model of decision-making; the paradigm decision-making usefulness in the framework of the aggregate market; the paradigm of decision-making usefulness in the framework of the individual user of information; the paradigm of economic nature of information (1998: 77). The proposed classification of paradigms is similar to the ones by Prof. A. Riahi-Belkaoui and has its origins in SATTA.

The idea of applying paradigms concept in accounting was also raised in the work of Prof. W. Brzezin, who subjected the existing accounting paradigmatic classifications to significant criticism (1999: 43-61). In his opinion, the concept of R.V. Mattessich does not reflect the essence of the paradigmatic method. The A. Riahi-Belkaoui's vision, in its turn, is characterised by insufficient systematisation

in the selection of paradigms and their excessive number. According to Prof. W. Brzezin, paradigms should help formulate such theories that constitute a revolution in accounting science. They must introduce into the theory of accounting new methods or new areas of research. Individual paradigms may be less important but must constitute a particular system of paradigms. Based on the above provisions, W. Brzezin proposes to identify the following paradigms in modern accounting:

- *Retrospective and Prospective Nature of Accounting.* The paradigm of retrospective and prospective accounting results from the fact that retrospective accounting has been a paradigm that many theorists of this discipline recognise for five centuries, while prospective accounting expands the scope of modern accounting and is forward-looking. In a business entity, retrospective accounting is a deterministic information system, while the prospective one – a probabilistic approach. Simultaneous integration of retrospective and prospective accounting is an important theoretical and practical issue of modern accounting and, at the same time, determines the directions of its further development in the 21st century.
- *Microeconomic and Macroeconomic Application of Modern Accounting*. The paradigm of microeconomic and macroeconomic nature of accounting is associated with its division into simple (micro accounting) and complex (macro accounting). Micro accounting provides value for the performance of individual entities. Macro accounting provides aggregation of macroeconomic transactions between entities (for example, macroeconomic balance).
- *Management Accounting.* The paradigm of the managerial nature of accounting, according to W. Brzezin (1999: 51), is associated with the emergence and development of cybernetics; in addition, cybernetics is a science close to the general theory of systems and technical automata, and economics. Certain fundamental concepts in cybernetics and systems theory allow a deeper understanding of the managerial role of accounting at an enterprise. For example, determining the deviations of actual values from the planned ones is part of economic management, which determines the managerial role of accounting, its relationship with the planning process.

South African researchers D.G. Gouws and A. Rehwinkel, in their work *Financial Accounting and Reporting: Sustaining Relevance in the Present Time Paradigm* (2004), proposed the allocation of four sub-paradigms of accounting. The selection of paradigms was based on the transdisciplinary research taken in the social sciences, physics and philosophy (fig. 1.3).

In fig. 1.3, time intervals are displayed on the x-axis, and the information is on the y-axis. They move in opposite directions – because as information grows, time intervals decrease because more information can be adjusted faster. As noted by D.G. Gouws and A. Rehwinkel, it is this phenomenon that causes unforeseen changes. For example, more changes have occurred in the last 50 years than in the entire Stone age.

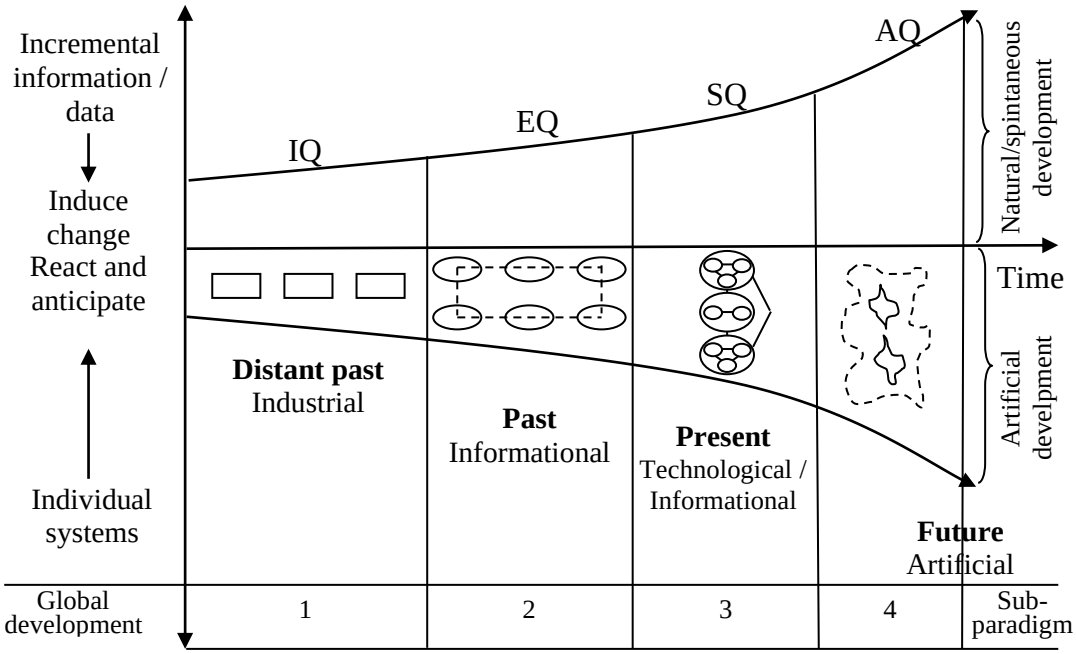

Fig. 1.3. A Transdisciplinary transcendence paradigm in relation to the arrow of time and information capacity, according to D.G. Gouws and A. Rehwinkel (2004: 87)

Considering the features of accounting in the context of the selected paradigms allows determining the prospects for developing the accounting system based on the revision of the concept of time. The existing accounting system considers the facts of the past events, creating a perception of reality through a set of observations, reporting on those events based on which we can analyse the results of the enterprise. In current conditions, accounting is already partially inadequate to some requirements of accounting information users (as convincingly emphasised by B. Lev and F. Gu (2016: XIV-XV)) and will be completely unable to meet the needs of users shortly in the absence of practical steps to improve it following the requirements of stakeholders of the accounting system.

A Paradigm Approach to Accounting in the Works of Soviet Scientists. For the first time in the USSR, Prof. Ya.V. Sokolov used the concept of accounting paradigm in his work History of Accounting Development. The author identified three paradigms of accounting: unigraphic, cameralistic and digraphic (1985: 40-44). The above division played a significant role in applying T.S Kuhn's concept of paradigms in accounting by scientists of the post-Soviet school, particularly Ukrainian researchers. The literature that we have analysed reveals that the vast majority of scientists use it as a "given parameter" (V.D. Andreiev, Z.V. Kirianova, V.V. Kovalov, O.I. Kolvakh, M.I. Sydorova) or taking it as the basis, reveal its more complex components (T.O. Terentieva, K.I. Zuha, N.M. Maliuha), select a new accounting paradigm (N.M. Maliuha). This paradigm classification is also used in several professional textbooks (T.V. Borovskaya, Z.V. Kiryanova, E.A. Mizikovskyi).

V.D. Andreev (2003:. 27) holds similar views on allocating the three main paradigms of accounting. He writes that we encounter a single paradigm in the study

of accounting, up to the thirteenth century, the heyday of scholasticism and the first embryos of scientific thought. During this period, such methods as accounts, stocktaking, which registered them, overdrafts and estimates were developed. In the 14th-15th centuries, we note the existence of three paradigms: unigraphic, digraphic and cameralistic.

The unigraphic paradigm, or simple accounting, is based on the ideas of accounting naturalism when in the accounting system, any TFOEL (the fact of economic life) is reflected in those units of measurement inherent in these facts. Inventory accounting serves as the basis for simple accounting; it presupposed the fixation of residual values with the subsequent compilation of inventories and descriptions based on which the future financial result of business transactions was calculated (Kovalev 2004: 137). In its development, the unigraphic paradigm, which existed until the 19th century, went through five stages: inventory accounting (recorded only the remains of material values); overdraft (only settlement transactions were taken into account); money (coin) was the object of accounting; money as an object of accounting merged with the accounting of settlements; money and overdraft absorbed inventory accounting (this is a complete unigraphic paradigm – all accounts are kept in monetary terms). The cameralistic paradigm existed in parallel with the unigraphic and demographic. It focused on cash transactions and accounting for budget allocations; the facts that have just appeared were introduced together with the facts that have already taken place. The future dissolves in the present and really exists (Sokolov 1985: 43).

Cameralistic accounting, despite the significant shortcomings of its application (the impossibility of obtaining a complete picture of the invested capital, the state of debt and the efficiency of the enterprise, etc.), by the middle of the 19th century was used in the state economy and some industries. It can be kept utilising a simple or double record (Kovalev 2004: 138).

Digraphic accounting has supplanted its competitors and, for many decades, has been the primary way of formalised information and control support of economic activities of economic entities. The rise of the new form of accounting has been taking place over a long time, during which, in some cases, there was also considerable resistance to its spread and use. In its more than five-hundred-year history, the double-entry bookkeeping method described by L. Pacioli has been repeatedly attacked and criticised by accountants, representatives of other sciences, and users of accounting information. Professor O. Kolvakh (2000) highlights the existence of a digraphic accounting paradigm, which is laid down in a global accounting model and implemented in national and professional accounting systems.

Following the existing approach to the allocation of three accounting paradigms, T. Borovska (2005: 6) notes the relationship of each of the paradigms to economic schools through the efficiency of economic activity: cameralistic – cash growth (connection with the ideas of mercantilists), unigraphic – property growth at the disposal of the firm (association with the views of the classical school –

A. Smith), digraphic – profit growth (connection with the ideas of the classical school – D. Ricardo).

The most thorough analysis of the application of the existing paradigmatic approach, which was introduced by Prof. Ya.V. Sokolov and which provides for the allocation of three paradigms (simple, cameralistic and double), was carried out by T.O. Terentieva (2002). She studied each of the paradigms in detail, identified their subgroups (simple natural, cameralistic, simple monetary, double static and double dynamic), and substantiated the accounting principles' features in each sub-paradigms.

Professor N.M. Maliuha generalised and supplemented the classification of T.O. Terentieva (Tab. 1.10).

Table 1.10. Accounting paradigms according to N.M. Maliuha (generalised based on (2005: 332-343)

Paradigm	*Purpose/task of accounting*	*Accounting techniques*	*Objects of accounting*
1. Simple natural	Control over the preservation of values and provision of the rapid information receipt	Simple calculation of objects and phenomena	Material objects and calculations
2. Cameralistic paradigm	Fixation of income and expenses, control over the implementation of the plan of income and expenses	Simple counting, double entry	Material objects and calculations, cash desk, budget
3. Simple monetary	Property accounting, its condition and movement of natural values	Simple entry	Material objects and calculations, results of the use of business property
4. Double static	Property accounting	Double entry	Property, intangible assets, liabilities, receivables and payables, authorised share capital, depreciation
5. Double dynamic	Determining the effectiveness of commercial activities, financial result of activity	Acceptance of permanent inventory (cost estimate)	Assets, capital, liabilities
6. Double information dynamics	Providing information to interested users	Wide application of information technologies	Assets, capital, liabilities, intellectual capital, natural resource potential, information

Having described in detail each identified by T.O. Terentieva paradigm (Tab. 1.10), Prof. N.M. Maliuha, based on the trends of economic development and current information and computer technologies, proposed a new accounting paradigm – "double information dynamics", which she applied to form the concept of accounting development in Ukraine.

Prof. Ya. Sokolov should also be considered the developer of another paradigm classification in accounting, which is now actively used by scientists. In his *Essays on*

Accounting History (1991: 172), he noted that M.C. Wells had identified seven paradigms in accounting theory (anthropological, opportunistic, situational, procedural, idealised, informational, behavioural) and described them. The same information is also revealed in his fundamental work, *Accounting: from the Origins to the Present Day* (Sokolov 1996: 374). However, in the analysed work by M.C. Wells, we found out that he had not distinguished such paradigms. M.C. Wells mentioned five existing schools of thinking (accounting methods of evaluation). But still, other researchers (T.O. Terentieva (2002: 10), K.I. Zuha (2010: 143), M.D. Akatieva (2017: 1109), etc.), referring no longer to the work of Prof. Ya.V. Sokolov but mentioning the source (the book by M.C. Wells) or the results of other authors, describe the above classification and determine its role in the application of the paradigmatic method of T.S. Kuhn in accounting. However, some authors call M.C. Wells the first author of accounting paradigms (Akatieva 2017: 1107) and substantiate its defining differences, particularly applying a subjective approach to classification (Terentieva 2002: 11).

Formational Approach as a Basis for Allocating Accounting Paradigms. There is a group of researchers who note the transition to a new paradigm of accounting in connection with the transformations that took place in the economy of Ukraine in the late 1990s – early 2000s, in particular, which were associated with the formation of a market-oriented system accounting in Ukraine, noting the gradual transition from the planning model (Tab. 1.11).

Table 1.11. Researchers' views on the need to develop a new paradigm of accounting in the formation transition

Author	*The Views of the Author*
O.M. Petruk	When there is a reform of the NAS, which affects its very foundations, it is advisable to clarify and perhaps even form a new paradigm of accounting (2004: 192)
S.F. Holov	The task of a new accounting paradigm is to form an information infrastructure adequate to a market economy's requirements, recognise the equality of users, and recognise the importance of related services. The new reporting paradigm involves the following factors: online reporting, forecast information (but not "posthumous"), linguistic variables (2005: 6-7).
P.Ya. Khomyn	The modern paradigm of domestic accounting and reporting is formed on the methodological approaches of the 30s of the 20th century and practically did not change during the next 30 years, when scientific research in this field was primarily utilitarian… " (2007: 6)
M.S. Pushkar	Changing the state and social system in Ukraine requires a new paradigm of the NAS, but for 15 years of existence of the recent economic system, the theory of accounting has remained unchanged (2007: 47-48)

The above views of researchers (Tab. 1.11) show that the authors fix the existence of the accounting paradigm formed during socialism or the planned economy and emphasise the need to develop a new accounting paradigm in the transition to new economic formations.

The most thorough process of a paradigm shift based on applying the formational approach (transition from the planned to the market paradigm of accounting) was studied by Prof. M.P. Voinarenko and O.K. Leontovych-Pelykh. The authors note the shift from the previous (old) accounting paradigm to the modern (new). The old (socialist) paradigm is a system of socialistic accounting. The new one is understood as a market accounting system, which should ensure the construction of financial statements on "transparent" data and help attract investment and credit resources to the country. The main structural elements and characteristics of the old and new accounting paradigm are given in tab. 1.12.

Table 1.12. Structural elements and characteristic features of accounting paradigms (generalised based on (Voinarenko and Leontovych-Pelykh 2000: 133)

№	*The main elements*	*The old paradigm (socialistic)*	*New paradigm (market)*
1	*2*	*3*	*4*
1	Components of accounting systems	– accounting; – costing	– financial accounting; – management accounting; – tax accounting; – controlling
2	Objects of accounting	– state enterprises; – collective enterprises; – collective enterprises, state enterprises	– state enterprises and institutions; – private and communal enterprises (small, associations of enterprises); – non-residents; – financial institutions
3	Objects of accounting	– funds, sources of their formation and business transactions according to the old chart of accounts; – costs, norms	– assets, liabilities, capital, business transactions under accepted accounting standards; – centres and areas of responsibility; – processes, phenomena, internal and external factors; – objects of financial accounting that affect the formation of tax liabilities of taxpayers
4	Accounting policy models	– command and administrative	– sociological; – economic; – behavioural; – strategical
5	Composition and content of reporting	– Balance; – Report of financial results; – estimates, reports; – norms and standards; – explanatory note	– financial reporting forms 1-4; – consolidated financial statements; – abbreviated reporting for small businesses and non-residents; – declarations, calculations, reports; – information bases, the system of indicators; – notes
6	Reporting users	– public administration and executive authorities	– owners, administration of the enterprise, employees; – customers, partners, investors; – banks, suppliers and other creditors; – executive authorities and management

The analysis conducted by the authors allows generalising the views of researchers who consider the transition from a socialist to a market accounting system as a scientific revolution in accounting (in the terminology of T.S. Kuhn) in Ukraine.

Foreign researchers have also established a shift in accounting paradigms due to political, economic and cultural modernisation. Japanese researcher K. Someya (1989: 83-84), considering the significant revolutionary changes in accounting in Japan, determines their cause of events in the country after World War II (restoration of the stock exchange, the creation of infrastructure, etc.), resulting in a change in the traditional management orientation of financial reporting to new, investment orientation when its primary users are external stakeholders, in particular, investors and institutional investors.

Post-Industrial Trends in the Development of the Modern Accounting Paradigm. In recent years, applying the concepts of information and post-industrial society to the economic aspects of global problems, the active formation of the knowledge-based economy, researchers emphasise the need for the radical transformation of the accounting system. To ensure compliance of the accounting system with the growing needs of stakeholders in the new economic environment, scientists propose to identify a new accounting paradigm that would describe the existing changes and ensure compliance of accounting theory with the practical needs.

The first who paid attention to the need to identify a new paradigm of accounting in the context of the transition of civilisation was Prof. R.K. Elliott (1992: 61-85), who wrote that the development of information technology had created a wave that "washed away the shoreline" of accounting. As a result, the industry collapsed in the 1970s, and the service sector collapsed in the 1980s. So, in the 1990s, in his opinion, accounting should have failed. Such a collapse actually took place in the late 1990s, as evidenced, for example, by the emergence of a three-tier model for ensuring the transparency of the company presented by S. DiPiazza and R. Eccles (2003: 35). Following the model, the reporting standards must be supplemented with unique information about capital, which is not reflected in the financial statements, both within a particular industry and individual information about each company. Another evidence of such a collapse was the emergence of systems and methodologies that provide non-financial information for management decisions. The consequence of such proposals currently is the active implementation and gradual international standardisation of the integrated reporting (*King IV Report on Corporate Governance for South Africa*, International <IR> Framework, Directive 2013/34/EU, Directive 2014/95/EU, etc.), which provides for the need for companies to disclose information of a financial and non-financial nature.

To highlight the paradigms of accounting, R.K. Elliott applied the theory of "three waves" of E. Toffler, as a result of which he distinguishes the accounting paradigm of the first wave (agricultural), the second (industrial) and the third

(information) wave. The differences between the paradigms are the technological gaps and methods of accounting (Tab. 1.13).

Tab. 1.13. Changes in technology and accounting in each of the waves, according to R.K. Elliott (1992: 62)

Technology	*1st Wave*	*2nd Wave*	*3rd Wave*
Physical	Labor	Machinery	Semi-conductors
Information	Writing	Printing	Computer
Accounting	Single-entry	Double-entry	Triple-entry

Professor R.K. Elliott hypothesised that in the third-wave paradigm, there would appear the demand for a new accounting technology that had not yet emerged, a triple-entry accounting system developed by Y. Ijiri. The author, though, is quite sceptical about the possibility of using it to meet the accounting needs of the third wave. The system of Y. Ijiri was built to account for industrial resources and liabilities reflected in modern financial statements and not for specific intellectual assets of post-industrial firms.

Prof. B. Lev, in his work *New Accounting for the New Economy* (2000), notes that the traditional model of accounting, focused on tangible (physical) assets and legally sound transactions, abstracted from many events that affect the change in value, was unable to interact with the new economic environment and does not provide the essential needs of managers and investors. As the starting point for forming a new accounting paradigm, B. Lev defines understanding an enterprise's business model, focused on knowledge, operating in a new economy. The development of such a model necessitated forming a new paradigm of accounting (Fig. 1.4).

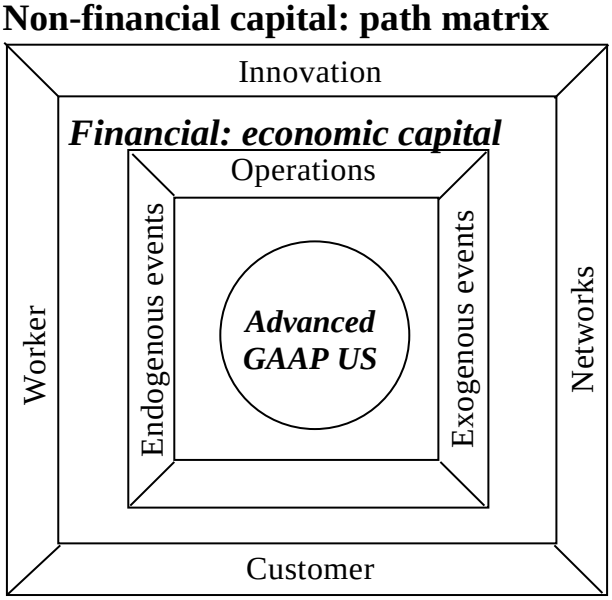

Fig. 1.4. A new paradigm of accounting according to B. Lev (2000: 13)

In the formed paradigm of accounting, B. Lev (2000: 12) identifies three main structural blocks: 1) Advanced GAAP US; 2) Financial and economic capital – a dual

system based on the economic definition of the asset; 3) Non-financial capital – a matrix of the path between innovation opportunities and their consequences, an information system that ensures the establishment of the relationship between resources and results. The proposed information in the block of path matrices focuses on four main properties of innovations: development and commercialisation of products/services, human resources, customers, network connections. The three orbital systems are connected through control links into a coherent information structure. The new paradigm proposed by B. Lev expands the subject of accounting, including non-operational and non-financial areas. It ensures accounting compliance with rapid changes in the global economic environment by including the proposed system of information elements such as economic added value, a system of balanced indicators to eliminate managers' claims about the adequacy of the existing accounting system in a post-industrial economy.

R.T. Shortridge and P.A. Smith, stating that today we live at the height of the revolution since Luca Pacioli described the double-entry accounting system, justify the need to move from an industrial to an information accounting paradigm. To do this, the authors use the paradigm theory of T.S. Kuhn, noting that the principles on which the financial accounting system is built are undergoing revolutionary changes (Fig. 1.5).

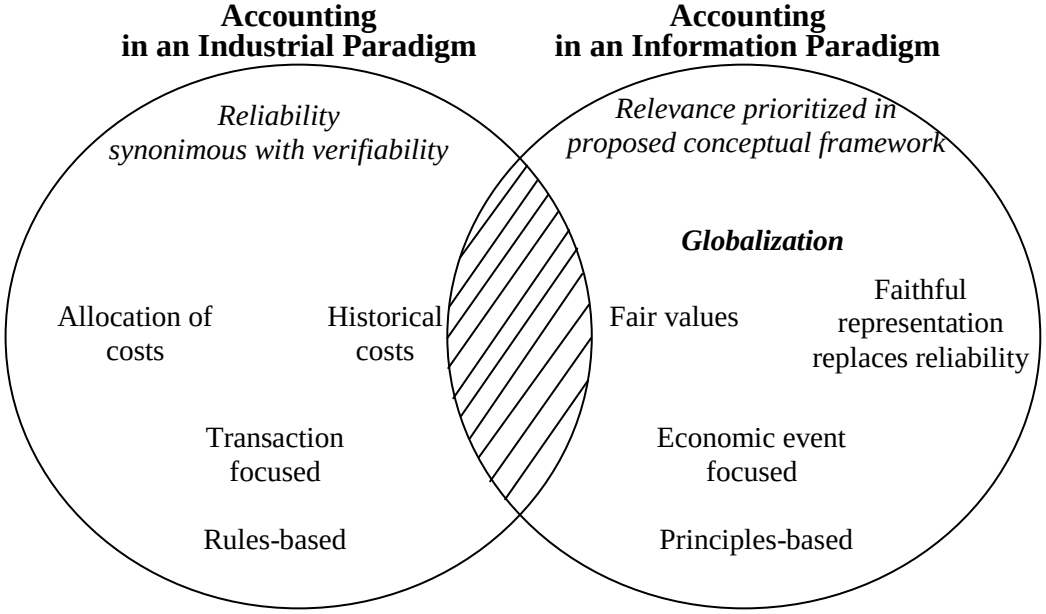

Fig. 1.5. A paradigm shift in financial accounting, according to R.T. Shortridge and P.A. Smith (2009: 17)

R.T. Shortridge and P.A. Smith state the transition to the information accounting paradigm (Fig. 1.5) due to the transition from industrial to the information economy, increasing globalisation trends and improving access to data and information processing capabilities. The main reason for the change was the anomalies of financial reporting, characterised by inconsistency with the needs of investors as its primary users. The authors consider the most significant illustration of

such a transition to be the radical changes in the conceptual framework of the FASB financial statements, which took place in 2010 due to its convergence with the conceptual framework of the IASB. The main elements of the information accounting paradigm that distinguish it from the previous paradigm are the following: the transition from historical to fair valuation in accounting; changing the function of financial reporting from the redistribution of resources (reliability of calculations) to a fair presentation (more relevant); reflection in the accounting system not of operations, but critical economic events; assigning a more significant role to the professional judgment of the accountant.

Among Ukrainian scientists, Profesor M.S. Pushkar comments about the need to identify a new paradigm in this context: "The task of the scientists and practitioners should not be resistance to change and conservative thinking, but the search for a new paradigm of accounting that meets the requirements of brilliant economics of post-industrial society" (2007: 24). The exact position is held by M.P. Pavliukovets, noting that the turning point in the development of society falls on the present, so it should facilitate the transition to a new paradigm of accounting. It is due to changes in the economy, namely the increasing importance of the knowledge, information and intellectual factors in forming a new economic development model. He also outlines the features of the future paradigm, noting that the new paradigm should consider the achievements of the computer industry and latest technologies and retain the characteristic features and methods of accounting (2007: 201-202).

Prof. I.J. Yaremko, L.M. Pylypenko and O.I. Tyvonchuk (2016: 136) also state that in current conditions, financial statements, as the primary source of formalised information about the efficiency of enterprises, does not meet the information needs of users, in particular, without providing an assessment of the long-term potential of corporations in a post-industrial economy. The main reason for this fact, the authors consider the theoretical and methodological limitations of the accounting system, in particular, in terms of information about intangible assets that play a critical role. All this is one of the reasons for the gap between the book and the market value of enterprises.

To overcome the existing problem, the authors propose to develop a new accounting paradigm that will eliminate current anomalies and generally overcome the crisis of the accounting system. According to I.J. Yaremko, L.M. Pylypenko and O.I. Tyvonchuk's new paradigm should: disclose the public importance and purpose of financial reporting (institutional context); provide a complete representation of the intellectual potential of the company in the system of accounting and disclosure in the reporting of social, environmental and ethical aspects of its activities; take into account the dynamics of the factor of economic development in the assessment of objects of accounting (2016: 145). The introduction of a new accounting paradigm, according to the authors, will meet the needs of users of accounting information in a post-industrial economy.

Institutional Paradigm of Accounting. The further development of accounting is inherently connected with the involvement of new methodological tools, which

allows to better structure the subject of its research and improve the research process by scientists of painful accounting problems that need to be solved. One such tool is the institutional theory in its broadest sense, which can improve existing and develop new accounting and information models.

Considering the emergence of institutional theory and its further use in accounting as a revolutionary event that leads to the transformation of the basic theoretical and methodological foundations, the authors emphasise the allocation of the institutional paradigm of accounting. According to Prof. V.V. Pankov, one of the first scholars who drew attention to the possibility of using institutionalism to improve the accounting regulation system, the institutional paradigm is now not only undisputed but also successfully used in the analysis of many social phenomena and institutions: law, education, economics, politics and so on. Even a simple understanding that accounting is an institutional phenomenon involves institutional analysis of various aspects of accounting (2008: 55). Without resorting to the theory of T.S. Kuhn, the author considers the institutional paradigm as a universal tool that can be used to study the development of accounting as a socio-economic institution.

As a result of an in-depth study of the work of accounting institutionalism representatives, I.A. Yukhymenko-Nazaruk highlighted the general institutional paradigm of accounting, which consists of an institutional and neo-institutional block, and should act as a new common source of the worldview of scientists in the field of accounting, which is based on institutionalism in the broadest sense (2017: 60). According to the author, the formation of such a paradigm will expand existing research in accounting by more actively involving neo-institutional concepts that reveal the internal features of the functioning of institutions, and in general, will improve the theoretical and methodological foundations of accounting.

In Ukraine, the development of the institutional theory of accounting as a separate area of research is due to the efforts of V.M. Zhuk, who made a significant contribution to the popularisation of accounting institutionalism, formed a scientific school whose representatives consider institutional analysis the primary scientific research method. Using the provisions of the paradigmatic concept of T.S. Kuhn, the author singles out the institutional paradigm of accounting, the main reasons for which are the need to expand the information support of different social groups outside the business entities and the need to consider accounting as an institution that reduces the risks of uncertainty in the socio-economic environment by forming a specific information field (Zhuk 2018: 217-218). The essence of the institutional paradigm of accounting in the words of V.M. Zhuk is that it aims to increase the mission of accounting from a management function to an essential socio-economic institution through the use of new objects – components of this institute, involvement in the accounting methodology of “accounting engineering” and “accounting imperialism”, which leads to a new institutional theory of accounting (Zhuk 2018: 224). The allocation of the institutional paradigm aims at the institutional “armament” of accounting, ensuring its understanding as a socio-economic institution that plays an essential role in society not only as a means of informing decision-

makers but also as a social and institutional internship, policy tool and social ideology that scientists can use to overcome socio-political and economic crises.

Atypical Approaches to the Allocation of Accounting Paradigms. Along with the paradigmatic classifications substantiated above, some researchers use the concept of "paradigm" as a synonym for specific accounting theories and accounting models in the form of standards and forms of accounting, without using the basic provisions of the concept of science by T.S. Kuhn. So, Prof. V. Kam (1990: 488-489) notes that in accounting, the conventional paradigm is based on historical costs and the principle of conformity of revenue recognition. Scientific research in accounting today is carried out in observance of the "positive" scientific aspect. This theory tries to reveal with the help of empirical explanations the phenomena in the accounting sphere.

There are several competing paradigms in accounting that compete with each other, but none can ultimately win. Therefore, if the researchers-accountants cannot agree on one paradigm, accounting can be a multi-paradigm discipline for many years (Kam: 489). The above indicates that W. Kam treats accounting paradigms as positivist and normative accounting theories and their various modifications. Since the struggle between the representatives of these theories took place and continues on the "scientific front", the author concludes that it is possible to recognise accounting as a multi-paradigm science. It means that the process of displaying information about the economic activity of the enterprise can be considered from different points of view, which does not allow to speak of a single accounting theory as a comprehensive and recognised group of evidence, the discussion of major disciplinary issues ended with a general agreement.

Prof. R.V. Mattessich (1995) also notes that the multi-paradigm of accounting consists of many different research traditions that compete and complement each other instead of the dominant paradigm and calls normative and positive theory the paradigms. Sh. Hameed (2001) holds the same views highlighting the existence of a normative and positive paradigm of accounting. Modern conventional accounting is based on a functional, positive paradigm of usefulness for decision-making, which is more adapted to reflect social reality and continues to motivate behaviour to meet users' needs through fundamental accounting concepts.

R.S. Blanchard (2003) identifies two main classes of accounting paradigms – deferral/matching and assets/liabilities. The deferral/compliance paradigm involves coordination at the time of income receipt and recognition of expenses so that both co-occur as the event that indicates the performance of the contract. The asset/liability paradigm focuses on the value of assets or liabilities at a particular balance sheet date.

German scientists R. Fischer and R. Hoffmann in *Changing the Paradigm of Financial Accounting?* (2002) reveal the transition of European companies to IFRS (IAS / IFRS), as well as from German reporting principles to GAAP US. In this case, researchers understand the accounting paradigm as a separate accounting model formed based on the relevant accounting standards of IFRS, German GAAP and

GAAP US. A.A. Trushevskaya, not following the existing traditions of distinguishing paradigms by representatives of the Soviet school, identifies three paradigms of double-entry, which were formed as a result of the collapse of the old Italian accounting: 1) Russian (cash principle); 2) French (dynamic balance); 3) German (static balance) (2006).

Classification of Accounting Paradigms. In addition to the paradigms of accounting as a science, researchers use the concept of paradigms of T.S. Kuhn (and in some cases only the name) for the consideration of accounting as a discipline, practical and scientific activities and their individual components, resulting in paradigms of accounting education, paradigms of research in accounting, paradigms of harmonisation of accounting, paradigms of accounting risk accounting, management accounting paradigms, strategic accounting paradigms, accounting paradigms, accounting valuation paradigms, etc. The existence of such diversity in the approaches is one of the reasons for the "blurring" of the concept of "accounting paradigm", which does not allow structuring of scientific knowledge in their dynamic development (as predicted by T.S. Kuhn), but a somewhat further chaotic system of scientific knowledge in the field of accounting, as such selected paradigms are pretty difficult to compare. In general, given the unsatisfactory qualitative level of selection of accounting paradigms by scientists, in other words, their inconsistency with the introductory provisions of the paradigmatic concept of T.S. Kuhn, the possibility of its application in accounting is considered rather doubtful.

The main approaches to the selection of paradigms of accounting as science are shown in Fig. 1.6.

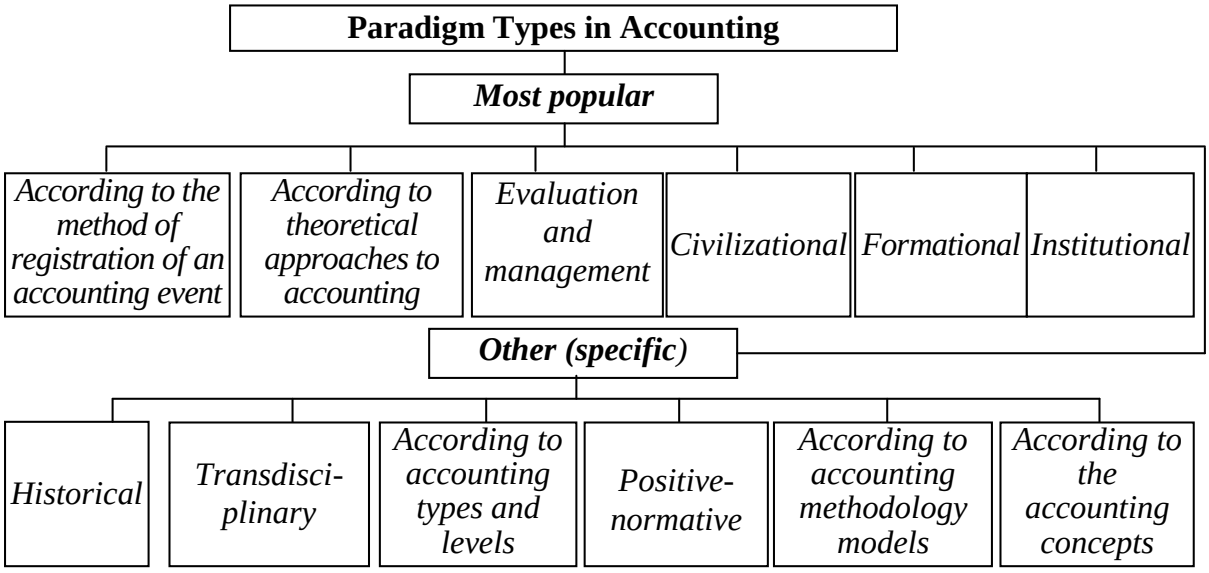

Fig. 1.6. Paradigm classifications of accounting

The existence of a significant number of different paradigms of accounting as a science should not be considered as evidence of multi-paradigm accounting, as noted by A. Riahi-Belkaoui, V. Kam and R.V. Mattessich; instead, it is the evidence of the inability of any of the paradigms to explain the causes and the process of changing

the fundamental and auxiliary elements of accounting. It is the main reason that stands in the way of applying the methodology of scientific change according to the model of T.S. Kuhn to analyse the dynamics of scientific accounting knowledge.

The widespread use of a paradigm approach in accounting has led to the fact that today, to ensure greater scientificity of their publications, researchers are beginning to call any changes in accounting the paradigms. For example, Prof. V.I. Tkach and G.Ye. Krokhicheva noted the emergence, development and improvement of the virtual accounting paradigm (2004: 9). O.V. Pasko names the modern paradigm of accounting in Ukraine as neoclassical – after introducing the national NAS(S), and before that, in his opinion, the classical paradigm prevailed (2007: 309). A.V. Shaikan names the paradigm of accounting (a set of universally recognised scientific provisions by the world scientific community) a double-entry (2009: 32). Prof. S.A. Kuznietsova identifies the accounting paradigm in the system of information formation of an enterprise income and expenses (2007: 218). According to Prof. L.A. Zimakova, an enterprise's globalisation process served as the basis for the emergence of a new accounting paradigm (2009: 3); O.A. Agieieva developed a new dialectical paradigm of accounting and reporting (2008: 10). In addition, a significant number of accounting paradigms have been proposed by such Ukrainian researchers as K.V. Bezverkhyi, S.F. Holov, A.V. Hrylitska, N.Yu. Yershova, M.V. Koriahin, O.P. Kundria-Vysotska, P.O. Kutsyk, M.S. Pushkar, M.V. Reta, V.Z. Semaniuk, O.I. Skasko, M.M. Shyhun and others.

All researchers using the concept of paradigm in accounting can be grouped into two groups: 1) Representatives of the first group use in their research the concept of "accounting paradigm" without reference to its substantive understanding, i.e. without indicating the source of its origin or authorship of the concept. Usually, such studies do not take into account existing developments in this field, and they develop their own "unique" paradigm; 2) The second group of researchers notes that they use the paradigmatic method of T.S. Kuhn; however, in most cases, they do not fully adhere to the logic and principles laid down by the author in understanding this method of analysing the dynamics of scientific knowledge.

This situation does not ensure a single theoretical structure of accounting as science and leads to chaos in accounting theory creation. However, this does not mean that the paradigmatic method should not be used to structure and analyse the dynamics of scientific knowledge. For example, as noted by Prof. Ya.V. Sokolov, in this sense, there is not only the possibility but also the necessity of doctoral dissertations on paradigms, principles, postulates, paradoxes, terminology of accounting (2008: 6). As a result, there is a need to find ways out of a situation where, on the one hand, the use of the paradigm method is necessary, and on the other – there is significant abuse of this method, which leads to confusion and chaos of accounting science. In this case, the only way out is to use 'Occam's Razor', according to which the reproduction of new terms and concepts in accounting should take place only when their introduction is beneficial for the development of science. The use of the paradigm method in accounting will bring such benefits only when the

paradigm is understood as the metatheory of accounting. While applying the paradigm method in accounting, one should fully use the logic and principles of the science model by T.S. Kuhn and understand the essence of metatheory.

Debate on the Application of the Paradigm Method in Accounting. Using the paradigmatic model of the science by T.S. Kuhn to study accounting as a scientific discipline has long been accompanied by a debate in the professional accounting literature. In particular, both the possibility and the desirability of its application are questioned because the revolutionary changes in accounting are not as evident as in other sciences. Thus, Sh. Hameed suggests that applying the paradigm method, in particular, as it was done in SATTA, was one of the attempts of the academic community to strengthen the scientific status of accounting (2001).

Prof. R.C. Laughlin, in *On the Nature of Accounting Methodology* (1981: 342), analysing the paradigm classifications formulated by M.C. Wells and the developers of SATTA, came to the following conclusions: the paradigm methodological form of T.S. Kuhn cannot be used in accounting to determine the causes of accounting knowledge; accounting knowledge will not be multiplied in the future using the paradigm methodological form of T.S. Kuhn. To replace paradigms and normal science in accounting, R.C. Laughlin proposes using the methodological concept of P. Feyerabend, which is closely related to systems theory and allows the discipline of "accounting" a sure release, which is necessary for its future development.

Regarding the possibility of applying alternative methodologies to the evolution of the science of accounting, while the developers of SATTA suggested using other competitive descriptive forms, such as the model by I. Lakatos, M.C. Wells did not consider any alternatives that could take place and were necessary (1981: 329). Prof. N. Hakansson (1989: 6) challenges SATTA's proposal to identify three alternative approaches to theory as competing paradigms and notes that the accounting paradigm should be more closely linked to the structure of modern general accounting, particularly by focusing on assets, liabilities and their periodic changes.

K.V. Peasnell, exploring the proposals of M.C. Wells and the developers of SATTA, concludes that in both approaches, the ideas of T.S. Kuhn are readily accepted (quoted in Mathews and Perera 1999: 85). The basis of his critique is that the presence of most theoretical approaches does not mean the existence of many competing paradigms, which, in turn, indicates a period of professional uncertainty and the impending crisis (revolution, according to T.S. Kuhn).

K.V. Peasnell directly criticises the developers of SATTA from two positions: 1) In his opinion, the theory of T.S. Kuhn cannot be applied to accounting, as it can only be applied to science, and accounting is not a science but a service activity; 2) He argues that the identification of SATTA developers of the classical approach and the approach of utility for decision-making as competing paradigms can not be correct because, according to the theory of T.S. Kuhn, it is unlikely that one scientist can follow more than one paradigm. To support his views, he cites a significant number of accounting researchers who can be associated with each of the paradigms (quoted in Cushing 1989: 6). As a result of the analysis of the application of the

paradigm approach in accounting by the developers of SATTA and M.C. Wells, he concludes that the two developers have accepted an intelligent approach by T.S. Kuhn and tried to adjust the development of accounting theory to describe the stage of crisis or revolution in the scheme of T.S. Kuhn (quoted in Mathews and Perera 1999: 85).

Prof. T. Mouck analysed the desirability of applying the concept of philosophy of science by K. Popper and I. Lakatos in relation to accounting. He comes to the following conclusion that the methodology of research programs of I. Lakatos prevails over the falsificationist method of K. Popper because it accurately describes the historical practice of science and because it allows realising a higher level of methodological tolerance (Mouck 1990: 238). T. Mouck proposes to use the concept of research programs of I. Lakatos to increase the progressiveness (scientific) of the positive theory of accounting, which was also supported by Prof. R. Mattessich (1995).

Researching accounting, Prof. P. Quattrone (1997) uses the concept of "research traditions" by L. Laudan, criticising the approaches based on the concepts of K. Popper, T.S. Kuhn, I. Lakatos. In his opinion, K. Popper's falsificationist approach expresses a realistic position that views the subject of knowledge as separate from the object in the research. After analysing the possibility of applying the paradigm method in accounting, P. Quattrone agrees with M. Masterman that its use in the social sciences is possible only because this concept is used as an established social institution but because of an accurate understanding of its heuristic possibilities. He concludes that the concept of "paradigms" is related to astronomy, as are the concepts of "falsificationism" and "research programmes" related to physics, and have limitations in explaining the development of the social sciences, including accounting, as well as science in general (Quattrone 1997: 6).

Based on the concept of "research traditions" of L. Laudan, which highlights the ways of developing scientific theory (methodological aspect), as well as the ontological element of such theories, P. Quattrone emphasises the need to resume research on ontological aspects of the disciplinary field of accounting and methodological problems illustrated by the classification of relation spheres and their oppositions. Applying the concept of L. Laudan in accounting allows you to compare theories within the existing disciplinary field to the ideas of other spheres and their metatheoretical levels of scientific explanation. It could more easily harmonise the current state of the theory of accounting and control with the general evolution of scientific knowledge. Using the concept of "research traditions" will also help present constructivist epistemology and transdisciplinary proposals (1997: 6).

N.J. Foss emphasises the need to apply L. Laudan's concept of "research traditions" in accounting within the new growth theory by P. Romer (Foss 1997). He notes that the idea of research traditions is much more flexible than the paradigms of T.S. Kuhn and research programs of I. Lakatos. The flexibility of L. Laudan's approach is that the historical development of research traditions shows that over time, not only auxiliary theories and concepts change but also the basic provisions –

the components of the nucleus. The scientist from New Zealand, M.H. Kabir (2010: 13), writes that modern researchers of the positive theory of accounting do not fully use either the methodology of K. Popper or T.S. Kuhn nor I. Lakatos. For example, one of the defining features of the paradigmatic concept of T.S. Kuhn is a non-cumulative change in science, which contradicts the position of positivist researchers. Positive accounting theory contains elements of the above three models of science.

Debate on the Application of the Paradigm Method in Accounting. The above views of researchers indicate the ambiguity of applying the paradigm method of T.S. Kuhn in accounting. He was mainly criticised by researchers of relatively early paradigm classifications developed by foreign scientists (M.C. Wells, SATTA developers, R. Mattessich). Still, the existing proposals of the Soviet school of accounting and Ukrainian scientists also need analysis.

Considering the "Soviet" approach to the allocation of paradigms in accounting, there arises the question: "Can a simple entry be considered a double entry with a paradigm shift in accounting"? Indeed, a double entry in the development of accounting is crucial because it has changed the fundamental accounting framework. Still, the desirability of applying, in this case, the T.S. Kuhn's paradigm method of science development is quite doubtful. To solve this problem, one can apply the thesis of T.S. Kuhn, who criticised the cumulative progress in the development of normal science and contrasted it with the scientific revolutions that arise as a result of anomalies and cause a change in the dominant paradigm: "Cumulative acquisition of unanticipated novelties proves to be an almost non-existent exception to the rule of scientific development. The man who takes historic fact seriously must suspect that science does not tend toward the ideal that our image of its cumulativeness has suggested. … the cumulative acquisition of novelty is not only rare in fact but improbable in principle" (Kuhn 1996: 96). "The transition from a paradigm in crisis to a new one from which a new tradition of normal science can emerge is far from a cumulative process, one achieved by an articulation or extension of the old paradigm. Rather it is a reconstruction of the field from new fundamentals, a reconstruction that changes some of the field's most elementary theoretical generalisations as well as many of its paradigm methods and applications" (Kuhn 1996: 84-85). In his work, T.S. Kuhn raises the issue of the incommensurability of theories that correspond to a particular paradigm, which was later developed in the concept of epistemological anarchism by P. Feyerabend.

Incommensurability means the inability to use logical proofs to determine the priority of a paradigm due to the impossibility of finding the intersection of evidence: "… the proponents of competing paradigms must fail to make complete contact with each other's viewpoints. Collectively these reasons have been described as the incommensurability of the pre- and postrevolutionary normal-scientific traditions … In the first place, the proponents of competing paradigms will often disagree about the list of problems that any candidate for paradigm must resolve." (Kuhn 1996: 148). In confirmation of these words, T.S. Kuhn quotes the words of M. Planck: "a new scientific truth does not triumph by convincing its opponents and making them see

the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it" (Kuhn 1996: 151).

Due to the incommensurability of paradigms, their competition takes place in the form of a struggle of scientific communities, and victory is determined not so much by internal science but by socio-cultural or socio-psychological processes. As S. Tulmin writes, the "scientific revolution" from the position of T.S. Kuhn is so wholly and profoundly changing the intellectual means that the scientists working within the new paradigm will have no theoretical concept that will be common to them and their colleagues who still follow to the old paradigm. Therefore, supporters of different paradigms will not talk to each other about their general field of research and will "see" the world differently. On the contrary, in the period of "normal" science, there is no such mutual misunderstanding or radical transformation of the schemes of our experience: normal science is the only one and scientists are engaged in work within the general structure of fundamental concepts (Tulmin 1978: 180). The above allows us to establish that the following features characterise the model of the science of T.S. Kuhn: 1) Non-cumulative – complete or partial replacement of the old paradigm with a new one, incompatible with the old one during the scientific revolution; 2) Incommensurability – the inability of supporters of two competing paradigms to logically prove that one of the paradigms is more valid or more general than the other.

Researchers following the "Soviet" approach to selecting paradigms in accounting (V.D. Andrieiev, N.M. Maliuha, Ya.V. Sokolov, T.O. Terentieva, K.J. Tsyhankov, etc.) contradict the essence of the paradigm method, substantiated by T.S. Kuhn. For example, Prof. Ya.V. Sokolov, highlighting the unigraphic, cameralistic, and digraphic paradigms, simultaneously notes that cameralistic accounting was a particular case of simple accounting and was conducted at the enterprises where changes in estimates and cash registers were recorded (1985: 337). It confirms that the transformation of the so-called "paradigms" was cumulative and proportional because it was possible to establish what and in what part simple accounting differs from cameralistic and no scientific revolution accompanied by the struggle of scientific communities in the transition from one type of accounting to there was no other.

According to V.D. Andrieiev, in the study of accounting, we encounter a single paradigm (simple accounting) till the thirteenth century, the heyday of scholasticism and the first embryos of scientific thought. During this period, such techniques as invoices, inventory, which registered them, overdrafts and estimates were developed (2003: 27). Prof. K.Yu. Tsyhankov also notes that, based on the general ledger of simple systematic accounting, a balance sheet can be compiled, which is stated in many works of the nineteenth – early twentieth century (2003). Cameralistic accounting "gave" a statement of cash flows and budgeting system to the existing accounting methodology. That is, double-entry bookkeeping inherited from simple and cameralistic accounting most of the modern methods and principles of accounting (except for the double entry and its derivatives – the income statement

(financial results), as well as the Profit and Loss Statement), which also indicates the cumulative development science of accounting and confirms the illegality of the selection of paradigms based on the application of the "Soviet" approach.

Numerous debates among researchers about the use of simple or double accounting system, double or triple system presented by F.V. Yezerskyi on the pages of the journal, *Accounting*, in the late nineteenth century, give additional evidence of the proportionality of theories because the representatives of both approaches could use logic and common sense to prove the truth of a theory. The above-indicated arguments make it possible to determine the wrong choice for simple, cameralistic and double accounting paradigms and their more detailed interpretations (static, dynamic).

The selection of paradigms based on civilisational and formational approaches is also illegal because its application does not consider the non-cumulative and disproportionate scientific paradigms following T.S. Kuhn. In particular, Prof. M.P. Voinarenko writes that forming a new accounting paradigm does not mean that there will be a complete change in the system of views. On the one hand, the new paradigm of accounting in its development should take into account recent trends, and on the other hand, absorb the positive elements of the previous paradigm (2000: 132). The new paradigm not only synthesised the previous positive experience but supplemented it with current new specific knowledge (Voinarenko 2000: 137). The author denies the "purity" of the selected paradigm classification, emphasising particular heredity in the scientific views of the representatives of different paradigms.

According to Prof. R.K. Elliott, the transition to a post-industrial economy does not mean that the first two waves should be forgotten. "People still like to eat (the agricultural wave), and they still like to drive around in automobiles (the industrial wave). But the current distribution of the U.S. workforce leaves only two percent of the people growing food and ten percent actually making things in factories" (1992: 64). Thus, the transition to the third wave accounting system does not involve rejecting agricultural and industrial accounting paradigms. It is characterised by a change of emphasis on accounting for assets and processes (focusing on information on intangible assets, consumers and knowledge transformation processes in network structures) and expansion of network applications of information and computer technologies in accounting (Advanced analytics, Big data, Blockchain, Cloud, Cognitive Computing, Data visualisation tools, Digitally distributed supply chains, In-memory computing, Machine learning, Process robotics, Real-time data, SAAS, XBRL).

Significant contradictions between the approaches to paradigm classifications of accounting used by domestic researchers ('Soviet', formational and civilisational) necessitate new approaches or metatheoretical constructions to analyse the dynamics of scientific accounting knowledge. The above-indicated determines two possible further options for action on the application of the paradigm method of T.S. Kuhn in accounting: 1) The paradigm method can be applied in accounting, but not the

paradigm classification from the above; not the 'Soviet', formational or civilisational approaches should be used; 2) The paradigm method cannot be used in accounting to reflect the process of changing its theoretical, methodological and organisational principles, it is necessary to apply alternative concepts of analysis of the dynamics of scientific knowledge.

Conclusions to Chapter 1

1.Since the beginning of the twentieth century, scholars have debated the possibility of considering accounting as part of science or an academic discipline, and they search for ways to justify its scientific status. Representatives of the Anglo-American School of Accounting recognise accounting as a social and empirical science but consolidating it among academic disciplines requires developing its methodology, which should become transdisciplinary. One of the most relevant areas that ensure the development of accounting methodology in today's conditions is the concept of sustainable development, positive and institutional theory of accounting.

2.The analysis of the development of accounting theory in English-speaking countries allows us to identify the following periods of its growth: 1) Initial (from the mid-nineteenth century to 1900) (S.G. Beatty, A. Cayley, S. Clare, C. Marsh, W.R. Orr; 2) Preclassical (1900-1920) (G.D. Greeley, A.L. Dickinson, P.-J. Esquerre, R.B. Kester, W.M. Cole, R.H. Montgomery, Ch.E. Sprague, J.R. Wildman, H.R. Hatfield); 3) Classical (1920 – the 1960s) (Search for Principles) (1920-1939) (A.C. Littleton, M. Moonitz, W. Paton, D.R. Scott, K. Macneal, S. Gilman, A. Moore, T.G. Sanders, H.R. Hatfield); Unification of accounting (1939-1960) (W. Vatter, V.E. Paton, A.C. Littleton, M. Moonitz, P. Grady)); 4) "Golden Age" (normative) (mid-50s – early 70s) (Preparatory stage (early works of R. Mattessich and R.J. Chambers); "Golden Age" (C. Devine, Y. Ijiri, R. Mattessich, R. Sterling, R.J. Chambers); Professional recognition of normative theory (developers of ASOBAT and SATTA)); 5) Modern (1970s – our time) (Positive (mid-1970s – our time) American positivism (R. Ball, W. Beaver, M.R.J. Gaffikin, S. Zeff, R. Kaplan, B. Lev, J.A. Olson, A. Riahi-Belkaoui, S. Sunder, R. Watts, G. Feltham, E. Hendriksen, J. Zimmermann); English positivism (D. Cooper, P. Miller, A. Mennicken, M. Power, E. Hopwood, K. Chapman)); 6) New normative (90s – our time) (New normative theories (I. Abeisekera, S. Van der Laan, J. Guthrey, R. Gray, T. Gambling, C. Deegan, M.R. Matthews, C. Spence, T. Tinker); Conditional-normative methodology (R. Mattessich, H. Schroeder); Normative-positive synthesis (E.S. Hendriksen, M. Van Breda)). The proposed periodisation allows identifying accounting theories developed by Anglo-American scientists at the present stage and tracing their impact on the standardisation of current accounting practices.

Since the 1960s and until today, scientists and research organisations have been actively using the paradigmatic concept of T.S. Kuhn for the analysis of the dynamics of scientific accounting knowledge (R.J. Chambers (1966), R.R. Sterling (1967), M.C. Wells (1976), D. Flamholtz (1976), SATTA (1977), J.E. Butterworth,

M. Gibbins and R.D. King (1982), M. Glautier (1983), Ya.V. Sokolov (1985), J.E. Butterworth and H. Falk (1986), B.E. Cushing (1989), A. Riahi-Belkaoui (1992, 2004), R.C. Elliott (1992), R.V. Mattessich (1995), V.A. Novak (1998), W. Brzezin (1999), M.P. Voinarenko and O.K. Leontovych-Pelykh (2000), B. Lev (2000), T.O. Terentieva (2002), D.G. Gouws and A. Rehwinkel (2004), N.M. Maliuha (2005), R.T. Shortridge and P.A. Smith (2009), I.A. Yukhymenko-Nazaruk (2017), V.M. Zhuk (2018) and others). There are a significant number of approaches to the allocation of accounting paradigms and their elements (types of accounting, accounting methods, etc.), which is justified by its versatility as a scientific activity, information system, discipline, socio-economic institute, as well as differences in approaches of different accounting schools. To systematise the existing research in the area, a two-tier classification of accounting paradigms as a science was developed, allowing the comparison of existing approaches of authors, which will help determine the level of their innovation and ability to form a new model of description and analysis of accounting science. Having conducted historical research of the existing judgment of the application of the paradigmatic method by scientists in accounting, we found out the inconsistency of some developed paradigmatic classifications of the development of theoretical, methodological and organisational principles of accounting to the requirements for the selection of paradigms defined by T.S. Kuhn (non-cumulative and incommensurable), which questions the desirability of using this method to analyse the dynamics of scientific accounting knowledge.

CHAPTER 2
HISTORICAL ASPECTS OF THE ORIGIN AND DEVELOPMENT OF ACCOUNTING PRINCIPLES

2.1. The principle of prudence and accounting conservatism

The end of the twentieth century became a starting point in the development of accounting, as evidenced by the emergence of a significant number of scientific papers on the topic, which emphasises the need to change and improve accounting in the context of increasing processes of globalisation and informatisation of society. With such changes, there is a need for adequate modification of the accounting system, which would provide users with the necessary information and meet their needs based on applying a modified or newly developed accounting methodology. To implement such a modification, it is essential to revise the elements of the accounting system for their compliance with the realities of modern economic relations. Accounting principles, particularly the principle of prudence (conservatism), is one of such elements.

In most foreign and national accounting regulations, Ukrainian including (NAS(S)) [Paragraph 6 of Section III of the Ukrainian Accounting Standards 1 "General requirements for financial reporting"], there is a convention (principle, concept) of conservatism (prudence), which provides for the need "not to allow overestimation of assets or income, nor understatement of liabilities or expenses" (comes from an English phrase – "anticipate no profit, but anticipate all losses"). As noted by R.L. Watts (1993: 1), this interpretation is traditionally used in the literature as an idiomatic expression since the publication of the work of J.H. Bliss (1924).

German researchers G. Mus and R. Hanschmann note that "Reliability and clarity of accounting records were necessary 100 years ago and will be needed in the future. The same applies to the principle of prudence: it is not the principles of proper accounting that change, but only the forms that express their content, and the principles derived from them" (2000: 51). However, the question of whether the application of the principle of prudence (conservatism) in accounting will remain unchanged is open, as a significant number of researchers-accountants (M. Van Breda, A. Damodaran, M.R. Matthews, M.H.B. Perera, J. Richard, E.S. Hendriksen, etc.) note the need to replace or eliminate prudence in the accounting tools.

Gradual "eradication" of accounting conservatism occurs in two directions: 1) By creating variability in the application of accounting methods. The developers of IFRS, laying down in the standards of alternative accounting methodologies that can be implemented through accounting policies, create the preconditions for its levelling. When choosing the necessary method of accounting, the concept of conservatism is often not taken into account; 2) To assess the market, fair value. Quite often in scientists' research, there are suggestions about the need to use fair value in accounting, which due to its "market fairness", actually destroys accounting

conservatism. V.Ya. Sokolov (2006: 52) confirms it and states that historical cost can only be used in rare cases where active non-monopolised market prices, discounted asset value, or replacement cost cannot be used for a reliable estimate fair value.

After adopting the FASB conceptual framework, the concept of fair value accounting in GAAP US, from 1982, replaced the measurement of assets and liabilities at historical cost with the recognition at fair value. In recent years, it has also been very actively used in IFRS as one of the methods of measuring certain types of assets and liabilities (IFRS 2 Inventories., IFRS 16 Property, Plant and Equipment., IFRS 32 Financial Instruments: Disclosures and Presentations., IFRS 41 Agriculture., etc.), which is summarised in IFRS 13 Fair Value Measurement. The above-mentioned highlights the need to determine the historical preconditions for the emergence and essence of the concept of accounting conservatism, the definition and analysis of its types and the need to apply at the present stage of development of accounting in Ukraine and the world.

The Essence of the Concept of "Conservatism". The concept of "conservatism" (French *conservatisme*, from the Latin *conservo* – protect, preserve) means a commitment to all the obsolete, that tends to something; hostility and opposition to progress, to everything new, advanced… (Bolshaya Sovetskaya … 1973: 39).

In economic theory, conservatism is understood as a set of economic doctrines (monetarism, supply economics, the theory of rational expectations), which do not represent unity in organisational or theoretical terms, having their objects of study, methodology and tools of analysis. They are united by a negative assessment of the central components after military reformism – the growth of state economic activity and the conduct of the active fiscal and monetary policy of stimulation and redistribution (Piyasheva 1988: 6-7). It determined the reasons for using the terms "conservative", "liberal", "neoliberal", "neoconservative", etc., which means a certain socio-cultural and political-economic tradition, as a generalising characteristic for the group of the above theories.

In the theory of decision-making, according to A.G. Mamikonov (1983: 127), the conservatism of all information systems, including the accounting system, is a slow adjustment following the existing changes. Thus, from the standpoint of a decision theory, the conservatism of accounting, as an information system, is a feature to accumulate unused flows of accounting data.

The analysis of the researchers' views revealed that by using this concept in accounting, as a component of its methodological tools, the scientists tried to show a group of accountants who "did not correspond to the line drawn by the Communist Party" (S.Yu. Rogov (1929: 614), certain obsolescence of accounting methodology (V.R. Bunk 2006: 42), and the lag of accounting as a supporting system from the needs of the practice and user requests (O.M. Petruk 2006: 55). However, in the vast majority of cases, the use of this concept in accounting is associated with the existence of the principle (concept) of prudence (prudence – English and French version of the name) or conservatism (conservatism – American version). The above allows us to determine that conservatism in economic theory, decision theory and

accounting have nothing in common; these concepts have different content. However, conservatism in economic theory has had a significant impact on the development of accounting. The triumph of conservatism in economic theory in the 1980s resulted in the widespread positive accounting theory, which initially developed significantly among the American accounting community and is now an a priori element of accounting research worldwide.

History of the Foundation of Conservatism in Accounting. Considering the history of the accounting system based on double-entry, it can be established that the principle of conservatism was used neither in the first manuscripts on accounting and trade calculations (*La Riegola de Libro* (1439); *Della Mercatura* (1458) by B. Cotrugli) nor in the first printed works (*Tractatus Mathematicus ad Discipulos Perusinos* (1494) by L. Pacioli). Evidence of this is the advice given by L. Pacioli to merchants in his Tractatus "All things are to set simple prices. Assign the latter better above than below, for example, if you think that the thing is worth 20, then say 24, so that the profit was better" (1982: 42). Prof. Ya.V. Sokolov comments on the above mentioned as a kind of anti-conservatism. That is, L. Pacioli relies upon the current selling maximum prices. The implementation of this principle led to a systematic overstatement of the amount of capital and a decrease in the amount of profit shown (1982: 252).

For the first time, the concept of conservatism (or, as proved below, its particular case), formulated later into the principle, was drafted in 1675 by a prominent French economist J. Savary (1622-1690), who had a significant impact on the development of accounting in the late 17th - early 18th centuries, in work *Le parfait négociant ou instruction générale pour ce qui regarde le commerce...*

In the literature, there are two citations of some provisions of the work of J. Savary, which were the concept of conservatism prototype:

- "The valuation of the object should be reduced if the replacement price is lower than the purchase price" (Sokolov and Bychkova 1999: 58-59);
- "Give an estimation to the goods and for that not value them more than they are worth, for it would be to make himself rich in idea…" (Richard 2009: 1).

As prof. Ya.V. Sokolov states, the words of J. Savary for the entrepreneur mean reducing risk when making management decisions. Since the calculations are based on underestimating resources used in economic activities, all the negative consequences of such decisions can be significantly reduced. It is achieved under conservatism only at the expense of hidden reserves, which dramatically expands the space for administration manoeuvre (Sokolov 1999: 58-59). However, in our opinion, it is impossible to be entirely sure that the concept of conservatism was finally formed after the publication of J. Savary's work. It was only a partial application of the principle of conservatism, which was dictated by the situation's specifics. In those days – with the total dominance of static accounting theory – the balance sheet reflected potential losses and potential profits. The objects were reflected in the accounting inventory at market value, even prescribed in the French Commercial Code of 1807. According to J. Richard (2009: 3) accounting at fair market value was

confirmed by many French authors of the time, who commented the Code – E. Vincens, J.B. Delaporte, M.J. Molinier. The concept also inspired the jurist redactors of the first German Code of Commerce when they decided in 1857 to choose a market value as the basis for the valuation of assets. Thus, in the situation described by J. Savary, the lowest values should be used, because it corresponds to the replacement price, and at the same time, is the market value of the object. Accordingly, this situation is only a particular case of the concept of conservatism. In other cases, the valuation was carried out at market value, which was not always the lowest valuation of the company's assets.

The concept of conservatism was also used in Finland in the 19th century. As noted by A. Virtanen (2004: 193), in those days, the main principle in practice was commercial prudence, which was applied depending on the situation. Although the primary purpose of accounting was to calculate and record the merchant's property, which necessitated the use of an actual price that would not underestimate or overestimate the value of assets, it was wiser to expect pessimistic results in the future than optimistic.

Researchers have different views on the causes and further application of the concept of conservatism in accounting. An analysis of existing views on the causes of the conservatism concept has revealed that no specific author could be attributed to the creation of this concept. Hypothetically, we can establish the time interval of the emergence of the idea of conservatism – from the appearance of the first printed works on accounting (late 15th century) to the end of the 17th century, when the work of J. Savary was published.

Individual countries included the conservatism concept in the legislation for social, economic, legal, psychological, political, criminal, etc. However, despite the reasons for the implementation of the concept, in current conditions, it occupies an important place in many Ukrainian National Accounting Standards, IAS / IFRS and GAAP US, although in some periods it was excluded from the principles of accounting or qualitative characteristics of useful financial information. According to Z.S. Tuiakova (2008: 18), the concept of valuation at the lowest cost – the idea of conservatism, is the result of long scientific research by representatives of the personalist and institutionalist school, as well as various trade-offs, the primary purpose of which was to ensure quality information in the balance sheet and income statement. Prof R.R. Sterling (1967: 112) also emphasises the importance of this concept, noting that conservatism is a fundamental principle of accounting.

Conservatism as an Accounting Principle, or Concept, in International Accounting Standards and Ukraine. In the early stages of its development, accounting theory was based on induction, i.e., developing ideas or approaches through observation. From about the 1920s to the 1960s, accounting theories developed primarily based on observing what accountants were doing in their practice. General practice was then codified in doctrines or accounting conventions, an example of which is the doctrine of conservatism (Deegan 2004: 4). That is, the

codification of conservatism in the form of a principle (convention) has come a long way.

The first attempts to find accounting principles were made in the United States in the 1930s (Hendrksen and Van Breda 2000: 63). They were caused by the lack of theoretical developments in accounting, eliminated the deficit, and brought order between ideas and current practice. The authors who first tried to determine accounting principles were K. Macneal, G.O. May, W.A. Paton, A.C. Littleton, DR Scott, T. Sanders, H.R. Hatfield, A. Moore. However, none of the authors in their research among accounting principles or postulates mentioned the principle of conservatism, although some of them, in particular, G.O. May and W.A. Paton (Stable and Dresse: 82), recognised assessment of historical costs as one of the principles (postulates).

Conservatism was first treated as the principle of accounting in 1938. T.G. Sanders, H.R. Hatfield and A. Moore, in "A Statement of Accounting Principles", considered the features of its manifestation concerning various objects of accounting (intangible assets, tangible assets, current assets, inventories, contingencies, concealment of profits). The authors noted that "the possible extent of unforeseen contingencies of adverse character calls for a generally conservative treatment of items to which judgment must be applied" (Sanders 1938: 114). In their opinion, both unjustified overstatement and unjustified understatement in the application of conservatism should be considered as an example of distortions, instead of which reasonable judgments should be made based on all circumstances that may lead to prejudice (1938: 12). Therefore, conservatism should be considered a means of implementing prudent management to form reserves and to manipulate reporting indicators.

A significant contribution to developing the theoretical foundations of conservatism in the United States was made by S. Gilman in his work, *Accounting Concepts of Profit* (1939). One of his main achievements was distinguishing between "rules" that can be created and "principles" that must be an ideal, universal construction.

Thanks to these pioneers (T.G. Sanders, H.R. Hatfield, A. Moore, S. Gilman), the concept of conservatism gradually began to be covered in textbooks on accounting. For example, W.E. Karrenbrock and H. Simons, in the 4th edition of the book *Intermediate Accounting* (1964), stated that the asset value increases and expected returns are usually ignored until realised through a sale; impairment of assets and expected losses are generally recognised… some expenses are recognised in full, in contrast to current income, despite the possibility of future benefits" (Sterling 1967: 111).

In 1965, P. Grady in ARS 7, *Inventory of Generally Accepted Accounting Principles for Business Enterprises,* also reflects the concept of conservation. This report was an attempt to restore confidence in the professional image of accounting after the damage caused to it by the release of the Report on Accounting Research 3 under the leadership of M. Moonits. In contrast to the singled out by V.E. Paton

(1922) postulates and the principles of accounting identified by the team led by M. Moonitz (1962), P. Grady identified ten basic accounting concepts (1965), the seventh of which was conservatism. The choice of "concept" instead of "postulate" or "principle" was made under pressure from the AAA, which determined that the term "concept" was more acceptable. The concepts identified by P. Grady were further considered a general conceptual basis for codifying accounting principles. They provided a comprehensive discussion of accounting principles and became the basis for auditing those areas of activity in which there was a significant diversity of accounting practices. Highlighting the concept of conservatism in the Accounting Research Report 7 was because P. Grady considered accounting as an integral part of any efficient business (King and Slocum 2000: 13). It also confirms that P. Grady, first of all, attributed generating accounting information, which determines the credibility of supporting the proposed methodology, to the purposes of enterprise practices. Although, on the other hand, he argued that the results of accounting should be evaluated in terms of significance for society as a whole. His main "concern" was the problem of fair and adequate measurement of income.

In 1966, the American Association of Accountants issued ASOBAT, which provided for the use of a trade-off in approaches to the valuation of accounting objects. The compromise was to expand the amount of data disclosed in the financial statements; for instance, information was disclosed using the principle of conservatism and at market value. Such information was placed in separate reporting lines.

Due to the unsatisfactory results of its theoretical research, the AICPA recommended that the ARV describe in a short time the list of objectives, basic concepts and principles of accounting. In 1970, in response to the above instruction, the ARB issued the Statement № 4 "Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises", where, in the Principles Section, Paragraph B, Conservative Concept (Agreement) was singled out. Paragraph 171 of the Statement № 4 states: "Assets and liabilities are measured in a context of significant uncertainties. Historically, managers, investors, and accountants have generally preferred that possible errors in measurements be in the direction of understatement rather than overstatement of net income and net assets. This has led to the convention of conservatism … (§ 171)" (APB Statement № 4: 1970).

In 1973, based on an agreement concluded between professional accounting organisations of Australia, Great Britain, Ireland, Canada, the Netherlands, Germany, Mexico, the United States of America, France and Japan, the IASB was established, chaired by the relevant Council. In November 1974, the IAS Board approved IAS 1 *Disclosure of Accounting Policies*, which, in paragraph 17, "Accounting Policy", stated that the selection and application of appropriate accounting policies should be guided by the principles of prudence the predominance of essence over form and materiality. Paragraph 9 specifies in more detail what it means for the management of the enterprise to be prudent in selecting and applying the appropriate accounting policies as well as in preparing financial statements: "Many transactions are

inevitably accompanied by uncertainty. This should be recognised with caution in the preparation of financial statements. However, prudence does not justify the creation of secret or hidden reserves ” (International Financial Reporting Standards).

In 1997, IAS 1 Disclosure of Accounting Policies was replaced by IAS 1. *Presentation of Financial Statements*, developed by IASB. In the new IAS 1, the provisions on prudence in accounting were deleted. The mention of prudence remained only in the *Conceptual Basis for the Preparation and Presentation of Financial Statements*, Paragraph 37 *Prudence*.

In 1980, the FASB published the SFAC № 2 *Qualitative Characteristics of Accounting Information,* in which the section on reliability singles out the Conservatism Convention, to which paragraphs 91-97 are devoted. In the glossary of terms of the SFAC 2, conservatism is defined as a cautious response to uncertainty to ensure that the uncertainty and risks inherent in business situations are adequately addressed (Statement of Financial … 2008: 6).

In Ukraine, the concept of conservatism was first introduced as a precautionary principle in July 1999, in the Law of Ukraine *On Accounting and Financial Reporting in Ukraine* (Law of Ukraine … 2006). Though, some other principles (consistency, completeness, accrual and compliance of income and expenses, a single monetary measure) have existed in the form of rules since 1993, after the publication of the *Regulations on the Organisation of Accounting and Reporting in Ukraine* № 250. Following the issuance of the converged conceptual framework in 2010 by IAS / IFRS and GAAP US, where there was no similar qualitative characterisation of accounting information, this concept was excluded. It remained only in National Accounting Standards 1 General Requirements for Financial Reporting (Paragraph 6, Section III).

The accounting regulation issues based on principles were considered in detail in the researches of O.M. Petruk (2005), N.M. Maliuha (2005), S.F. Holov (2008), T.Ye. Kucherenko (2009), V.M. Zhuk (2010), A.V. Ozeran (2015), D.O. Hrytsyshen (2015), R.V. Kuzina (2015). They note the need to apply the principles as a form of accounting regulation, suggest ways to improve the system of accounting principles in Ukraine. Still, a detailed analysis of the peculiarities of applying the principle of conservatism (prudence) was not provided.

Ukrainian accounting lacked the principle of conservatism because it inherited the accounting methodology from the USSR, where accounting regulation worked not based on a system of principles but the rules and regulations. Although some authors during the Soviet era highlighted the principles of accounting, which declared specific social rules and norms, the principle of conservatism was not among them. It does not mean that socialist accounting was non-conservative. Conservatism was implemented in the Soviet accounting methodology through legislation, which already laid down accounting methods aimed at ensuring caution, in particular, which prevented underestimation of liabilities and costs of the enterprise. For instance, back in 1927, the “Resolution of the Council of Labor and Defense of the USSR” was issued, which defined the rules for drawing up balance sheets and valuing balances in

state and cooperative enterprises, as well as in joint-stock companies with a predominance of the state capital, except for credit institutions. It provided that when the actual cost of tangible assets on the day of the reporting period is higher than their market value (at prices approved by the governing bodies), then, in this case, the law allows creating and showing in the liabilities a special reserve to cover losses that can not be avoided, from the implementation of these values in the new reporting period (Galagan 1928: 423). From the 1930s to the 1990s, accounting provisions underwent significant changes, with some types of reserves were liquidated and others being replaced.

Regardless of how accounting has been regulated, it has been conservative since the 1970s, but its implementation has differed. In the conditions of the directive National Accounting Standards, conservatism was implemented through the rules established by the top management, while in market National Accounting Standards – also through the allocation of the separate principle which should be observed at realisation by subjects of the organisation of the account of professional judgment (fig. 2.1).

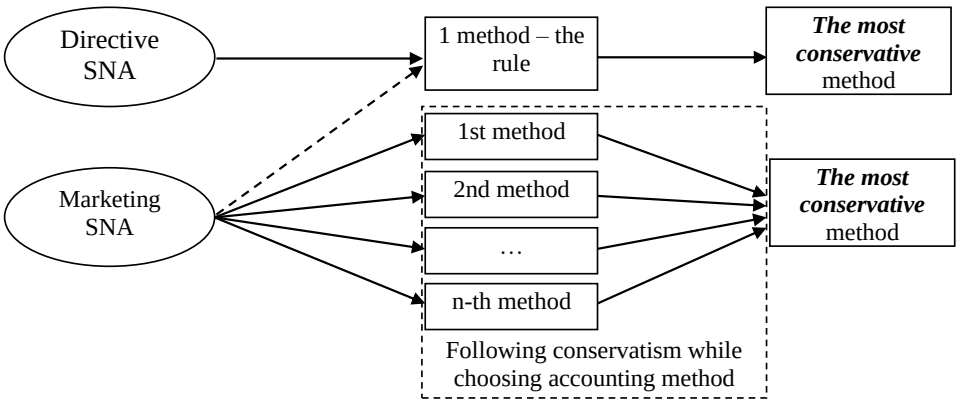

Fig. 2.1. Implementation of the Concept of Conservatism through Rules and Principles

Development of Scientific Thought about Conservatism in Foreign Countries (the second half of the twentieth century - today). From the 1960s to the 1980s, the theory of accounting in the United States approached economic theory, and the practice became more and more conservative (Bryer 2007: 3). R.L. Watts mentioned this: "Despite criticism, conservatism has survived in accounting for many centuries and appears to have increased in the last 30 years" (2003: 1). At this time (the 1960s), the first publications on the role and importance of conservatism in accounting began to appear.

Prof. C. Devine was one of the first after conservatism started to be a separate principle to consider the views of accountants on accounting conservatism in the historical aspect and speculation about modern scientific thought about it, and compared the attitude of accountants to conservatism with the opinions of statisticians and economists. In his opinion (1963: 127), a typical instruction for all accountants – "anticipate no profits and provide for all possible losses", which is

often “used by older generations to impart wisdom to the new” and has become a well-known proverb, should be revised and clarified. On the other hand, the author emphasises that if the principle of conservatism is excluded from accounting, a significant part of the accounting profession should be eliminated immediately. If the remark that income should be recorded later rather than earlier is not mentioned in the instructions when making the appropriate decisions, it is useless. You should have a starting point to determine when we anticipate, and you should have a basis and a measurement scale to determine how much we predict.

In his study, C. Devine notes the contradictions regarding the use of conservatism in accounting. In his opinion (1963: 127), conservatism for most accountants “is not a defense for anything and therefore is not a positive force in argument. The accountant is expected to exercise his own best judgment and to reveal facts and opinions that meet professional tests for importance and relevance. The responsibility to exercise and report professional judgment is seemingly contrary to any rule that permits wholesale deductions “just to be conservative”. Realisation of this apparent incompatibility has led to the modern position that conservatism as a rule for action should be applied only when the “distribution” of judgments is essentially flat, i.e. when there is no preference and therefore no judgment at all.” Expressing such a position, C. Devine suggests the need to implement conservatism in the form carried out in the context of the directive NSC (see Fig 2.1).

Prof. R.R. Sterling, in his work *Conservatism: A Fundamental Principle of Valuation in Traditional Accounting* (1967), examined in detail the concept of conservatism, its impact on the development of accounting, and analysed the critical views of other researchers on conservatism. He was a staunch supporter of conservatism and a critic of valuation at market value, noting in particular that the principle of conservatism in accounting is a fundamental argument against market valuation. He put forward and proved the following doctrine (fig. 2.2).

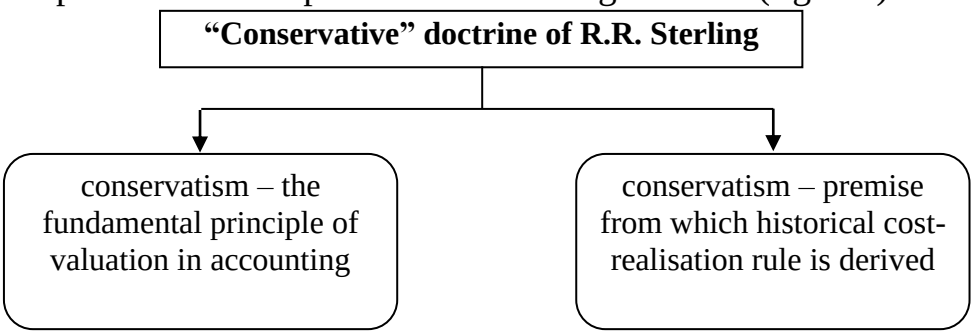

Fig. 2.2. R.R. Sterling’s doctrine on accounting conservatism

The author (Sterling 1967: 112) proved the first hypothesis by the following evidence: 1) The history of accounting creates a natural tendency to conservatism; 2) Conservatism prevails when there is a conflict between it and other principles; 3) Authors in the existing field usually justify a specific evaluation procedure by resorting to conservatism, even when they claim to have been anti-conservative; 4) Critics of conservatism often take the form of using conservatism as the main

criterion; 5) Arguments about the historical cost convention are demonstrative if they are removed from the context of conservatism.

Regarding the second hypothesis, according to R.R. Sterling (1967: 112-113), in the accounting literature, there is considerable support. Thus, some authors with a "liberal" bias suggest that certain evaluation rules are derived from the principle of conservatism. The author also does not deny the existence of other principles of valuation – causality and convenience. According to the second hypothesis, the principle of historical costs is nothing more than a manifesto of conservatism. If the principle of historical costs is used, it is conservative, and this principle is justified when conservatism itself is justified (1967: 132).

Examining the existing arguments of critics against the concept of conservatism and the rules of evaluation based on historical costs, R.R. Sterling (1967: 132) concluded that they do not have significant strength and are not reliable enough. However, in terms of criteria for measuring information, in his opinion, it is clear that the "conservative" measurement is not accurate. The result of intentional belittling is deception, no matter what "good intentions" are pursued, because any such intention is to deceive. The author also understands that the desired elimination of conservatism is commendable, but he disagrees with how certain scholars want to achieve its destruction.

Our analysis showed that after the two publications from the 1960s presented above, by the mid-1990s, there had been no targeted research on conservatism in accounting. As noted by E.S. Hendriksen and M.F. Van Breda (2000: 75-76), initially accounting in the U.S. was addressed to creditors, then the decisive role of investors was recognised, and more recently, accounting has become focused on providing information on investment decisions. It can be assumed from the above that while credit market participants were the primary consumers of accounting information, the issues of accounting conservatism remained "in the shadows", as conservatism protected their interests. Displaying assets at a lower cost was more desirable, increasing the potential coverage of loans and borrowings. The change in the primary users of accounting information towards investors, and, accordingly, in the goals set for accounting, has led to a revision of approaches to applying the principle of conservatism in accounting.

In the 1990s, the accounting scientific community in the United States began debating the importance of accounting information for the capital market. A significant impetus was given by the publication of B. Lev's article "On the usefulness of earnings …" (1989), which empirically proved the weakness of the correlation (low value of R^2) between changes in the market value of enterprises and accounting information. The thesis put forward by B. Lev found both supporters and critics. J.A. Olson, a former co-author of B. Lev, was among them. He in 1995 proposed a simple autoregressive model to describe the dynamics of residual income, which he called "Linear Information Dynamics" (LID). Olson's model presupposed the existence of a formal link between valuation and accounting data and refuted B. Lev's assertion.

However, the application of the LID model in practice did not give accurate results due to the presence of conservatism in accounting, which led to the possibility of varying the valuation of the duplicate business transactions depending on the accounting policy of the enterprise. Given this, J.A. Olson, already with G.A. Feltham, in 1995 and 1996 (Feltham and Ohlson 1996), to take into account the accounting conservatism, proposed a new modified model, according to which the market value is a function of abnormal income, book value and other information:

$$P = f(NI^a, BV, v) \qquad (1)$$

where P is the price;

NI_a – anomalous (abnormal) income;

BV – book value;

v – other data.

In econometric form, the Feltham-Olson model has the following format:

$$MV_{it} = \beta_0 + \beta_1 NI_{it}^a + \beta_2 BV_{it} + \beta_3 v_{it} + \varepsilon_{it} \qquad (2)$$

where, MV – market value of capital;

β_0, β_1, β_2, β_3 – the corresponding calculated coefficients;

ε_{it} – errors.

When calculating these coefficients, the parameter of conservatism, anomalous income, and market value growth are used. For example, under conditions of conservatism of accounting, the parameter of conservatism < 0, an impartial accounting – = 0, at aggressive accounting, the parameter of conservatism is > 0. The Feltham-Olson model opened new directions for further research in accounting and economic analysis and led to the emergence of a significant number of publications in which the improvement of the proposed model continued. As a result, it drew considerable attention from accounting researchers to the principle of conservatism, and the authors themselves were eventually included in the "Accounting Hall of Fame" (G.A. Feltham – in 2004, and J.A. Olson – in 2015).

The use of accounting information to assess the value of enterprises necessitated the consideration of accounting conservatism as a tool to manipulate the result of accounting valuation. The above-mentioned is explained by the fact that the application of conservatism causes an excess balance rate of return over the discount rate and involves the overstatement of anomalous income. The level of development of the financial market in Ukraine allows us to state that for domestic enterprises, the focus on the formation of accounting information for external users is the focus on representatives of the credit market. This situation explains the lack of research on the impact of accounting conservatism on the enterprise's market value.

Prof. R.L. Watts (1993), the founder of Positive Accounting Theory, spoke at an AAA-sponsored conference in San Francisco on "Research Proposals for Conservatism". During the meeting, he considered conservatism one of the essential characteristics of accounting practice. He hypothesised that conservatism developed in connection with its role in concluding contracts and was later legislated

accordingly. This study became a pioneer, forming the preconditions for further research. In other articles, R.L. Watts, both independently and co-authored, continued his research in this area, focusing on the following issues: 1) Establishing the role and importance of accounting conservatism; 2) Analysis of the asymmetry between income, market, book value and conservatism in financial reporting; 3) Measurement and effectiveness of the firm's conservatism assessment; 4) Informational role of conservatism; 5) Promising areas of conservatism. Works by R.L. Watts had a significant influence on the development of research in this area, among which should be noted his resulting work "Conservatism in Accounting" (2003), which consists of two parts: 1) Explanation and Implications; 2) Evidence and Research Opportunities. The name R.L. Watts's is associated with the research in the field of unconditional accounting conservatism.

In 1995, S. Basu defended the dissertation for the degree of Doctor of Philosophy entitled "Conservatism and the Asymmetric Timeliness of Earnings" at the University of Rochester. The work of Prof. S. Basu played a decisive role in the study of conservatism in accounting, as evidenced by the fact that almost all subsequent researchers of the problems of the use of conservatism in accounting (R.M. Bushman, J.D. Piotroski (2004), S.J. Ryan (2006), (2004), S.J. Ryan (2006), W. Guay, R. Verrecchia (2006), R.A. Bryer (2007), B.H. Kim, M. Pevsner (2008) and others.) begin a review of existing works in this area with this work.

S. Basu hypothesised that the relationship between earnings and stock returns for American firms varies depending on the nature of the news during the year. He conducted a "reverse" regression between the annual earnings and annual stock returns. He determined that the slope coefficient and the coefficient of determination (R2) were higher for firms with unexpected losses than for firms with unforeseen gains for the year. As S. Basu shows, two sets of results are essentially the same phenomena. "Bad news" tends to be more fully reflected in both current income and stock income than "good news." Losses are not underestimated and are recorded during the news. The good news affects current annual income, but it does not fully increase but is distributed between current and future income. In 1997, in The Conservatism Principle and the Asymmetric Timeliness of Earnings (Basu 1997), the author proposed a way to measure conservatism, which allowed to determine the degree of asymmetry between accounting trends for the recognition of "bad" and "good" news.

Since 2000, the issue of accounting conservatism has attracted considerable attention from researchers. They improved and deepened their research in the scientific areas formulated by R. Watts, J.A. Olson, G. A. Feltham and S. Basu. The general analysis of the publications devoted to conservatism in accounting allowed one to allocate three waves of research in this direction (Tab. 2.1).

Table 2.1. Waves of research in the field of accounting conservatism in foreign literature

No.	*Representatives*	*Areas of research*
Wave I	C. Devine, R. Sterling	Theoretical aspects of the concept of conservatism in

	J.A. Olson	accounting. The practicality and contradictions of the use of conservatism in accounting.
Wave II	R. Watts, J.A. Olson, G.A. Feltham, S. Basu	Development of conceptual models of decision-making when applying conservatism in accounting. Modelling the analysis of the formation of a firm's cost based on accounting data in the conditions of using the concept of conservatism. The influence of conservatism on the reliability of the assessment in accounting.
Wave III	W.H. Beaver, R. Ball, R.M. Bushman, S. Kothari, P. Pope, J.D. Piotroski, S.J. Ryan et al.	Improving existing and developing models of the firm's valuation based on accounting data in applying the concept of conservatism in accounting. The emergence of branches in research in this area: conditional conservatism and unconditional conservatism.

The analysis (Table 2.1) revealed that the defining works in developing this area of research in accounting are the works of J.A. Olson, J.A. Feltham, R.L. Watts and S. Basu. Based on them, two independent research areas have been formed in the English-language scientific literature – conditional and unconditional accounting conservatism.

Development of Scientific Thought Regarding Accounting Conservatism in Post-Soviet Countries. The first Ukrainian scholar to consider the concept of conservatism was P. Tsiompa, who in 1910 noted that every enterprise must reckon with the unknown future, reserving part of the profits. This is the principle of every carefully managed enterprise, as a result of which the legislation in many countries directly regulates the secrecy of parts of earnings in many public enterprises (Ciompa 2001: 41). At the same time, defending the need to value the company's assets at current value, he criticised conservatism in accounting both at the theoretical level and the level of its use in Austrian and German legislation, as it distorts the actual value of the company. For example, the author noted that it is not clear why, for example, a promissory note of goods sold should currently be presented on the balance sheet at a discount at the lowest property value than the goods themselves if they were not sold and would like to be valued at present (Ciompa 2001: 140).

One of the first mentions of conservatism (prudence) in accounting in Russian-language literature can be found in the translated work of J.F. Schär *Accounting and Balance* (1925). It states that the accounting department has the means to control certain legal relationships. Along with the systematic entry, a parallel entry is made in the so-called auxiliary books, including order books (order books). The data obtained are added to the balance sheet and accounting report. If it turns out that such contracts should be expected significant losses, the balance sheet will be prudent to form special reserves to cover them, just as for the doubtful debtors, they create a fund called "del credere account" (Shar 1925: 143). According to J.F. Schär, adherence to this prediction regarding the recording of legal agreements is a good tool for the operational conduct of the enterprise and to prevent losses.

Thus, the concept of conservatism came to the territory of the USSR and the Ukrainian territories that were part of the Austro-Hungarian Empire due to the influence of representatives of German-speaking (German, Austrian, Swiss) accounting schools, as it was also implemented in the trade legislation of these countries. It has been used in the Soviet Union since 1927 to form appropriate reserves, although it is not directly called conservatism or caution.

Having analysed the views of researchers from post-Soviet countries on the concept of conservatism (prudence) in accounting, we determined that this issue, compared to the Anglo-American school of accounting, is not given enough attention. There are only a few attempts to analyse the historical features of the origin and justification of conservatism in accounting (S.M. Bychkova, S.S. Lunieiev, Ya.V. Molotok, M.L. Piatov, A.V. Raboshuk, Ya.V. Sokolov). Existing research in the field of accounting conservatism is at the level of the first wave of research. On the one hand, this characterises the needs of users of accounting information, determined by the state of development of the national financial market. On the other hand, it reflects the level of development of accounting and analytical research methodology in this area.

Critique of Conservatism in Accounting. Some many scholars and researchers point out the inexpediency of using the principle of conservatism in accounting, despite the obvious advantages of its application. Analysing the sequence of manipulation of accounting data and the impact of conservatism to distort accounting data on management decisions (Fig. 2.3), we can establish that the above authors reveal different elements of the same process.

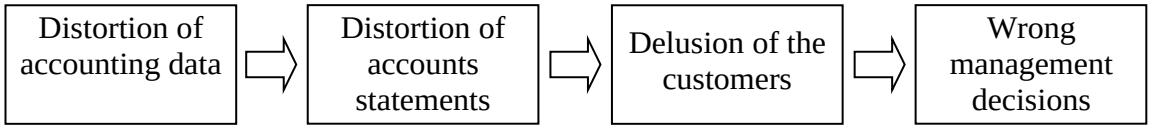

Fig. 2.3. The sequence of data manipulation based on the application of the principle of conservatism

Based on the above sequence, the views of researchers can be divided into four main groups. Researchers assigned to the first group (P.S. Bezrukykh, M.F. Van Breda, V.B. Ivashkevych, N.P. Kondrakov, M.R. Matthews, Zh.G. Mikhaliova, M.H.B. Perera, A. Pili, A.V. Raboshuk, Z. Rakhman, A. Sheremet, J. Richard, Z.S. Tuyakova, E.S. Hendriksen, A.N. Khorin) note that conservatism distorts accounting data and contradicts some of its principles. Researchers in the second group (W. Guay, R. Verrecchia, K. Macneal, ILO representatives, S. Narayan) note the distortion of financial reporting due to conservatism in accounting. Researchers in the third group (V.S. Kivachuk, S.S. Lunieiev, Z. Rakhman, A. Sheremet) note that conservatism misleads users of financial statements by creating hidden reserves and hiding profits and more. Researchers in the fourth group (V.P. Astakhov, K. Nobbs, J. Siegel, J. Shim) note that one of the reasons for wrong management decisions is the use of excessive conservatism in accounting, which makes it impossible to compare accounting data, causes loss of reliability and relevance of accounting information.

Among the first to criticise conservatism in accounting were American scientists K. MacNeal, V.E. Paton and A.C. Littleton. Thus, K. MacNeal, in his work *Truth in Accounting* (1939), believed that the primary function of accounting is to reflect the economic truth. But, in his opinion, the financial statements did not reflect the reality but misled investors and creditors. The historical cost principle and the conservatism convention prevent financial statements from reflecting the truth about the firm's financial condition and operating results. In particular, the author noted that the balance sheets formed based on the principle of conservatism do not allow to reflect the actual state of affairs regarding the firm's values (MacNeal 1939: 32). Therefore, K. MacNeal proposed to reflect realised and unrealised current and capital income and expenses in the income statement.

Prof. W.A. Paton and A.C. Littleton's *An Introduction to Corporate Accounting Standards* had a significant impact on the development of accounting in the United States; they rejected the Conservatism Convention. Accounting events should be carried at the agreed fair value. In particular, the authors wrote that conservatism in determining assets (by their ability to pay debts) is not a principle of accounting for determining net income; it is a rule of caution while interpreting the results of accounting measurements made following the whole doctrine (1940: 128).

Modern accounting researchers argue about the need to eliminate conservatism in accounting, including E.S. Hendriksen and M.F. Van Breda, J. Richard, M.R. Matthews and M.H.B. Perera. Thus, E.S. Hendriksen and M.F. Van Breda write that conservatism at best is a rather insufficient method of reflecting the uncertainty of the valuation of assets and profits; at worst – it leads to a complete distortion of accounting data. As a result, in practice, the main danger of its use is hidden in the inconsistent results, which can not be correctly interpreted, even by the most informed readers. In addition, conservatism contradicts the requirement to display all relevant information related to time constraints. Finally, conservatism deprives accounting data of comparability. Forced reductions of accounting data can lead to unsuccessful decisions and their exaggeration (2000: 102-103). Prof. S. Narayan also noted the harsh criticism of the conservatism principle by certain scientific circles: "Some (including even the FASB), are now suggesting it may be better to abandon conservatism in order to show more unbiased financial statements" (2006: 31).

However, D. Kieso, J. Weygandt, and T. Warfield stand up for conservatism, noting that few conventions in accounting are as misinterpreted as conservatism. Conservatism means that when you doubt which solution to choose, you will choose the one that increases assets and income the least. There is nothing in the Conservatism Convention to suggest that net assets or net income would be diminished. Unfortunately, this is interpreted by some only this way. Everything that conservatism does properly provides a fairly reasonable guide for action in difficult situations: to refrain from exceeding net income and net assets (2004: 46).

Similar tendencies toward criticism of accounting conservatism existed before the global financial crisis. After its completion and in the period of overcoming its consequences, the views of many researchers in the field of accounting on

conservatism, as well as organisations involved in the development of standards, have undergone significant changes. Because fair value, which has been widely used in accounting and is the primary method of "anti-conservative" accounting, has gradually come under devastating criticism. Thus, at the G-20 briefing in 2008, the question was raised that the cause of the global financial crisis could be the widespread use of fair value in accounting. According to D.M. Katz, the fair value was "justified" by the AICPA; this view was not the only one among all the briefing representatives; a significant number of representatives took the opposite position. In opposition to their ideas, the opposition cited similar events in the 1929 crisis. Thus, prof. S. Penman warned those present, noting: "Be careful about putting prices in your financial statements. The main reason for such caution is the possibility of an asset-price bubble …. In the recent real estate bubble, as in the tech and pension bubbles of the 1990s, market-to-market assets turned out to be inadequate collateral for loans when the bubble burst" (Katz 2008). A similar situation was observed after the stock-market crash in 1929. Exchange regulators "accused accountants of putting water in the balance sheet" by employing fair-value accounting. As a result, the use of fair value has been prohibited for many decades (Katz 2008). Regulatory organisations have also begun to analyse the causes of the financial crisis gradually. In particular, a letter from the American Banking Association to the SEC in September 2008 stated that the current problems in the financial markets were due to various factors. One such factor that has been identified as the one to exacerbate these concerns is fair value accounting. Gradually, there was also pressure from the U.S. Congress on the FASB to change the existing accounting rules (Laux 2009: 1). Therefore, today the attitude of scholars in the field of accounting to accounting conservatism is quite ambiguous.

According to the study of historical events, introducing or excluding certain accounting methods in the current accounting practice is periodically repeated, as a significant number of problems caused by the use of such methods or solved by them arise again, requiring regulators to address them. A similar situation happened with accounting conservatism. While, in 2010, in the adopted converged conceptual framework of IAS / IFRS and GAAP US prudence (conservatism) was excluded from the qualitative characteristics of useful financial information due to pressure on regulators, scientists and stakeholders because of its inconsistency with the requirements of today's market environment, over time, mainly under pressure from representatives of the European accounting community, there was a revision of its role as part of the conceptual framework.

In 2013, the group of professional accounting organisations and regulatory structures (European Financial Reporting Advisory Group (EFRAG), the French Autorité des Normes Comptables (ANC), the Accounting Standards Committee of Germany (ASCG), the Organismo Italiano di Contabilità (OIC) and the U.K. Financial Reporting Council (FRC)) in a special bulletin (Getting a Better Framework …) expressed its views on the need to return prudence to the conceptual framework of financial reporting. However, it was noted that this concept should be more clearly

defined to make its application more useful. A similar proposal was also made by ACCA in 2014 (Prudence and IFRS 2014). They also justified the need to include caution in the new version of the conceptual framework, but only if its content is revised, which should not contradict the reliable assessment, but should be used in those cases where there are elements of uncertainty about which accountants make professional judgments.

In 2015, the IASB published an updated draft of the converged conceptual framework (Conceptual Framework … 2015), which took into account all the then critical statements of various groups of financial reporting stakeholders worldwide regarding the structure used and the content of qualitative characteristics. Paragraph 2.18 of this draft disclosed proposals on the need to include prudence in neutrality, which is one of the elements of such a qualitative description of useful financial information as a faithful representation. In March 2018, in an updated version of the conceptual framework published by the IASB (Conceptual Framework … 2015), it was found that one of the components of a faithful presentation of financial information is neutrality, which is maintained through prudence, i.e. caution in determining judgments in conditions of uncertainty. Thus, after a short eight-year absence, there was a return to the use of the concept of prudence in a conceptual basis, however, in a somewhat modified and more specific form.

2.2. The principle of continuity (going concern)

History and Application of the Continuity Concept in Accounting. The transition period in the development of accounting in Ukraine predetermines the necessity of improving its theoretical foundations. Therefore nowadays, it is actual to establish the essence of the principle of continuity, the peculiarities of its application to the objects of accounting and verify the feasibility of use in the context of economic globalisation.

The continuity concept, which today is one of the inherent elements of the accounting system, acquired this status not with the emergence of double-entry book-keeping. In particular, in the *De Computis et Scripturis* (1494 yr.), L. Pacioli does not mention the need to reflect in the accounting assets at the value, which would take into account the assumption of continuity of its activities, i.e. based on historical estimates. The treatise was directed towards trade since merchants were the primary users of the accounting model proposed by L. Pacioli. Since non-transferable assets did not play an essential role in the traders' activities, their value reflected in the accounting was not very significant, and enough attention was not paid to its definition. Current assets were valued at a value set by the merchant himself, which was neither historical nor salvage. Professor E. Hendriksen and M.F. Van Breda noted that most enterprises continued their activities until a particular commercial goal was achieved. Therefore, profit was calculated at the end of an enterprise, and without understanding the reporting period, there was no need for accrual and

deferral transactions. Since fixed assets did not play a significant role, there was no need to calculate depreciation (2000: 28). Notably, at the time of L. Pacioli, there was still no concept of continuity. Its appearance after a certain period indicates the modification of the accounting system in the process of its historical development. It exemplifies, that starting from the beginning, the accounting records based on double-entry have not remained unchanged, and double-entry book-keeping requires a fundamental reform or even replacement. Its core remains intact, and what is modified are the individual elements of the protective ring in response to the emergence of new tasks and requirements imposed on it by users of accounting information.

The continuity concept first appeared in Europe due to the significant industrial development at the end of the 19th century, which required improved accounting support and thanks to the substantial theoretical results in accounting by French and German scientists. More precisely, one should speak not about the emergence of the concept of continuity but about the emergence of the liquidation concept or the discontinuity concept, which made it possible to isolate and formulate it based on opposing its main provisions.

From the beginning of the 19th century, a static theory of accounting began to form in France and Germany; according to it, an enterprise could suddenly stop its activities at any time. According to this theory, for valuation, the "principle of death" should be used – the principle of fictitious liquidation of an enterprise, which provided for the need to use market value for the needs of the valuation of assets at the time of liquidation. The static theory's formal reinforcement could be seen in the French Commercial Code (1807 yr.), according to which items in inventory should reflect market value, and in the first German Commercial Code of 1807, where market value is used as the basis for valuing assets.

In the accounting literature, there are two views regarding the authorship of the theoretical justification for the principle of continuity:

1) Professor M.I. Kuter notes that theoretically, the principle of continuity was substantiated by a German economist, A. Moxter, and initially, he called it "statics of continuation of activity". The principle is characteristic of dynamic accounting practice. However, it was used by V. Simon (1861) in the construction of a static balance theory (Kuter 2002: 79);

2) Professor Ya.V. Sokolov writes that in 1860 A. Guilbeaux proposed the permanent inventory requirement, which presupposed the constant continuous retention of the initial assessment in the account, that is, the constant historical assessment of the accounting objects (Sokolov 1996: 150). It allowed the author and E. Léautey to formulate continuous and discrete accounting organisation principles (1996: 151).

Although it is impossible to establish the author of the continuity principle, it can be found that the researchers distinguish almost the exact date of invention, which allows us to speak of a specific period of the emergence of the principle. However, despite the theoretical formulation of the doctrine, it was not used under

the dominance of static accounting in France and Germany at the end of the 19th century.

However, in Germany in the 1980s, a revolution in accounting happened. The new law *On Joint Stock Companies* of 1884, for the first time, stated that the valuation of non-current assets and other assets used not for sale, but which can be applied, if possible, should be carried out based on costs without taking into account the depreciation subject to systematic amortisation depending on the degree of their use. This law destroyed the liquidation principle, on which the static theory was based, and created the preconditions for developing a dynamic theory.

At the same time, I.M. Dmitrenko and I.M. Bilousova (2007: 36) identified two periods in the development of scientific thought regarding the principle of continuity. The first (unofficial or theoretical) – went on until 1936, and the second (official); it started in connection with the release in 1936 of the *Tentative Statement of Accounting Principles* in the United States. In our opinion, periodisation does not reflect the actual provision of affairs. It can be evidenced by the fact that the principle of prudence was included in the official regulations at the end of the 19th century in Germany, particularly in the law On Joint-Stock Companies in 1884. In addition, the purpose of creating the above interim regulation, as it can be seen from its name, was not to establish specific requirements for the maintenance of accounting practices, as the standards now provide, but, as the members of the commission on the development of this regulation noted, to arouse discussion in this area to formulate further the theory of accounting (Rorem 1937: 133). Therefore, the Statement was a theoretical development of a government organisation, as a result of which it is inappropriate to call the second stage "official", even starting from this date.

The reason for introducing such changes in German law in 1884, as noted by professor J. Richard (2006: 21), was significant coercion of Prussian railway companies leadership on the legislative jurisdiction. In particular, their managers raised a problem of social conflict between creditors and shareholders. First of all, the static theory focused on creditors, on the ability of an enterprise to satisfy their interests, and based on it, accounting was organised. However, the shareholders of the railway companies needed utterly different information from accounting – about the incurred charges, which made it possible to determine the number of dividends they owned.

Later, the changes in Germany influenced the development of accounting in France and the world in general. J. Reid notes that a well-known lawyer at that time, V. Morawets, in his influential work on corporate law in 1886, generalised the views on the rules of accounting records maintenance for fixed assets in the United States. There, he stressed the two principles that today can be called 'going concern value'. According to this approach, "the right of a corporation to declare dividends cannot be determined by reference to the market value of the company's shares, or the price for which the assets could be sold" (1988: 16). By the end of the 19th century, 'going concern value' has become widespread, except for wasting assets companies (Reid

1988: 13), that is, with the fixed assets, that gradually disappeared as a result of their expenditure or because they were exhausted (mines, quarries, land with trees, etc.).

At the beginning of the 20th century, thanks to the research of E. Schmalenbach, in particular his theory of dynamic balance, which topped the accounting thought achievements at that time, the usage of the continuity concept (or, as the author called it – an operating enterprise) gained wide popularity in continental Europe. J. Baetge notes that the dynamic balance theory of Schmalenbach E., based on the dynamic practice of accounting, perceives the principle of an operating enterprise as a fundamental starting point of this accounting model (Baetge 2000: 10). The need to apply the concept of continuity E. Schmalenbach (1980: 45) substantiated based on the hypothesis of full accounting, according to which profit should be calculated only upon liquidation of the enterprise. Accordingly, the gain of the enterprise with full accounting could be seen only once – at the end of an enterprise's "life". To solve this problem, the author proposed distributing all activities in the range of full accounting for periods for which the profit and dilution account will be closed, which is the main difference during the accounting records maintenance in conditions of continuous and temporary (discontinuous) activities.

One can also observe the widespread concept of continuity in English-speaking countries, which confirms the above analysis of the English-language accounting literature of the early 20th century. Thus, in 1907, Ch.E. Sprague (1907: 64) noted that the question of applying one of the types of valuation, the first – salvage, the second – based on a continuously operating enterprise, arises very often. According to the author, the latter should be used for a constantly working enterprise, since only in this way can real economic income or outgo be established.

In the work of W.M. Cole of 1908, one can already find some distinctions in approaches to the valuation of assets, depending on the state of the enterprise, whether it is ready to work further or is preparing to close. The author (Cole 1908: 93-94) notes that the firm must have a stock of goods, which should be valued based on the expenses incurred to receive them in its continuing operations. However, when valued in the context of the firm closure, these goods, by their nature, may not have the same demand for others as they did for the firm and must be priced at a much lower price.

Also, in 1908, under the editorship of S. Dawson, there was published *The Accountant's Compendium*. The concept of going concern value was highlighted as a business carried out in working order. This term is generally applied to enterprises for which the transfer of property can be carried out without any interruption of the existing business and can separate from enterprises that start or restart activities after stopping for a long time (1908: 217). Although this definition does not say anything about the need to conduct a valuation based on the principle of continuity, the very presence of it in a systematic compilation of terminology for accountants indicates that the first theoretical ideas about the valuation of assets have begun to form in the accounting community, subject to the functioning and termination of the enterprise.

In 1909, in the work of G. Lisle, one can see the widespread use of the principle of continuity for various types of assets of an enterprise in the circumstances of further continuation of its activities. As the author notes, to continue the operation of the enterprise, the goods must be priced based on expenses. In the event of the enterprise's downfall, the value should make the possible value to receive upon their sale. For the liquidation of purposes – the competitive prices are lower (1909: 53).

The American Association of Public Accountants issued a *Report of the Special Committee on Accounting Terminology* (Report of the Special Committee … 1909). Although many accounting publications used the concept of continuity, it did not yet operate as a generally accepted approach in this report.

In 1910, I.C. Cropper (1910: 126), in a *Book-Keeping and Accounts,* noted that students should consider the fact that there are different valuations of assets, depending on other points of view on the usefulness of the enterprise balance sheet for users of accounting information. Therefore, if the enterprise is planning to sell, the assets are valued at market value. On the other hand, if the company operates continuously, the value of existing assets is determined by their value for this particular enterprise. These assets are valued based on outgoings. Assets should lower value based on appropriate amortisation to their residual value by the end of the period of use, and market fluctuations should be ignored.

Professor H.R. Hatfield, in 1916 was the first American researcher who clearly defined that the principle of continuity was widespread. According to this principle, "inventory should be on the basis of the value of the assets for the current holders as a "going concern". The proper value is that which they have to the holding concern, and not that which they might have to other persons, whether these persons are ordinary customers, or those who might bid in the assets at a liquidation sale" (1916: 80-81). In the author's opinion, "it is a little exaggeration that if all the assets were listed at the value which they would realise at forced liquidation, no Balance sheet would show solvency. Valuation on such a basis would, therefore, be absurd, and the general principle should be adopted that the basis of inventory values is the present value of the asset to the holders as a 'going concern.'".

Based on this principle, H.R. Hatfield (1916: c. 83) formulated three general rules of appraisal that are familiar to modern accountants and are beyond doubt: 1) Values to be taken in the inventory are not displayed as the liquidation values, but those on a going concern basis; 2) Changes in the market value of fixed assets may be ignored; 3) Depreciation should always be taken into account. S. Gilman had similar to H.R. Hatfield views. In particular, in his work *Principles of Accounting* (1916), he notes that it should be recognised that in the valuation of assets, the basis for valuation should not be the liquidation value but the value based on a going concern (Gilman 1916: 168), which involves assessing tangible and intangible assets based on the outgo incurred for their acquisition or creation (1916: 181-182).

Based on the two available approaches to the valuation of assets – during liquidation and during going concern, P.-J. Esquerre identified two methods to defining the concept of "asset" (Table 2.2).

Table *2.2.* Approaches to the definition of "asset" by P.-J. Esquerre (1919: 136)

for a going concern enterprise	*For a concern about to liquidate enterprise*
The asset is: • owned and invested in the business; • earned, although not received, constitutes a collective claim; • expended to obtain future benefits.	The asset: • does not enjoy the benefit of limited liability; • is owned and invested by a business and can be converted into resources suitable to the liquidation of their liabilities.

Based on the definition provided by the Law *On Accounting and Financial Reporting in Ukraine* (Article 1) (Tha Law of Ukraine …) of assets as the resources controlled by an enterprise following the past events, application of which can lead to the receipt of economic benefits in the future, we can say that Ukrainian standards also implement the principle of going concern in the understanding the essence of assets. Although, Article 4 presents it as an independent principle.

In 1922 in London, with F.W. Pixley as the editor, the *Accountant's Dictionary* (A comprehensive encyclopedia and direction on all matters connected) was published. It revealed the going concern concept and provided examples of the usage of valuation based on going concern. In particular, the author notes that current assets should be valued in the balance sheet at fair value based on going concern (Accountant's dictionary 1922: 524).

Since the 1920s, American researchers have begun an active search for accounting principles. The first scientist who set the goal not only to single out individual principles, as H.R. Hatfield did but also to build an integrated system of accounting principles that the author called postulates, was W.A. Paton. In 1922 he released the work *Accounting Theory: with Special Reference to the Corporate Enterprise*, in which he paid significant attention to the postulate of continuity. According to W.A. Paton, accountants, in addition to understanding the isolation of an enterprise, consider it as a going concern. That is quite reasonable since any enterprise is going to continue its activities for the foreseeable future. The postulate of continuity presupposes the valuation of assets for the balance sheet based on their value to the going concern (Paton 1922: 478-480). The author, like E. Schmalenbach, emphasised the need to divide activities into periods for which, based on the postulate of continuity, the financial result should determine, and the balance should form. In his opinion, it is the temporal nature of the balance sheet, reflecting the state of the enterprise for different time intervals, during which various circumstances arise, that is the main reason for the need to use the going concern assumption.

In 1938, Professor T.G. Sanders, H.R. Hatfield, U. Moore published *A Statement of Accounting Principles* in the form of a monograph to formulate accounting principles and rules. Since it was based on the analysis of existing practice, the authors included the concept of going concern in the selected principles. The authors wrote that "the use of long-term assets involves the apportionment of capital and

income over the several accounting periods; the accuracy of the accounts depends in large measure upon the exercise of competent judgement in making these apportionments" (1938: 113).

In 1940 W.A. Paton, together with A.C. Littleton in the monograph, *An Introduction to Corporate Accounting Standards*, based on the fundamental assumption that accounting is an apportionment process and is conducted based on the concept of continuity using a valuation model based on historical costs, determined that liquidation is not standard. A going concern concept is the normal one. The idea of "continuity" or duration is essential for progress reports. The images of business entity and continuity determine the point of view of an enterprise or institution. In this way, accounting theory is also primarily focused on an enterprise as a producing economic unit. Consequently, only the investor is a legal claimant for the assets (1940: 11). The authors considering the concept of going concern as a determining factor for building an accounting system in corporations substantiated that a more critical role for understanding their activities is already acquired not by the balance sheet but by the statement of financial results, indicators characterising their income.

Since the mid-1950s and until the 1970s, a normative methodology is becoming mainstream in accounting research in English-speaking countries. As a result, English-speaking researchers during this period put forward a significant number of proposals regarding the structure of the principles or postulates of accounting, improving their essence. Table 2.3. contains the analysis of the researchers' approaches who use the going concern concept as a postulate or principle.

Table 2.3. Researchers' approaches to highlighting the concept of continuity during the "golden age" in English-speaking countries.

Author	*The title of the work*	*Year*	*Continuity as*		
			Principle	*Postulate*	*Other*
Littleton A.	The Structure of Accounting Theory	1953	-	-	+ (A)
Moonitz M.	The Basic Postulates of Accounting	1961	-	-	+ (I)
Spacek L.	The Basic Postulates of Accounting by M. Moonitz	1961	-	-	-
Edwards E.	The Theory and Measurement of Business Income	1961	-	-	+ (A)
Sterling R.	Theory of the Measurement of Enterprise Income	1963	--	--	+ (A)
Mattessich R.	Accounting and Analytical Methods	1965	-	-	-
Kircher P.	Coding Accounting Principles	1965	-	-	+ (C)
Chambers R.	Accounting, Evaluation, and Economic Behavior	1965	-	+	-
Grady P.	Inventory of Generally Accepted Accounting Principles for Business Enterprises	1965	+	-	-

Note: A – assumptions; I – imperative; C – concept.

With the growing normative theorisation of accounting in English-speaking countries, there was no consensus on whether the concept of continuity for accountants is a principle, a postulate, or something else. This issue remains unresolved and uncoordinated among scientists today, as evidenced by our analysis of the accounting legislation of foreign countries and international accounting models.

Criticism of the principle of continuity in accounting. Although it is almost impossible to imagine a functioning accounting system today without the principle of continuity, some researchers criticise both the logic and essence of the principle itself and specific aspects of its application in accounting, pointing out its inconsistency concerning other regulations.

Among accounting researchers, *the criticism of the essence and logic of the principle of continuity* appeared back in the 1960s in the United States, when the concept of continuity began widely used in generalising works devoted to the principles and postulates of accounting. In 1968, J. Fremgen noted that the assumption of continuity is a fruitless postulate at best and is ineffective concerning thousands of new small enterprises that are created every year and fail within a year (1968: 650). According to the author, it does not have any significant influence on the formulation of accounting principles, and, at best, it is an observation about the atmosphere in which accountants performs their work, which, at the same time, does not offer any guidelines for carrying out this work (1968: 656). The main direction of criticism of the author is the legitimacy of the going concern assumption because today, it is impossible to predict the future with 100% probability. This assumption is criticised nowadays too. In particular, professor Ya.V. Sokolov notes that such a peculiar principle contradicts common sense: every person knows that they will die sometime; moreover, any establishment, store, salon, etc., cannot exist permanently (1996: 390). R. Hrachova, on this basis, speaks of the need to change the name of the principle to infinity or duration (prolongation) (1999). A.V. Raboshuk also notes that continuity of business should not be taken literally since everything has its beginning and end. Any enterprise after a certain period is either liquidated or reorganised into another. In addition, in practice, there are cases of creating an enterprise for one day, but mostly they must be regarded as an exception to the rules (2005: 55-56). The Romanian researchers C.-M. Imbrescu, C. Hategan and N. Bobitan (2008: 1285) note the need to revise the practicality of applying the principle of continuity, justifying it by spreading the global financial crisis, which provides even more opportunities for stopping the enterprise performance. The authors propose considering the possibility of introducing into accounting under such conditions of the principle of the activities termination.

A reasonable response to criticism of this nature was provided by professor R.R. Sterling back in 1968. In particular, the author noted that it is challenging to justify the assumption of going concern due to uncertainty about what will happen in the future. Therefore, it must be interpreted not as a prediction for the concept of

continuity to be preserved. The new alternative is to purify the idea of continuity, in particular concerning the future of the firm. Transferring to the concept of continuity does not require the future to be predictable or far-fetched. Instead, the measurements are needed to occur at a point in time, as advance information is necessary for future events. It allows measuring changes in current activities without knowing how this process will change in the future (1968: 501). The author agrees that the name of the principle is misleading to some researchers. However, the essence of the principle is not to ensure the occurrence of something that should happen in the future but to the usage of historical estimates to determine the financial results of current activities.

Criticism of usage of the continuity principle in the accounting system. Even though the accounting principles combine into a system, certain contradictions may arise between them. One such case, which can already be called classic, since many researchers use it, is the contradiction between the principle of prudence (conservatism) and the principle of continuity. This contradiction is very well illustrated by Zh.G. Mihaliova, who notes that when the cost of the item is higher than its selling price when potential damage occurs, the item is accounted for at selling value. The revaluation of the initial cost with loss is reflected in the reporting period when it happened and not when the object will be sold. However, the principle of continuity requires preserving the object's initial measurement until this object is sold (2004).

This situation is relatively rare in the practice of accountants since before starting their direct activities, a business plan is made, and the competitive environment is analysed, which allows approximately determine the desirability of goods production. However, with the development of the number of innovative and intensive enterprises and an increase in the volume of venture capital investments in innovative activities related to the development of intellectual products (possible future objects of intellectual property rights), even approximately it is impossible to tell about the relationship between self-cost and the market value of an intellectual product since it is still unknown what exactly one will receive as an output. Therefore, in the context of the problem aggravation, it is necessary to make specific proposals to improve the relationship between the principles being implemented today in the SNA.

2.3. Historical cost principle

The Development of Accounting Valuation at Historical Cost in Retrospect. Prof. Ya.V. Sokolov (1996: 18), analysing approaches to the periodisation of accounting, considers the approach of P. Lassek. The author singled out several stages in the development of accounting. The idea of nominalism predominated at the first of them. It lasted from the beginning of accounting and until 1914. At this stage, the accountant recorded what was fixed in the primary documents, and the assessment of all values was historical, close to the cost of the values being accounted

for. During the second stage, starting from 1914, other types, instead of historical valuation, different types began to appear – i.e., restorative, residual, liquidation, etc.

Since the advent of accounting, the primary type of valuation, though not the only one, has been valuation based on historical cost. The fact that this measurement was not the only one, as noted by prof. Ya.V. Sokolov (1996: 69), can be seen both in the treatise of L. Pacioli (1494), who, along with the historical valuation, proposed to set such prices that would increase profits, and in the work of A. Di Pietro (1585). The latter used competitive cost assessment based on selling prices. L. Messier (1857) proposed to keep records of materials at the current purchase price and the remnants – at market sales price (Sokolov 1996: 100). In 1860, A. Guilbeaux put forward the requirement of permanent inventory, which presupposed a constant historical valuation of accounting objects (Sokolov 1996: 150). J.G. Courcelle-Seneuil (1860) proposed to assess all material values at the time of their receipt at purchase, that is, at historical cost, and at their disposal – at the current market value (Sokolov 1996: 154).

According to prof. Ya.V. Sokolov (Sokolov 1996: 163), at the end of the 19th century, in Germany and France, there was a heated debate over applying a particular type of accounting valuation. Such researchers as L. Diubok, R. Passov, J.B. Say, F. Feldendorf, R. Stern and F. Strombeck suggested using a fictitious liquidation valuation and assessment of property at current prices. In contrast to such proposals, following the idea of accounting nominalism – the cost estimate, this approach was followed by G. Augspurg, R. Baigel, P. Gerstner, F. Hügli, A. Kalmes, A. Lefebvre, K. Odermann, W. Osbar, M. Scheffler and A. Shibe.

Under pressure from the representatives of large railway companies in Germany in 1884, however, the law *On Joint Stock Companies* was adopted. It regulated accounting based on the use of the principle of historical costs without taking into account the depreciation of all enterprise assets. This document introduced the mandatory depreciation of all non-current assets, prohibited the capitalisation of organisational and administrative expenses, the need to disclose information about capital, income and losses, the amount of retained earnings, the creation of capital reserves for dividends on preferred shares. The implementation of such drastic changes in the accounting system in Germany was caused by the consequences of the bankruptcy of a significant number of companies in the late 1970s and early 1880s due to excessive payment of dividends, resulting from a revaluation of their current value. It should be noted that the existing valuation rules for joint-stock companies were not mandatory for other forms of business, which the General German Commercial Code regulated. Hence, all other companies kept records and reported according to their own rules. In 1892, with the advent of limited liability companies in Germany, amendments were also made to the law on joint-stock companies; in particular, the use of the principle of historical costs was limited to the level of non-current assets.

Among Soviet researchers, the prominent supporter and ideologue of the reflection in the accounting of assets at cost was A.P. Rudanovsky; thanks to him,

this principle became generally accepted and was enshrined in regulations. In particular, he singled out different types of cost depending on the kinds of balances proposed by him: the cost of production, the cost of procurement of materials (balance of economic relations (invariant)); cost of production (balance of production (invariant)); cost of procurement of materials (consumption balance (covariate)) (Rudanovsky 1928: 139-140).

Representatives of the Anglo-American school also disagreed on choosing a particular valuation method for accounting for assets. An example of this is the position of prof. W.E. Paton on this issue. According to E. Hendriksen and M.F. Van Breda (2000: 66), no one until W.A. Paton so clearly and beautifully revealed the doctrine of "historical value" (cost) in accounting. However, the author suggested using an eclectic approach presupposing that short-term assets should be reflected at initial (historical) value and long-term ones – at a different estimate, as a historical value is more likely to mislead the manager than helpful. The author, in his later work with A.Ch. Littleton (1940), developed an approach based on the assumption that accounting is a distributive process based on the concept of compliance using a historical cost estimate model.

Among the proponents of valuation at the historical value in the 1920s and 1930s in the United States were H.R. Hatfield (1927) and other developers of "A statement of accounting principles" prof. T.G. Sanders and U. Moore (1938). The publication in 1939 of K. Macneal's work, *Truth in Accounting* (1939), began to count down the time regarding the emergence of a thorough critique of the application of the concept of historical value valuation in accounting. The author actually formulated the theoretical basis for applying fair value in accounting, particularly the current market value. The main reason for the criticism was the inability to reflect an enterprise's actual financial condition and operating results in the financial statements based on applying the historical value principle. K. Macneal's research could not fully influence the "inviolability" of the historical value principle as they lacked the practical needs for applying the author's proposed approach to evaluation. The evidence of this was the issue of the AICPA in 1947, Bulletin (ARB) № 32, which defended the approach to using historical costs to reflect transactions in the accounts.

The economic conditions, which became an empirical refutation of the widespread application of the principle of historical value in accounting, emerged in the postwar years when inflation intensified along with significant economic growth. According to J.K. Walker (1969: 23), in the United States, such processes reached their peak in the 1960-1965s. H. Sweeney was the first English-speaking researcher who directly emphasised the need to take inflation into account. However, in his concept of *Stabilized Accounting* (1936), he did not use a particular alternative method of assessment and proposed to index the evaluation based on historical costs (Dean and Clarke 1989: 106). Therefore, H. Sweeney should be considered one of the critics of the concept of the historical cost. However, such criticism did not further improve this concept, which, in his opinion, should still remain part of the accounting

system. E. Edwards and Ph. Bell were the first to criticise the valuation based on historical costs and offered an alternative of its replacement. In their work, *The Theory and Measurement of Business Income* (1961), they emphasised the inexpediency of the estimate based on historical costs, as it did not meet the needs of users of the credentials. The authors proposed using the current market prices to preserve the importance of accounting information, particularly the cost of reproduction (replacement) of assets, which should contribute to the primary function of accounting – the evaluation of business decisions.

During the 1960s, a large number of both proponents and critics of the historical value concept emerged in Anglo-American literature, caused by the existence of significant price changes in the economic system. Critics and supporters were both individual researchers-accountants and developers of professional research regulations and recommendations of professional organisations. Thus, in 1962, under the administration of M. Moonitz and R. Sprouse, AISRA, in Accounting Research Study № 3, published "A Tentative Set of Broad Accounting Principles for Business Enterprises", in which the authors defended the use of net realisable value and periodic revaluation for valuation of non-current assets of the enterprise.

The ASOBAT, issued by AAA in 1966 (Sterling 1967: 111), proposed a mixed approach to valuation, provided for the simultaneous use of valuation based on historical costs and current reproduction costs. It was necessary to create a multi-assessment report reflecting two types of valuation due to their concurrent use. According to prof. Ya.V. Sokolov, H.C. Greer followed a similar approach. He proposed in the reporting to reflect all of the indicators in two columns – at cost and after revaluation (Sokolov 1996: 368).

In 1966, prof. R.J. Chambers proposed a similar mixed approach to solving the problem of valuing assets in the face of changes in their prices (1976: 142). He recommended drawing up two balance sheets, one based on historical cost and the other based on the author's valuation method – COCOA. The COCOA method is a continuous modern accounting based on applying current market prices and was quite similar to the approaches used by K. Macneal and R. Sterling.

In contrast to the critics of the concept of historical evaluation, prof. Yu.Ijiri developed a holistic theoretical basis for accounting based on the idea of historical costs (1967: 38). Also, M.C. Wells defended applying the concept of historical assessment in accounting by using an axiomatic approach (1971: 174).

As a result of lengthy discussions during the 1960s, Anglo-American scholars could not agree on the appropriateness or inexpediency of using the historical value in accounting. However, the loud debate on this issue and the existence of problems in accounting practices caused by inflation eventually led to the fact that in 1976, the SEC in ASR № 190 required large enterprises to reflect assets in the balance sheet based on the use of replacement cost.

The Criticism of the Concept of Valuation Based on Historical Value. Despite the significant advantages of its practical use and high level of reliability, the concept of historical costs has been the main object of criticism by both scholars and users of

accounting in the event of external economic turmoil and dissatisfaction with the results of the accounting system.

F. Schmidt (1921), T. Limperg (1922), and H. Sweeney (1936) were the first solid critics of the use of historical value in accounting after its introduction as a common element of the accounting system. The authors proposed considering the impact changes in the level of prices in accounting to ensure the preservation of enterprise capital. While H. Sweeney proposed to index the historical value, F. Schmidt proposed to use the replacement cost. T. Limperg, in turn, proposed a different theory of replacement cost, which differed from the approach of F. Schmidt in that it involved the use of three types of estimates: 1) The present value of the expected net proceeds from the asset; 2) Net realisable value of the asset; 3) The cost of expenses incurred to acquire the asset. Their relevance determined the use of specific assessments in decision-making in specific circumstances.

Today researchers identify the following areas of criticism of this concept:

- *the inability to adequately reflect the profits and value of the company's assets during price changes.* This shortcoming historically was the first, and, as noted by prof. E. Hendriksen and M. Van Breda, it suggests that the value of an asset for an enterprise may change over time; over a long period, it may lose value as a measure of the value of enterprise resources, as a potential assessment or as the current market price of the asset (2000: 310). The reasons for the existence of this shortcoming may be the presence of a time interval between the incurrence of costs for the acquisition of the asset and the moment of the ratio of these costs with the income received from its use; inability to take into account the value of money over time; inability to take into account technological changes that affect the value of assets; the failure to take into account events occurring in the external environment of the enterprise. V.S. Kivachuk considers this shortcoming the main one and notes that the historical cost principle hides the actual price and allows significant capital to be considered small in the public's eyes (2004: 179). The author calls this principle the concept of secrecy, which works toward the understatement of capital.

Because it is impossible to adequately reflect the profit and value of the company's assets, some researchers note that historical cost makes it impossible to provide users with relevant accounting information. The method is not always entirely appropriate for all types of management decisions, especially strategic ones. However, it has a significant degree of reliability because of the historical orientation of the evaluation. It also does not allow obtaining information based on probable and predictable data.

- *the inability to reflect the value of the asset based on the costs incurred to obtain it.* This shortcoming is most important for companies engaged in creating intellectual assets, which have unique features, the formation of which is not related to the number of costs incurred for their creation. The intellectual assets of the enterprise, due to their intangible and intellectual nature, have such a property that the expenses incurred for their design may differ significantly from their value; as a result, the use of historical cost to assess such assets contradicts their economic

essence. The discrepancy between the historical cost and the asset's value can occur in the conditions of price changes and during the creation of an intellectual product in the enterprise. At the same time, granting permission to value intellectual assets at the time of their creation at market value can be used by accounting entities in the enterprise as one of the means of opportunistic behaviour aimed at achieving personal interests that contradict the interests of other stakeholders.

- *contradiction with the principle of prudence (conservatism).* If you use the historical assessment simultaneously with the principle of diligence, then there may be a situation when the market or other valuation of the asset will be lower than the historical one; based on this, the latter should be used to display such assets in accounting. Although such cases are pretty rare in practice, they are directly related to the enterprise's intellectual assets; the value of the costs incurred in their creation slightly correlates with their value. The existence of such a contradiction is noted by prof. Ya.V. Sokolov (1996: 393), A.V. Raboshuk (2004: 70), Z. Rahman and A. Sheremet (1996: 34), A.N. Khorin and Zh.G. Mikhaliova (2006: 38).
- *inconsistency with the religious canons of the countries of Islam.* Despite the generally accepted concept of historical value, its spread has not reached a global scale since its use is limited by the religious peculiarities of Islamic countries (Yevdokymov, Lehenchuk and Hrytsyshen 2012: 249). According to Sh. Hameed (2000: 226), this is justified because the application of valuation at historical cost does not meet the norms of Zakat – the essential religious document underlying the concept of Islamic accounting.

A Mixed Valuation Model in Accounting. Today, the IAS / IFRS, GAAP US, and SNA models use different valuation techniques for different types of assets and liabilities. They are described in detail in SFAC 5, 'Recognition and Measurement in Financial Statements of Business Enterprises' (Table 2.4).

Table 2.4. The attributes of asset valuation according to GAAP US (Statement of Financial Accounting Concepts No. 5 2008: 18-19)

Methods	*The characteristics of the method*
a. Historical cost	Historical cost is the amount of cash, or its equivalent, paid to acquire an asset, commonly adjusted after acquisition for depreciation or other allocations.
b. Current cost	Current cost (current replacement cost) is the amount of cash, or equivalent, that would have to be paid if the same or an equivalent asset were acquired currently.
c. Current market value	Market value is the amount of cash, or its equivalent, that could be obtained by selling an asset in orderly liquidation. Current market value is also generally used for assets expected to be sold at prices lower than previous carrying amounts.
d. Net realisable (settlement) value	Short-term receivables and some inventories are reported at their net realisable value, which is the nondicounted amount of cash, or its equivalent, into which an asset is expected to be converted in due course of business less direct costs, if any, necessary to make that conversion.
e. Present (or discounted) value of future	Long-term receivables are reported at their present value (discounted at the implicit or historical rate), which is the present or discounted value of future cash inflows into which an asset is expected to be converted in due course of

cash flows	business less present values of cash outflows necessary to obtain those inflows.

The items reflected in the financial statements are measured based on different attributes (e.g. historical cost, current (replacement) cost, current market value, net realisable value, and present value of future cash flows), depending on the nature of the item and the relevance and reliability of the attribute measured (Statement of Financial Accounting Concepts No. 5 2008: 3).

The need to use different measurement attributes is also stated in IAS 1 'Presentation of Financial Statements': an enterprise needs to inform users about the database or valuation base used in financial reporting (for example, historical cost, current value, net realisable value), fair value or recoverable amount) because the basis for embedding financial statements significantly affects the analysis performed by users. If an enterprise uses more than one valuation base in its financial statements, for example, in the case of revaluation of certain types of assets, it is sufficient to indicate the categories of assets and liabilities to which each of the valuation bases applies (The consolidated text … 2009: 912).

International accounting doctrines (IAS / IFRS, GAAP US) allow the possibility of using various valuation attributes to prepare financial statements. This feature also applies to the national doctrine, which confirms different approaches to assessing individual objects in the NAS(S). The founder of this approach, which involves using separate bases for valuation in accounting, was H. Sanders, who in 1967 defended his dissertation at the University of Florida, *A Study of Various Measurement Bases and Their Effect on Periodic Income Determination* (1967). A. Riahi-Belkaoui approves the existence of the same approach to valuation involving the allocation of four valuation methods in accounting (2004: 534). The difference between the methods proposed by the authors is that the method of current costs used by H.P. Sanders in SFAC 5 was divided into the method of current cost and the method of current market value. The above-indicated allows us to state that a mixed valuation model is used today in international and national accounting doctrines. The most striking example of this is the development of SFAS 141 'Business Combinations', in the comments to which (Statement of Financial Accounting Standards No. 141 2007: iii) the developers note that the application of this standard results in the use of a blend of historical cost and fair values to measure the assets and liabilities of a business combination.

Some foreign and domestic researchers also emphasise the existence of a model of mixed assessment in recent years (M.I. Bondar (2009: 175), S.F. Holov (2007: 423), L.A. Chaikovska (2007: 34). Currently, IAS/IFRS, GAAP US and NA(S)S use a mixed valuation model, which involves using valuations depending on the type of asset and the individual situations where such an assessment is used. Such a hybrid approach objectively exists in practice and is not only described in the theoretical constructions of individual scientists.

At the same time, some scientists consider the constant change of proportions regarding the role of certain types of accounting estimates in the general mixed model

not as evidence of its adaptability and adequacy to the growing needs of stakeholders, but only by the ad hoc hypothesis that provides the solution of some temporary issues. Thus, prof. J. Demski notes that the answer to the question "Why do we see a blend of historical and market values used in financial reporting?" is one of the most critical issues to be solved by modern scientists-accountants (2006: 2).

2.4. Substance over form principle

The transitional period in the development of accounting in Ukraine necessitates improving its theoretical foundations, which should meet economic development conditions. The predominance of substance over form principle is one of such elements that allows separating informative aspects of the realized business transactions from their registration. It is considered one of the tools effective use of which helps minimize corporate abuses by focusing on the substantive aspects of the activity and ensuring the long-term viability of organizations.

Due to the complication of economic relations and the strengthening of formal aspects of economic activity due to Ukraine's choice of a course for European integration, researching this area requires special attention. The relevance of research in this area is also emphasized by Chinese researchers (Analysis of substance over form … 2006), who note that in the world of economic globalization and innovation society, the principles of accounting, which are indisputably used by institutions that develop accounting standards, will be the subject of a heated debate. Complications of economic phenomena, their acquisition of even more diverse forms, from the standpoint of accounting, require it to reflect such transactions and events that would bring accounting information to objective economic facts based not only on their legal form but reflecting the economic substance of the relationship.

The History of the Substance over Form Concept and its Application in the Development of Accounting Principles. An analysis of the accounting literature revealed that the substance over form concept does not have such a deep tradition of application in the accounting field as other accounting principles, i.e., conservatism. The substance over form principle was applied neither in the works of the pioneers of double-entry bookkeeping (L. Pacioli, B. Cotrugli) nor in the studies of Anglo-American researchers of the late nineteenth-early twentieth century. Prof. Ya.V. Sokolov analyzed the accounting principles allocated by the representatives of the Anglo-American school and can also confirm the previously mentioned statement (1996: 392). None of the 24 principles selected by the author is similar in essence or title to substance over form concept. Also, this concept was not disclosed in the Fourth Council Directive (78/660 / EEC), issued in 1978, which revealed other accounting principles. The peculiarities of the formation and historical development of the predominance of substance over form concept justify such a situation.

According to prof. J.R. Edwards (1989: 214), the substance over form concept emerged in the late nineteenth century. It was formulated by the chairman of the

Court of Appeal, S.J. Jessel, first. The need to develop the concept was the inconsistency of the standard form of financial statements and accounts. In this regard, he noted that it is not enough to put something in a particular form; the most important thing is its substance. Based on this, prof. J.R. Edwards says that S.J. Jessel is the creator of the concept of "substance over form" as one of the fundamental principles that traditionally underpin financial reporting practice in the UK. The emergence of this concept in the UK has led to a more cautious attitude to presenting accounting data and the need for their institutionalization. For example, the Davy Committee in 1895, justifying its decision by the principle of the predominance of essence over form, refused to legislate the balance sheet form, based on the fact that the nature of business and the specifics of individual companies determined the inability to use such form in practice (1989: 215).

Italian researcher P. Paglietti (2009: 106) notes that F. Besta, in the work of 1922, without naming the very substance over form concept, mentioned the need for its use. In particular, he writes that "de facto" conditions should be considered in accounting in search of measuring the firm's wealth. He agrees that although the goods belong to an owner based on legal rights, they are worthless from the enterprise's point of view if they never owned them de facto. The value of goods refers to their availability and unrestricted use, which ends up with their possession. The latter should be considered complete only when guaranteed without any time limit (Paglietti 2009: 96).

In the United States, the first mention of applying substance over form concept can be found in APB Statement № 4 "Basic Concepts and Accounting Principles Underlying Financial Statements of Business Enterprises", 1970. Before then, despite the significant level of theorizing of accounting in the United States and the existence of a considerable number of works with proposals for improving the principles and postulates of accounting (A. Littleton (1953), M. Moonitz (1961), L. Spacek (1961), E. Edwards and Ph. Bell (1961), R. Sterling (1963), R. Mattessich (1965), P. Kircher (1965), R. Chambers (1965), P. Grady (1965)), the substance over form concept had not been applied. According to prof. E. Hendriksen and M. van Breda (2000: 72), one of the commission members that developed the Statement mentioned above, the substance over form was included as its component as the essential property. In the future, this Statement, which established the current status of accounting principles, was considered by researchers as the mainline, based on which the progress of accounting can be measured (The Role 1971: 611). However, such statements are also quite contradictory since, according to Ph. Meyer, his analysis of the professional literature showed no mention that the predominance of essence over form was incorporated into GAAP US (1976: 80). Therefore, the substance over form principle might have been used by scientists to prepare specific regulations and draft accounting standards. Still, the official recognition that this principle was the basis of the development of GAAP US was absent.

The Prevalence of substance over form and the Concept of True and Fair View / Fair Representation: a Historical Analysis. Simultaneously, with the

predominance of substance over form in accounting, the concept of true and fair view / fair representation has become widely used. There are various approaches to their relationship both at the level of international standards and in the views of individual researchers.

A clear example of the lack of unity in researchers' approaches was the process of developing IFRS for small and medium enterprises (Protocol … 2010). At the Accounting Directives and IFRS meeting for SMEs, some commenters agreed on applying the principle of substance over form as fundamental to ensure a true and fair view. In contrast, others opposed the need to make these principles mandatory.

Until 2010, in the conceptual framework of IFRS, the concept of 'true and fair view / fair presentation' had existed separately from the underlying assumptions and qualitative characteristics of financial statements, although physically – in the text, was included in the latter, in paragraph 46: financial statements are often described as a true and fair presentation or reflection of the financial condition, results of operations and changes in the financial state of the enterprise. At the same time, the predominance of substance over form was one of the reliability components as a qualitative characteristic of financial statements (The consolidated text … 2009).

Two of these concepts were excluded from its composition in the converged conceptual framework of IAS / IFRS and GAAP US 2010. In particular, as noted by the IASB, this was justified by the following reasons. The predominance of the substance over form is not a separate component of faithful representation because it would be redundant. "Faithful representation means that financial information represents the substance of an economic phenomenon rather than merely representing its legal form. Representing a legal form that differs from the economic substance of the underlying economic phenomenon could not result in a faithful representation" (The Conceptual Framework … 2010: 60). "True and fair view or fair presentation are different words to describe information that has the qualitative characteristics of relevance and representational faithfulness enhanced by comparability, verifiability, timeliness and understandability" (The Conceptual Framework … 2010: 64). However, due to changes made to the converged conceptual framework in March 2018, the substance over form concept was again defined as one of the elements of a faithful representation. In particular, paragraph 2.12 states that a faithful representation means the representation of the substance of an economic phenomenon instead of representing only its legal form (Conceptual Framework for … 2018).

Despite the lack of the concept of a fair and truthful view in a converged conceptual framework, it is currently actively used both in the scientific works of researchers and in the regulations of individual countries, such as the United Kingdom. In particular, in 2014, the Financial Reporting Council (FRC) issued a unique document (True and Fair 2014), which substantiated the fundamental importance of this concept for both IFRS and GAAP UK.

The very term 'true and fair view' was introduced into British law in 1948 in the Companies Act, which did not include a definition of what a true and fair view meant. In addition, in the future, the legislation also did not offer an unambiguous

definition of this concept (Amat, Blake and Oliveras 1999). There are two approaches to the relationship between the concepts of the predominance of substance over form and the concept of true and fair view / fair representation (TFV/FRC):

According to the first approach, these are excellent concepts, as evidenced by the fact that the first was included in the converged conceptual framework in 2018 and the second – was not. Although based on the fact that the TFV/FRC, according to some researchers (Alexander 2006: 138), is the basis of the ideology of IFRS, in contrast to GAAP US, we can say that the first concept provides for the implementation of the second. This approach was historically the first to emerge, as evidenced by the research of prof. G. MacDonald. He notes that E. Stamp introduced the term 'avoidance of standards', by which he meant transactions made in such a way as to circumvent the requirements of specific accounting standards or to change the information provided in the financial statements. This approach did not involve adopting the concept of substance over form as a statement of true and fair view; it was used to understand that reporting was based on generally accepted characteristics of accounting (MacDonald 1989: 89).

The historical analysis of the development of the concept of the prevalence of substance over form also shows that it arose independently of the TFV/FRC, and its primary purpose was to solve specific problems – to establish grounds for reflecting in the economic side of business transactions that do not comply with legal provisions.

Today, researchers have different views on understanding the prevalence of substance over form concept and TFV/FRC. For example, B. Bennett and M. Bradbury note that more principle-oriented standards require the implementation of professional judgment both at the level of operations (prevalence of substance over form) and at the level of financial reporting (true and fair view) (2006: 189). Thus, the authors separate the prevalence of substance over form concept from TFV/FRC and do not consider any of them a part of another concept.

Australian researcher N. Kirk conducted a statistical analysis of the views of auditors, directors and shareholders on the understanding of the concept of 'true and fair view' compared to the concept of 'prevalence of substance over form'. As a result, the author found that only a few respondents associated these concepts with each other (2006: 233). This indicates that at the level of users of accounting information, there are almost no associations between these two concepts; that is, at the level of accounting practice, there are no examples that would establish their interdependence.

According to the second approach, the concept of the predominance of substance over form is a component of the TFV/FRC, which is followed by representatives of the Financial Accounting Council (UK). They believe that truthfulness and fairness in accounting standards is ensured by adhering to the principles of prudence and the prevalence of substance over form (True and Fair … 2014: 2-3). The need for such an approach is also noted by some domestic and foreign researchers. For example, prof. J.V. Sokolov and S.M. Bychkova notes that

our practice includes the Western concept of “true and fair view” - a credible and conscientious view. This concept, according to most of our foreign colleagues, defines the idea of the prevalence of substance over form (2000: 73), they are interconnected, but do not replace each other (Generalova 2011: 174). A similar position is also held by J.A. Gonzalo, E. Castro and F. Gabas, who interpret the concept of true and fair view as a requirement of “the prevalence of substance over form”, which emphasizes the usefulness of financial information for users (quoted in Amat, Blake and Oliveras 1999).

Prof. D. Alexander and C. Nobes note that Great Britain introduced a “fair and truthful representation”, which was improved by the American “prevalence of substance over form” (2007: 62). That is, one of the concepts ensured the development of another. However, it is impossible to completely agree with the authors, because as the above analysis shows the emergence of the concept of the prevalence of substance over form is not of American origin, but has purely British roots.

To solve the problem of creative accounting in Spain, O. Amat proposes to jointly develop the concept of a true and fair view of the government and professional organizations. One of the factors necessary for such development is the reduction of creative accounting opportunities due to artificial agreements, accounting regulation should encourage the interpretation of a true and fair view as the prevalence of substance over form (Amat, Blake and Oliveras 1999). That is, the author also sees an inseparable link between the concept of the prevalence of substance over form and TFV/FRC, where the first concept is the basis for the development of the second. Prof. J. Kothari and E. Barone also note that the reflection in the accounting of financial lease transactions is an example of the application of the principle of predominance of substance over form to reflect the true and fair view in the financial statements (2006: 219).

Analysis of the views of the above authors (D. Alexander, O. Amat, E. Barone, S.M. Bychkova, F. Gabas, N.V. Generalova, J.A. Gonzalo, E. Castro, J. Kothari, R. Kirk, R. Leach, C. Nobes, Ya.V. Sokolov) allows us to establish that today most researchers establish the existence of a relationship between the concept of the prevalence of substance over form and TFV/FRC. Where directly TFV/FRC is the main purpose or reason, what exactly in accounting the concept of prevalence of substance over the form is used. Recent changes in the structure of qualitative characteristics of useful financial information indicate in the converged conceptual framework of IAS / IFRS and GAAP US 2018 indicate the choice of the first option, in which the concept of predominance of substance over form is considered separately from TFV/FRC, the form stands out as one of the elements of a true representation, and there is no mention of the TFV/FRC in it.

Criticism of the application of the concept of the predominance of substance over form in accounting. The first attempts to introduce the principle of the predominance of substance over form in accounting law were accompanied by harsh criticism, a clear example of which was the birthplace of the principle – Great Britain.

Thus, in 1985, the Institute of Chartered Accountants in England and Wales in Technical Release 603 stated that accounting should reflect the nature of the measures that prevail over their legal form. The reason for the introduction of such a rule was an attack on the actions of enterprises that avoided the consolidation of reporting by manipulating the legal form. Such actions of the Institute were "condemned" by the Legislative Community, which in fact was the developer of the legal form, and, in their opinion, provided transparent recommendations for accounting rather than subjective assessment. From the point of view of the representatives of the Legislative Community, the concept of the predominance of substance over form was dangerous and undesirable.

In 1986, the Legislative Community issued a document entitled "Off-Balance Sheet Financing and Window Dressing" which stated that confidence in the prevalence of substance over the form can bring much more subjectivity in the preparation of reports (Pendlebury 1990: 12). However, in 1988, the Accounting Standards Committee issued Draft Standard 42 "Accounting for Special Purpose Transactions", which proposed a general approach based on the need to apply the principle of substance over form to accounting for such transactions. On the one hand, this was justified by the practical impossibility of developing a significant number of detailed rules in the face of significant changes in business conditions, and on the other hand, by the ability of this approach to provide a true and fair view of financial statements for its users.

Over time, the concept of the prevalence of substance over form was recognized as a priority, and with the proclamation of the orientation of accounting to ensure a true and fair view / fair presentation, any of its criticism by lawmakers ceased. Despite the prevalence of the principle of the prevalence of substance over form in international and national accounting models, there are significant theoretical developments in its application and termination of discussions with legislators, now a significant number of researchers (K. Wilan, S.F. Golov, G. MacDonald, D.V. Lugovskoy, D. McBarnet, V.E. Milova, Y.H. Molodtsova, E.V. Olomskaya, A.V. Raboshuk, J. Richard) still note the need to exclude it from the accounting principles and indicate the shortcomings and the impossibility of its application in accounting. All such researchers who criticize the application of the principle of the prevalence of substance over form can be divided into three groups.

The first group includes researchers who propose to transfer this concept from the principles to other theoretical structures. For example, A.V. Raboshuk proposed to exclude the principle of the prevalence of substance over form from the principles set out in Art. 4 LUOAFRU (2006: 8). D.V. Lugovskoy, O.B. Olomskaya and Yu.N. Molodtsov also emphasize that the predominance of economic over legal, as well as the substance over the form (or vice versa) is impossible, so the requirement of "priority" is appropriate and appropriate to replace the concept of "compliance", and this accounting principle to transfer from the category of requirements to assumptions (2007: 31). Based on the above views of the authors, the question immediately arises, and what will lead to a change in the status of the principle for

this concept? According to researchers, the assumption differs in that it allows the existence of the opposite situation, which is recognized as an exception to the general rule and must be disclosed and substantiated in the notes to the financial statements (2007: 37). However, in this case, the authors consider the possibility of using the principle only at the level of professional judgment and do not take into account that the main purpose of its application is to ensure true and fair view / presentation of financial statements, so the proposed changes will not raise accounting to a new level.

The second group includes researchers who criticize the principle based on specific examples, which show that the principle of the prevalence of substance over form is not applied in practice. For example, V.Ye. Milova (2008: 10) notes the need to exclude the principle of predominance of substance over form from the Russian Accounting Statement № 1 due to its contradiction in the methodology of accounting for financial investments, so to approximate it with IFRS, the author proposes to abandon this principle.

Prof. S.F. Holov notes that the prevalence of substance over the form is inappropriate when preparing reports according to unified rules. This applies primarily to tax reporting. In such cases, the principle of the prevalence of form over the substance is applied (2007: 423). Therefore, the author proposes to rename this principle on the principle of the prevalence of substance over form or form over substance (2007: 423). Prof. J. Richard criticizes a specific example of the application of the principle of the prevalence of substance over form in relation to financial lease transactions. In his opinion, property that is owned but not owned by the company should be considered off the balance sheet, not on the balance sheet, as defined by the principle (Sokolov 2000: 156). Criticism of this nature testifies not so much to the problems of inconsistency of the principle of prevalence of substance over form with the requirements of time or its ineffectiveness, but so much about the inconsistency of accounting legislation with the principles declared by the NAS. Therefore, the identification of such counterexamples should result in the improvement of national legislation in such cases, and not a change or elimination of the principle itself, as its elimination or elimination destroys the integrity of the current accounting principles and requires changes to those components of accounting legislation based on this principle.

Confirmation of our chosen position, which is the need to maintain in the accounting principle of the prevalence of substance over form, are the negative cases of non-application of this principle in the activities of enterprises, which led to the collapse of world-famous companies and significant losses of their shareholders. One such best-known example is the story of “lza Pharmaceuticals Corporation” This American corporation, abusing the legal form of consolidation rules governing accounting in the United States, hid its research costs in its subsidiaries “EBC” and “Crescendo”, during 1993-2000, thus increasing its profits in the financial statements. As T.L. McCoy and M.A. Hoskins (2006: 38) note that during this period, “Alza Pharmaceuticals Corporation’s” net income was $ 430.1 million, but after eliminating

all costs of subsidiaries, the authors found that net income should be only $ 118.5 million, which is more than 3.5 times higher than the amount reported.

The third group of researchers criticizes the logic and substance of the application of the principle. Yes, according to prof. G. MacDonald, P.A. Rutherford and P.A. Bird (1989: 90-91) for accounting purposes it is very difficult to justify the general advantages of the economic substance, because it is not clear what in each situation should be understood under it. The capitalist economy depends on how clearly defined exclusive legal rights are. The ability to ignore this in certain uncertain circumstances to reflect the true economic substance does not solve the problem. At best, this problem is presented in a different way - in the definition of economic substance. In the worst case, this opens the possibility to avoid them due to the existing inconsistencies in the developed standards. As a result, the author (1989: 91) concludes that the solution of certain problems of accounting does not require the use as a panacea of the concept of economic substance. All that is required for this is a change in the accounting rules, which act as a legal form. Prof. G. MacDonald, P.A Rutherford and P.A.Bird reveal the main "weakness" of the principle of the prevalence of the substance over the form, which is to establish the true economic substance of operations and events. In particular, establishing how and who should do it? However, at the same time the author considers the possibility of using the principle only at the level of development of accounting legislation, without taking into account the level of professional judgment of the accountant. And in this case, given the existence of alternatives in accounting methodology, the author's arguments that the principle of the predominance of the substance over the form does not solve the problems of accounting, are unconvincing.

D. McBarnet and C. Whelan argue that attempts to "combat" "creative coordination" on the basis of general rules, such as the predominance of substance over form, increase the limitations of control and may require a return to specific accounting rules. It also means that the generally accepted principles set out in the conceptual framework will never be a sufficient basis for the control of accounting practices. There is an open "interpretive" space between general principles and detailed instructions, in which a creative approach to the application of principles in a particular case can always be applied. The impossibility of eliminating the creativity of accounting implies at the same time the ability to be misled by users of accounting information (McBarnet and Whelan 1991: 582). A similar approach is also followed by D.V. Luhovskoi, O.V. Olomska and Yu.N. Molodtsov, who note that the principle of priority of the substance over the form can involuntarily become a tool for solving accounting and financial problems and interests of certain groups of users of financial statements (unfortunately, so there are many examples) (2007: 35).

Prof. W. Schuetze (2004: 196), adhering to the same position, generally writes that adhering to the principle of the prevalence of substance over form, we will have anarchy in financial accounting and reporting. Because the predominance of substance over form is such an ambiguous principle that using such a general rule instead of clear standards or guidelines will make financial reporting very

individualized. However, O. Amat, J. Blake and E. Oliveras note that the application of the principle of prevalence of substance over form would significantly limit the use of creative accounting techniques, in particular, in terms of artificial transactions that should be accounted for as a whole (1999: 8).

The complete opposite in the views of researchers in this case can be explained by the fact that D. McBarnet and K. Whelan, D.V. Luhovskoi, O.B. Olomska, Yu.N. Molodtsova, V. Shuetze consider the application of the principle of the prevalence of substance over the form as a whole in relation to legal legislation, which really, in fact, makes it impossible to exercise control in the space of interpretations made by the accountant. O. Amat, J. Blake and E. Oliveras consider the application of the principle at the level of professional accounting judgment, where this principle acts as a tool that can limit the creativity of the subjects of the organization of accounting.

Conclusions to chapter 2

1. Analysis of researchers' views on the causes of the principle of prudence (conservatism) revealed that there is no specific author who can be considered its developer. The introduction of the concept of conservatism in the legislation of individual countries was caused by various reasons (social, economic, legal, psychological, political, criminal, etc.). Regardless of the ways in which accounting is regulated, accounting has become even more conservative since the 1970s, but the ways in which conservatism has been implemented have been different. In the conditions of the directive national accounting system, conservatism was realized through the rules established by the top administration, and in the conditions of the market national accounting system - mainly through the allocation of a separate principle, which should be followed in the implementation of professional judgment. The conducted historical analysis allowed to reveal three waves of researches in the field of accounting conservatism: 1) Research of theoretical aspects of the concept of conservatism in accounting; 2) Development of conceptual models of decision-making based on accounting data in terms of applying the concept of conservatism; 3) Improving existing and developing new models of valuation of the firm on the basis of accounting data in terms of accounting conservatism. Given the subjectivity of the principle of conservatism, as well as the possibility of accounting manipulation with its help, its implementation in the system of accounting standards largely depends on the level of political conditions, as well as the degree of development of "anti-conservative" accounting practices. During periods of active use of market value measurement, the principle of prudence (conservatism) is given a secondary role, but when valuation based on the use of a market approach leads to abuse or even crisis of the entire accounting system, regulators gradually return to the use of accounting conservatism.

2. The principle of continuity in accounting determines the priority (norm) of assessment during continuous operation. Despite the absence of its specific inventor,

the authors convincingly determine that it was theoretically substantiated in the early 1860s by representatives of the European accounting school. The active use of this principle in the world was facilitated by its inclusion in 1884 in the German law "On Joint-Stock Companies", which gradually formed a new approach to the implementation of accounting valuation at historical cost. Since the 1960s, the application of the principle of continuity in the accounting system has been criticized by researchers in the following areas: 1) The essence and logic of the principle; 2) Contradiction with other accounting principles.

3. The principle of historical value is used in accounting since the emergence of the double-entry accounting system. Given its inability to reflect the real value of enterprises in certain historical periods, it is replaced or supplemented (in the case of using a mixed valuation model) by using other types of accounting estimates (non-historical). However, in times of accounting crises caused by objective (inflation gaps) and subjective (corporate scandals related to accounting opportunism) processes, there is a return to the need for its application, as well as the principle of conservatism, in particular, through the introduction of a mixed model evaluation. The main areas of use of the principle of historical value in the accounting system include: 1) The inability to reflect the real value of the enterprise in terms of changing price levels; 2) Inaccuracy of valuation of certain types of assets; 3) Contradiction with other accounting principles; 4) Contradiction with the religious canons of Islam.

4. The principle of the prevalence of substance over form in comparison with other accounting principles has the least long-term practice of use, because it was invented by S.J. Jessel in the late nineteenth century in Great Britain, which had a significant impact on accounting practices in the countries that were part of the British Empire. However, its use did not become widespread in the United States, as a result of which it was not given enough attention by American scientists. Since the 1980s, the application of the principle of continuity in the accounting system has been criticized by researchers in the following areas: 1) Non-recognition of it as a principle of accounting; 2) Inconsistency of the essence of certain types of business transactions; 3) The logic and essence of the principle.

CHAPTER 3
HISTORICAL ASPECTS OF THE DEVELOPMENT OF INDIVIDUAL OBJECTS OF THE ACCOUNTING REFLECTION AND ACCOUNTING METHODS

3.1. Accounting in the context of military operations

The development of accounting as a separate functional science and as a practical activity directly depends on the actions and events in its external environment. On the one hand, external factors are considered the objects of accounting reflection (exchange rate changes or security prices on the capital market). On the other hand, they serve the reason to transform accounting theoretical and methodological foundations. The implementation of hostilities is one of such factors to be considered. It affects most societal processes, mainly because there is a violation of traditional approaches to conducting business activities of enterprises, which significantly impacts both the objects of accounting reflection and the procedure for organising accounting at enterprises themselves.

Traditionally, in post-Soviet countries, accounting in conditions of hostilities is associated with the World War II period. Similarly, the world literature on accounting covered this topic quite widely, both on the examples of specific wars and by searching for standard features in the transformation of the accounting system in the context of military conflicts.

If to consider war an external factor of the national accounting system, one can state that scientists do not pay due attention to the development of accounting in such difficult periods for the country. Thus, the accounting system either remains in the current state without any progressive changes or, on the contrary, it partially degrades by its gradual simplification to fulfil the tasks assigned to it by users and dictated by wartime conditions.

As a result of the analysis of scientific publications, it is possible to allocate the following directions of development of accounting in the conditions of military actions (fig. 3.1).

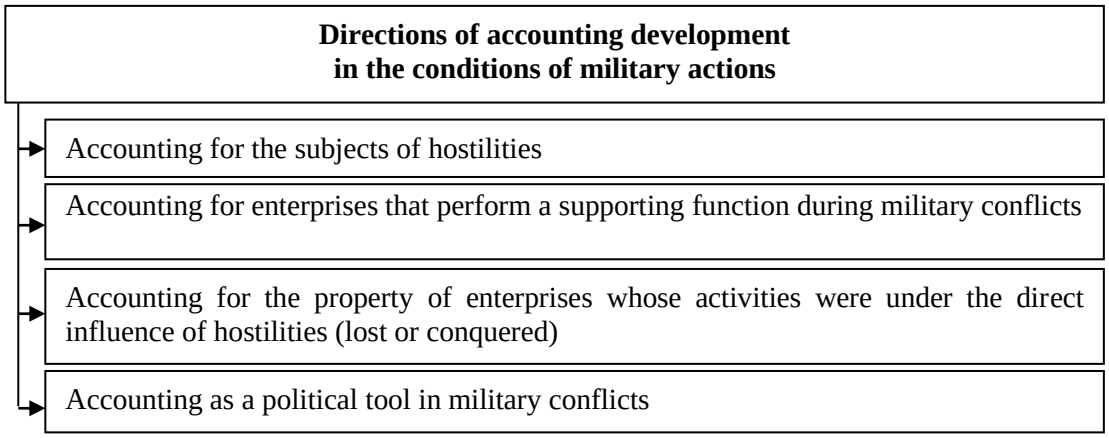

Fig. 3.1. Directions of development of accounting in the conditions of military actions

Accounting for the Subjects of Hostilities (military units and subdivisions). During the war, the accounting and financial apparatus of military units, being the state agencies, operate in challenging physical conditions, which in many cases does not ensure the full implementation of essential accounting functions and leads to the need to simplify accounting and adjust to existing conditions. Changing the form of accounting to its simplification is usually dictated by efforts to ensure the efficiency and reliability of accounting information, which significantly harms its relevance.

The need to change the existing accounting rules during military operations was mentioned in the documents on regulating accounting in military units, published in peacetime. Thus, in *The Regulations on the Property and Facilities Management in Certain Troops* (1904: 32), the possibility of deviations from the traditional reporting practice in wartime conditions was mentioned. In particular, it was allowed to 1) extend the time of reporting on the funds received by the treasury; 2) for the property and facilities manager, implement the accounting policy without the consent of the regiment commander, but in the amount of no more than 1 thousand rubles; 3) increase the number of advances issued at the discretion of the regiment commander. Thus, the difference between accounting in peacetime and wartime was a slight transformation of the existing accounting practices due to difficulties in communication between the subject of accounting (property and facilities manager) and the person responsible for its organisation (regimental commander).

Directly during hostilities, more drastic changes are made in the accounting system. As noted by S.S. Viedernikov and E.C. Rosenberg, explaining the peculiarities of accounting organisation during the Second World War, the specific conditions of the financial activities of military units in the active army require some changes in the practice of financial accounting and reporting of troops. The course of the first months of the war showed that the forms of financial accounting used in peacetime in military units turned out to be excessively detailed and technically unsuitable for wartime conditions. To simplify and unify financial accounting, the leading accounting registers for the financial economy of the military unit, used in peacetime, were restructured to the existing conditions (Viedernikov and Rosenberg: 1947). One of such essential and cardinal decisions was the introduction of a particular accounting register, a control book. It was aimed to overcome the problem of absence in the military units of their current accounts and the need to post their funds and government bonds. Another example of simplifying accounting procedures was the introduction in August 1941 of a simple standard form of money book, which replaced the money journal and the book of personal cash accounts. In addition to the convenience of keeping this book, its format was also adapted to a field bag used by military unit accountants for its storage, which generally improved the process of preparing reports by military units in the context of hostilities.

Also, one of the consequences of the war was an increase in the number of women in the accounting services of the subjects of its implementation and in enterprises in general, which was especially noticeable at a time when all men fit for war were taken into the army. The process of its conduct required spending significant amounts of human resources both at the front and in the rear. In particular, J. Black (2006: 205), examining the role of women in the activities of the British Army Pay Department during the First World War, as well as analysing the historical development of the accounting profession, confirmed that the widespread involvement of women in accounting procedures is an example of proto-feminisation of British accounting. In general, this fact can be considered the main reason for the increase in the number of women accountants in the postwar years and in the USSR, where this figure in 1985 reached 89% (Narodnoe … 1987: 416).

The Accounting System in Enterprises that Perform a Supporting Function during Military Conflicts is also usually subject to change. It is dictated by the need to transform the management system of enterprises in wartime. The level of depth of such changes depends on the specifics of the military conflict, particularly its impact on the country's economy.

If it is a local conflict that does not make significant changes in the functioning of the national economy, then the national accounting system also does not undergo substantial changes. However, there may be some changes in existing accounting practices related to the activities of enterprises that ensure the functioning of the army. Thus, G. Vollmers, V. Antonelli, R. D'Alessio and R. Rossi (2015) give examples of changes in the method of management cost accounting in Italian industrial groups, which try to obtain price benefits for further participation in tenders and auctions conducted by the Ministry of Defense and Italian Ministry of Ammunition during the First World War. Another example of such changes that affect the method of accounting for enterprises preparing for military action is the publication in 1942 in the United States by the Committee on Accounting Procedure of the ARB 13 *Accounting for Special Reserves Arising Out of the War* (Accounting Research Bulletins 1942). This document discloses accounting peculiarities and subsequent use of already created reserves and those created by enterprises engaged in production for military purposes or significantly suffering from military action.

The military conflict can change the basic principles of functioning of the national economy, acquiring an overall scale for a particular country (for example, achieving the status of a national war) and force to switch to a model of enterprise management, taking into account the needs of "military time". In that case, the national accounting system changes its regulation and the organisation and methodology of providing the functioning of a particular accounting system of the enterprise. The most typical example, in this case, is the Soviet accounting system, which underwent significant changes during 1941-1943. According to V.A. Mazdorov, the military situation in the country set new tasks for accounting. The war was the reason for accounting restructuring, manifested in its simplification and reporting reduction, enhancing operational control over the economic feasibility

of spending, maintaining the socialist property, economical use of funds and materials (1972: 155-156). Such a thesis was common to the representatives of Soviet accounting thought. E.M. Halperin, N.A. Kiparisov and N.A. Leontiev also mention that Nazi Germany's attacks on the Soviet Union increased attention to the correct setting of accounting and reporting at socialist enterprises. During the war, a lot of work was performed to streamline accounting and reporting, to reduce and simplify reporting forms (1945: 226). A.M. Kashaev and A.V. Shane also emphasise that, during the war, there were significant changes in the organisation of accounting; it was necessary with particular perseverance to implement a rigorous regime of economy and control over the cost of material, labour, and financial resources (1985: 17).

Thus, the most important function of accounting during the war is the control function, which creates the preconditions for effective counteraction to the aggressor country, in particular, by increasing the efficiency of available resources and finding deep reserves of the national economy. As history has shown, this reorientation of accounting has yielded positive results. A. Djatej and R. Sarikas emphasise that accounting played an essential role in the USSR winning the war (2009: 36).

In addition to the simplification of accounting procedures, which took place in terms of production costs, capital expenditures, and simplification of the reporting procedure (monthly telegraph reporting), the methodology of Soviet accounting changed significantly during the war. As a result of the disruption of economic ties between enterprises, a significant amount of overdue debt arose. There were many losses and contingencies, for which special accounts were introduced, the name of which indicated the reason for their creation – the conditions of military time. Simplification of the accounting system, particularly the abandonment of many primary documents, allowed the introduction of new economic instruments, one of which was the card system of distribution of basic foodstuffs, implemented in the USSR in July 1941.

During the war, there was also a transformation of approaches to the accounting organisation due to the chronic shortage of trained accountants and the reduced time spent on implementing the accounting process. According to A.I. Bielousov and A.V. Zielenina, in the war years, they started to use group (cumulative) statements on cash and banking transactions, procurement of tangible assets and settlements with suppliers, shipment of inventory and payments with customers. It was recommended to reconcile chronological and systematic registers, simplify the distribution of maintenance and management costs, use the coefficient method in determining the cost of certain types of products, etc. (2010: 14). In general, the authors conclude that the experience gained during the war in accounting was later used as a basis for developing the journal-order form of accounting, which, in the early 1950s, began to be widely implemented in various sectors of the USSR.

In case there is a civil war in the country, which is a form of resolving conflicts that arise between different segments of the population and ends with the victory of the party beginning to reform the country's economic system, the accounting system

also undergoes significant changes. The extent of such changes depends on the level of contradictions between the previous financial system and the newly created system implemented after the end of the civil war. For example, due to the American Civil War (1861-1865), slavery was abolished (1865). It necessitated excluding the accounting system of the records used to account for slaves and value them.

The Russian Civil War (1917-1923) resulted in the Bolshevik Party coming to power. It gradually established Soviet influence in the vast majority of its territory. Over the next ten years, it formed a model of "Soviet accounting" that differed radically from market accounting at the theoretical, methodological, and organisational levels. The defining methodological feature of Soviet accounting was the transition to uniform regulation of accounting, which led to the formation of the concept of extended uniformity of accounting methodology (Lehenchuk 2017: 99).

Thus, the accounting system of enterprises that perform a supporting function during military conflicts may change, depending on the features of the military conflict, which determine its role in the economic life of a particular country.

Accounting for the Property of Enterprises Whose Activities Under the Direct Influence of Hostilities (lost or conquered). In most cases, the implementation of hostilities between the armed forces of certain countries or political entities has economic preconditions, which is justified by limited resources and unlimited human needs. In some cases, the desire of war participants to capture the necessary resources or aims of economic regions determined the nature of combat operations and the direction of military aggression.

The cause of war may be a claim to property rights or territory belonging to the other side of the armed conflict. As a result of the success of such claims, on the one hand, as a result of nationalisation (expropriation), the property appears that needs to be recorded. On the other hand, such property is disposed of, which can be considered as loss or temporary loss from the accounting point of view.

The most typical example of property expropriation in occupied territories is Germany's actions during World War II. Thus, German troops looted and destroyed 38% of Poland's national property during the occupation. Sixty-three million tons of gravel and about 2 million tons of oil were taken out of France. They exported strategic raw materials, industrial goods, and food from Belgium, Holland, Denmark, Norway, and other occupied countries. Gold reserves worth $ 80 million were shipped from Austria; Czechoslovakia lost $ 25 million (Shifman 1964: 131-132). The confiscated property was exported from the occupied countries to Germany, where it was included in the assets of powerful German monopolies or public financial institutions.

At the end of World War II, a similar situation developed in the former Soviet territories, liberated from German occupation by Soviet troops and in the liberated regions not previously part of the USSR. However, the nationalisation of the property was already carried out by representatives of the Soviet government. To ensure proper control and unification of this process, in April 1943, the Council of People's Commissars of the USSR issued Resolution 404, which regulated the accounting and

use of nationalised, confiscated and mismanaged property. In particular, according to Article 4 of this document, all issues related to the identification, accounting, valuation and sale of property, valuables and funds must be carried out by financial authorities (Postanovlenie … 1943). The monetary authorities carried the transfer of nationalised and confiscated property in coordination with the higher authorities on a free and paid basis using the actual value, procurement prices, etc.

When a new government is established in a war-torn territory, whether because such territory was annexed to another country or a new country was created by merging several regions, the existing enterprises and institutions are usually subject to nationalisation. So, in 1917, all banks and the banking state monopoly, railway transport, sea and summer fleet were nationalised on the territory of post-revolutionary Russia. In June 1918, a separate decree proclaimed the nationalisation of the entire heavy industry (enterprises with a capital of more than 1 million). According to A. I. Lozinskiy, after the nationalisation in 1917-1918, the top administration organised the correct accounting of the means of production expropriated from the bourgeoisie. It ensured the preservation of the state fund (1939: 68). Thus, one of the consequences of military operations is the seizure of property and new territories with enterprises located there. As a result of nationalisation, these objects should be included in the assets of enterprises or institutions. The main problem in their registration is establishing their actual cost, which would consider their real value, and the costs incurred for their delivery and transfer to the place of their further use.

The other party of the military conflict that fails on a temporary or permanent basis loses certain types of property, enterprises or territories, which should also be reflected in the accounting system of the appropriate level.

Aiming to record the lost property during World War II, a separate (27th) section of the chart of accounts was introduced at Soviet enterprises – D “Accounts allocated due to wartime conditions”. According to V.A. Mazdorov, this section included 21 first-order accounts and two subaccounts. For example, 270 – “Fixed assets, not evacuated”; 251 – “Materials on the way that did not arrive before the evacuation to the enterprise”; 252 – “Inventory, not evacuated”; 253 – “Inventory, evacuated but did not arrive at the location of the enterprise”, etc. (1972: 157). The introduction of such proposals was based on the general policy of the need to evacuate essential enterprises from the frontline areas to the eastern part of the Soviet Union, which was implemented with the help of the Evacuation Council established in 1941. Accordingly, the proposed system of accounts was intended to account for those assets of an enterprise that were either not evacuated (by type of assets) or did not reach a particular place of their evacuation. Besides, it dealt with the accounting of the receivables and payables in respect of which there were significant doubts about their repayment, due to the seizure of the territory where the enterprises in respect of which it arose were located, or because even after the evacuation such enterprises have not yet resumed their activities. All other evacuated objects were

accounted for using other traditional accounts used by businesses during the peacetime period.

During the property evacuation, mainly the accountants were responsible for evacuation security and subsequent registration of such property. They had to strictly comply with existing requirements, particularly for documenting such transactions. At the same time, to conduct the evacuation process of an enterprise's property, they had to spend high costs, which were to be reflected in the relevant accounts ("Costs caused by evacuation"). In many cases, the property did not reach its final destination due to the rapid advance of enemy troops and inefficient logistics. Therefore, one of the directions of the development of the accounting system during the war was to improve the accounting display of undocumented goods.

Today, in the conditions of temporary occupation of certain territories in Donetsk and Luhansk Oblasts and annexation of Crimea, the domestic Ukrainian enterprises, structural subdivisions of which remained in these territories and over which management was terminated, do not use a similar method of accounting for lost property as it was done during the World War II in the Soviet accounting system. For example, all the nationalised property of DTEK ENERGY B.V., located in the occupied part of Donetsk and Luhansk Oblasts and the annexed Crimea, is included in the company's assets, as evidenced by the published unaudited statement of consolidated financial results for six months of 2018 (1H 2018). However, according to the Auditor's Opinion on the financial statements of PJSC DTEK KRYMENERGO dated March 20, 2017 (Audytorskiy vusnovok … 2017), the value of non-current assets located in the temporarily occupied territory of Ukraine in 2015 was accrued 100% impairment reserve based on the principle of prudence and IFRS 36 Impairment of Assets. As a result, as of December 31, 2016, the net assets of PJSC DTEK KRYMENERGO were negative –-UAH 1025951 thousand. As early as September 2018, the media reported that "DTEK ENERGY B.V." is suing the courts of the Russian Federation in international courts for expropriated property located in the annexed Crimea (DTEK … 2006), which indicates the company's attempts to compensate for the losses incurred. Accordingly, for those assets of DTEK ENERGY B.V. that remained in the occupied part of Donetsk and Luhansk Oblasts and the annexed Crimea, separate special accounts are not used for their accounting; their value is adjusted based on the level of their decrease in usefulness.

In addition, according to IFRS 36, "Impairment of Assets", the usefulness of assets decreases due to loss of control over such assets and because specific assets lose their value in the event of a breach of contract or termination. Today, this situation is typical for the assets of thermal power plants that are part of DTEK ENERGY B.V. because, after the loss of control over the mines, which were the leading suppliers of anthracite for them, their value needs to be revalued due to loss of value. This issue is covered in more detail in the study of I.A. Yukhimenko-Nazaruk (2017: 279-281). It provides for the use of the provisions of neo-institutional theory, in particular, requires the use of the concept of specific assets in accounting, which will justify ways to improve accounting valuation in a hybrid war.

Accounting as a Political Tool in Military Conflicts. According to the traditional point of view, the accounting system is considered a means of recording the results of hostilities and information management of enterprises that support the subjects of war. According to this approach, accounting performs a passive function based on its importance during military conflicts. In contrast to this approach, as it happens according to the London School of Economics (E. Hopwood, P. Miller, A. Bhimani, M. Bromwich, etc.), W. Funnell and M. Chwastiak proposed to consider accounting as a political tool that the subjects of his organisation can use to overcome political crises. Accounting is proposed to be considered not as something derived and secondary, necessary to reflect the existing economic reality, but as the primary one concerning social processes and relationships formed as a result of the functioning of accounting as a separate socio-economic institution.

According to W. Funnell and M. Chwastiak, to this day, for all nation-states, accounting for military operations has primarily served to achieve broader political goals. From the Crimean War to the war on terrorism, accounting was used to establish civilian control over the military, introduce reasonable business practices in the war, and create visible and invisible reasons that should legitimise the use of force (2015: 2). By implementing the information function, accounting allows political elites to justify the need for military conflict, and through control –influence the subjects of military conflicts while regulating the deployment of hostilities and individual military operations.

3.2. Segment reporting

The development of the world economic system is one of the determining factors in improving the accounting system of enterprises of various kinds. Intensification trends of globalisation, diversification and post-industrialisation of the economy put forward several new requirements for the content and form of presentation of accounting information, which must adequately respond to the accounting scientific community. Multinational corporations, which play a big part in world markets, are complex economic systems with large-scale investment opportunities and the ability to conduct their activities in different areas and directions. Compared with traditional companies, they function in other conditions because their activity is connected with a significant number of heterogeneous operations and processes, characterised by the emergence of risks of varying intensity and the existence of a considerable number of outlooks for further development. To make capital suppliers efficient of investment and loan solutions of such companies, they need information about the effectiveness of functioning, risks and prospects of development of its separate divisions and direction of activity in respect of which such solutions will be made.

Given the formation of a globalised economic system, the emergence of the concept of financial reporting by segments is among the consequences of the

development of information needs and requests by accounting information users. Segment reporting was implemented into accounting regulation practices in the late 1970s in the United States. In the early 1980s, it was also used in the IFRS system, which became the starting point for its further global spread. Today, segmented information is one of the significant sources for different kinds of stakeholders because it allows understanding better of the results of company performance in terms of different types of segments. It enables them to analyse better their behaviour and prospects for long-term value and their part in achieving sustainable development goals.

With the emergence of a large number of enterprises with a high concentration of capital and diversified economic activities, there is a need to transform traditional approaches to the disclosure of financial statements, as the level of profitability of such enterprises, their risks and strategic opportunities for further development may differ significantly for different industries and in other geographical locations. For many stakeholders who analyse activities of such as multifunctional companies, financial data about business segments is just as essential as accounting information.

The developmental peculiarity of the system of normative regulation of preparing financial statements by segments is its positive nature. It means that at first, the practice of compiling such reports by enterprises was much ahead of the regulatory process in this area. The last one consolidated and generalised those developments in the formation of segment information, which the subjects of accounting at enterprises have already used. Implementation of segment reporting in current accounting practice is an example of the transformation of the accounting regulation system under the influence of coercion from the external environment. In particular, it happened when public members started to demand disclosing information about their activities in terms of the segments and sections to analyse their units' effectiveness.

The possibility of such coercion in the United States arose in the early 1960s when Congress began to discuss the functioning of specific sectors of economics. Thanks to the persistence of prof. J. Dirlam in 1965, proposals were made on the need to amend The Securities Act of 1934 due to the demand for corporations to disclose information about the results of the operation of their subunits. As early as 1966, M. Cohen, Head of the SEC, addressed Financial Analysts Federation at its annual meeting, emphasising that disclosure of the results of corporations in terms of their individual subdivisions should become a mandatory component of the financial statements of multidisciplinary (diversified) corporations. Scientists currently consider these events as the starting point for developing the system of segment reporting in the world.

The US professional accounting community has responded appropriately to such decisions of the management of stock market regulators. In 1967, APB published Statement № 2 Disclosure of Supplemental Information by Diversified Companies, which was also a response to the growing demand of users for segment information of companies that have a diversified structure to more efficiently allocate available

investment resources, as well as at the request of the management of such companies, which needed tools to improve management efficiency. Representatives of APB in this provision acknowledged that its development is a reaction to economic changes, particularly the emergence of a significant number of diversified companies. As a result, the Statements' current financial compilation practice should be reviewed.

This provision directly states that the disclosure of segment information 'may be useful for investors in apprising the past performance and future risks and prospects of diversified companies' (Accounting Principles Board … 1967: 3). However, the representatives of APB also proclaimed the possibility of a considerable number of problems that may arise due to the application of this provision. For example, individual segments on which information is needed for decision-making will be pretty challenging to distinguish among all the company's activities because subjective estimates and arbitrary distributions can make information nonsensical at best and misleading to investors at worst. 'This is especially true where joint costs are involved, or arbitrary transfer prices are used between major segments of a company' (Accounting Principles Board … 1967: 3). Another problem that accompanies any additional disclosure of accounting information, which also drew the attention of APB, is the revealing valuable information, the exposure of which may harm the company's competitive position. Therefore, in the end, the developers of this provision concluded that the disclosure of information on segments of its activities, companies must carry out at their discretion.

In addition to the methodological aspects of the information formation by segments, an essential role of Statement № 2 Disclosure of Supplemental Information by Diversified Companies is to outline the directions of research in this area, which were to form the theoretical prerequisites for the formation of such additional information: its need for investors; reliability for investment decisions; ability not to harm the company's shareholders; its need for a fair presentation of financial position and results of operations (Accounting Principles Board … 1967: 3-4).

In 1968, SEC first proposed disclosing information about business segments during the listing. In 1969, it clarified its requirements that information should be disclosed only for those segments that brought 15% or more of the company's revenue (A brief summary … 1969: 1). In 1970, these requirements were already added to the general requirements for annual financial statements (10-K), currently submitted to the SEC.

Taking into account the declaration on the further development of financial reporting in the direction of development of segment reporting, defined by the SEC, as well as the areas of research directions allocated to APBs, in the early 1970s, American researchers in the field of accounting began to pay considerable attention to this issue. Above all, scientists paid attention to the usefulness of segment reporting in analysing the activities of corporations and their subdivisions. In particular, as R.F. Kochanek noted in 1974, after analysing the results of the publication of reports of American companies, segment results helped investors forecast future changes in profits in the valuation of securities (1974: 256).

R.M. Barefield and E.E. Comiskey suggested that the hypothetical relationship between the disclosure of segment reporting and the predictability of results has a unique intuitive appeal (1975: 821), thus emphasising its desirability inclusion in the mandatory reporting elements of enterprises.

Starting from 1974, all companies reporting to the SEC were required to disclose segment information to their shareholders in their annual financial statements. Since then, the FASB has been considering a draft standard for segment reporting, which should provide more detailed answers to the question of which segments in the activities of companies should be distinguished, what information should be disclosed in the financial statements so as not to harm the competitive advantages of companies, and how costs should be distributed between different types of segments, etc.

The first accounting standard governing the segmentation and reporting, SFAS No. 14 Financial Reporting for Segments of a Business Enterprise, was issued by the FASB in 1976. This standard required companies to disclose certain financial information regarding the industry and geographic segments. In 1981, IASC also issued IAS 14 Reporting Financial Information by Segment. This period of development of the accounting regulation system can be defined as the stage of initial accumulation of means of regulating the order of formation of financial statements by segments, which is characterised by consolidation of the current practice of enterprises in this area through its standardisation.

As early as the beginning of the 1990s, the first signs of non-compliance of the existing segment reporting system with the needs of external users of accounting information appeared. In particular, as noted by D. Hollie and Sh. Yu, in 1993, the FASB began revaluation of segment reporting after users of financial statements expressed concerns about its quality level (2015: 88).

In addition to users' dissatisfaction with the existing segment financial reporting rules, SFAS No. 14 was significantly criticised by representatives of professional organisations in the field of accounting and finance (AICPA, AIMR). The existence of such a problem was emphasised by the representatives of the AICPA Special Committee on Financial Reporting under the administration of E.L. Jenkins in the report "Improving business reporting – a customer focus: meeting the information needs of investors and creditors" (1994), devoted to formulating recommendations regarding the nature of the information to be disclosed by the administration in reporting and the extent to which audits should report the various components of such information. In particular, the authors noted that one of the areas of development of the current concept of financial reporting is to improve the disclosure of information by business segments (Improving business reporting … 1994: 11-15). As a result, in 1997, SFAS No. 14 was replaced by a new standard, SFAS No. 131 Disclosures about Segments of an Enterprise and Related Information, which had a more managerial orientation, compared to the previous standard, because it was aimed at ensuring the formation of information by segments in such sections that will allow to

make operational decisions and evaluate the results of the enterprise by the relevant segments.

In the mid-1990s, the representatives of the IASC made a similar change in approaches to the methodology of forming segment information. In 1997, IAS 14 was significantly reformed. As a result, it changed its name to Segment Reporting in addition to significant substantive changes. However, IAS 14 had substantial differences compared to SFAS No.131. First of all, it was based on the "industrial approach", which caused significant dissatisfaction of users of segment information.

The 1990s can be defined as the second stage in the development of means of regulating the order of formation of financial statements by segments, characterised by the improvement of existing standards by the practice of decision-making based on segment accounting information by external and internal users.

However, the formation of legislative regulation of the procedure for the formation of segment accounting information did not end there. Starting from 2003, the IASB began drafting a new standard, IFRS 8 Operating Segments, which, as a result of lengthy discussions, was put into practice on January 1, 2009 (Mizhnarodny standart … 2009). The introduction of IFRS 8 was one of the steps in the convergence of IFRS and GAAP US, which took place in 2006-2008 under the Memorandum of Understanding. In IFRS 8 and SFAS No. 131, a management approach has already been applied, based on which in the formation of segments and the process of preparation of accounting segment information, the priority is to take into account the needs of internal users who make managerial decisions. IFRS 8 does not change the current method of recognition or accounting for expenses or income, or other elements of financial statements. It is a standard that relates purely to the disclosure of accounting information in the financial statements.

According to *PricewaterhouseCoopers* Company, the main differences between IFRS 8 and IAS 14 can be identified by answering the following questions: 1) Who does it apply to? 2) What are operating segments? 3) What information is reported on operating segments? 4) What is the measurement of segment disclosure based on? (A practical guide … 2008). Analysis of these differences allows us to establish that the introduction of IFRS 8 involves a change in the orientation of users for whom the standard is intended, the transformation of the approach to understanding the essence of the concept of "segment" (there is a transition from the object (products or services) and geographical segments – to operational) and basic information used to form segment information (change from financial information to information based on which managerial decisions are made). As a result, segment accounting information obtained using IFRS 8 is more detailed and better reflects the specific features of companies in today's economy. In addition, IFRS 8 also requires additional disclosure requirements in interim reports.

Accordingly, the period of development and implementation of IFRS 8 during 2003-2009 can be defined as the stage of final harmonisation of accounting standards in financial reporting by segments in the world. During it, there was a transition to a management approach to forming segment information. It is in this period that a

significant amount of research appears, which examines the international features of the disclosure of information by segments and their impact on the decision-making process of different groups of stakeholders.

At the same time, despite the completed process of harmonisation of accounting standards to regulate the process of forming information by segments, scientists have identified several theoretical, methodological, and organisational problems that need to be addressed considering the development of the world economy in recent years. All existing problems can be combined into two main groups:

1) General problems of information arrangement by segments.

2) Domestic problems of information arrangement by segments.

The problems of the first group relate to the general concept of segment accounting information and the order of its formation, which is implemented in SFAS No. 131 and IFRS 8:

- *The Need and Reasons for the Use of Segment Financial Reporting as a New Tool for Disclosing Accounting Information.* A significant number of researchers consider the feasibility of using segment reporting in the context of assessing the level of enterprise diversification, the volume of enterprise activity (for large enterprises, segment reporting is more of a priority from the standpoint of cost-benefit ratio), the level of financial leverage (high leverage additional accounting information), the volatility of enterprise profits. Examining the activities of Malaysian companies, L. Lock Teng and M. Mat Zain (2001) found that, as a rule, companies that reveal segment information are more significant, have a higher indicator of financial leverage, lower indicator of investments and lower volatility. At the same time, the vast majority of researchers believe that the additional disclosure of segment accounting information facilitates the valuation process, and therefore should be considered an element of the system of cost-oriented management of the enterprise.

- *Critical Analysis of Conceptual Approaches Underlying the Development of an Accounting Standard.* One of the objects of criticism of researchers today is the management approach applied in IFRS 8 to the formation of information by segments, particularly the advantages and feasibility of its application compared to the industrial approach. Based on the management approach, enterprises form segmental accounting information for external users based on the used model of management reporting. In this context, there are questions about the effectiveness of building a management accounting system in the enterprise and its ability to meet users' needs in segment accounting information.

- *Search and Justification of the Main Reasons for a Refusal to Use Financial Statements by Segments in the Organisation of Accounting at the Enterprise.* To date, researchers highlight several reasons that can be considered as the main reasons for hiding such information: 1) Concealment of valuable and confidential information, the disclosure of which may not only reveal the features of the enterprise to external users but also may be used by competitors to weaken the position of the enterprise in

the market; 2) The formation of accounting segment information provides a higher probability of an agency problem that arises between the subjects of segment reporting and its users. In particular, managers responsible for a specific segment may have incentives to manipulate segment profits or the process of comparing segment indicators (profits, revenues, assets, etc.), as their remuneration may be tied to segment profitability, not just overall profitability. Moreover, managers can hide information about segments with indicators that do not meet the enterprise's goals or defined development strategy to avoid undue attention and stricter control. Thus, to eliminate the consequences of the agency problem, companies must increase their agency costs, so the reporting by segments can lead to a significant increase in company costs. Taking into account the institutional peculiarities of the formation of the national accounting system in different countries, and depending on the national specifics, one can identify other reasons that cause companies to either not disclose segment accounting information at all or not to disclose such information by individual types or groups of operating segments.

- *Development of Unconventional Standards for the Formation of Accounting Information by Segments.* In recent years, many companies have disclosed additional information to ensure better accountability to corporate governance entities and to ensure better corporate transparency through the use of non-GAAP approaches and standards. As soon as p. 25 of IFRS 8 Operating Segments allows the head of the company to decide on the allocation of resources to the segment and evaluate the results of its activities (MSFZ 8 … 2012), it can serve the evidence of the use of its own accounting principles to calculate the growth of non-current assets for each reporting segment of an economic entity. Such an opportunity is an example of the implementation of its own policy of information formation in segment reporting, as it is based on the professional judgments of the head. The possibility of such an opportunity may lead to opportunistic behaviour aimed at self-interest and misleading investors about the information reflected in the segment reporting, which is often manifested in the gaps between the amount of profit for all segments of the company and its consolidated profits.

Problems of the second group concern features of formation of the segment accounting information according to the current regulatory requirements:

- *Inconsistency of Domestic Standards with the World Practice of Forming Segment Accounting Information.* Despite the considerable number of changes made to NAS(S) 29 Financial Statements by Segments (Polozhennya (standart) buhgalterskogo obliku 29 … 2005) in recent years since its entry into force (5 times during 2005-2013), this domestic standard does not correspond to the global practice of forming accounting segment information based on a management approach. Prof. A.V. Ozeran confirms the existence of such a situation, noting that the current method of reporting by segments in Ukraine is not adapted to the concept of management approach, so it needs to be revised and significantly improved (2015: 347). This position is also confirmed by A. Aleksieieva and T. Ihnatenko, according to whom today there is a need to harmonise the national standard with the

requirements of international practice (2009: 116). The inconsistency of the provisions of NAS(S) 29 with practical needs leads to the fact that domestic companies that do not use IFRS can not adequately reflect all critical and specific aspects of their activities for external users, complicating the decision-making process based on segment accounting information.

- *Construction of a Single Effective System for Disclosing Voluntary Information about the Activities of the Enterprise.* Since the formation of financial statements by segments is only one of the types of voluntary and additional disclosure of accounting information, the question of its relationship with other types of such disclosure is relevant. In support of this statement, M. Bugeja, R. Czernkowski and D. Moran note that further research may also be devoted to whether there is a relationship between the segment of the company and other types of disclosure in financial and annual reporting (2015: 364). This issue is even more relevant today in Ukraine in connection with developing such new types of financial statements published by domestic enterprises: integrated; strategic; socio-ecological; engineering; risk reporting, etc.
- *Ability to Allocate Segmental Accounting in a Separate Subsystem of Accounting.* The above problem has a more theoretical direction, but the results of its solution will have a significant impact on the process of organising accounting in the enterprise. Although today the concept of 'segmental accounting' has not yet acquired any legislative consolidation and is not fully included in the generally accepted ideas in the system of accounting knowledge, some domestic researchers (for example, A. Aleksieieva and T. Ihnatenko (2009: 116)), and a significant number of foreign authors (M.D. Akatieva, M.R. Edgulov, O.V. Sinitsyn, O.A. Sokolov etc.) use it quite active in their scientific publications.

The general prospects for developing financial reporting by segments are to address the above two groups of issues. At the same time, the main task of improving the system of regulation of the process of forming financial statements by segments is to find such new theories, concepts and approaches, which will help to improve the properties of analytical forecasts made by specialists based on the use of information from such reporting. This statement is based on the functional role of accounting as a socio-economic institution. Other prospects for further research is to identify and justify why domestic companies with diversified activities do not disclose segment accounting information or disclose it to users incompletely, hiding individual groups or types of segments. To find a way out of this problem, it is necessary to study the behavioural and sociological aspects of the functioning of the subjects of accounting and organisation in domestic enterprises. Thus, to improve the quality of the formation of segment accounting information, it is necessary to make more active use of existing developments in the field of positive accounting theory.

3.3. Accounting in credit unions

"Past verification" or searching for likely historical facts of applying identical or similar proposals in the practice of enterprises is one of the possible options for confirming or refuting the desirability of suggestions to improve the methodological aspects of accounting. The application of such an approach becomes especially relevant while re-using specific economic instruments, technologies or theories, which directly or as the consequences of practical use become the object of accounting. Thus, accounting historiography, in addition to forming a basis for understanding changes in the accounting profession, justifying the reasons for the formation and development of accounting as a practical activity and writing scientific papers in the field of accounting, can be considered a tool for verifying scientific knowledge. At the same time, when conducting such verification, it is necessary to consider the relevance of the proposals use context, i.e., the conditions of the internal and external environment of the enterprise's accounting system, which also largely depends on their desirability and effectiveness.

The institution of credit unions can serve as an example of such re-introducing economic instruments into economic practice. Its spreading was stopped by the Soviet authorities in Ukraine in the 1930s and began its revival only in the 1990s. Therefore, the analysis of historical features of the development of accounting in credit unions in the late 19th – early 20th century allows not only to establish the level of development of accounting practices at that time but also serves as tools for verifying current accounting organisation methods in credit institutions.

In their classical sense, the first credit unions, as non-bank financial institutions, emerged in the mid-19th century in Western Europe. The direct authorship of creating such a new type of credit institutions domestic researchers, such as A.V. Antsyfierov (1907: I), B.A. Dadashev, O.I. Grytsenko (2009: 6) at the same time attributed to F.W. Raiffeisen and H. Schulze-Delitzsch, who established the first credit unions in Germany and Prussian Saxony. Meanwhile, most foreign researchers note that the first was H. Schulze-Delitzsch. At the same time, F.W. Raiffeisen, as the governor of Weyerbusch, adapted his proposed model of credit unions to overcome the effects of the famine winter of 1846-1847. In particular, S.V. Borodaievskii confirms that it was H. Schulze-Delitzsch who was the ancestor of cooperative credits. Germany was the country where joint credit originated in 1849, i.e. earlier than in other countries. The common reasons for its emergence were the problematic state of urban trade classes and unfavourable conditions for credit use by individuals and institutions. The impetus for applying cooperative principles in the credit field was the movement of cooperative's production in France during the revolution of 1848 (1923: 14). Similar viewpoints were also held by American researchers E.L. Whitney (1922: 2) and D. Tucker (1922: 29). At the same time, the theoretical foundations of financial mechanisms by which credit cooperatives could function were developed a little earlier – in the 1840s by the German researcher V.A. Huber. In one of his books, H. Schulze-Delitzsch referred to him.

Due to the successful cooperative movement in Germany, this practice was gradually transferred to the neighbouring countries – Denmark, Italy, France, Austria, Hungary, the Czech Republic, Poland. Following these countries, cooperative structures were established in other European countries, where the impoverished population needed collective support to develop their own economy (for example, Finland, Ireland, Ukraine). Thus, in 1898, H.W. Wolff (1898: 23), speaking at the 13th Annual Congress of Cooperatives in Manchester, was forced to state that despite the significant development of banking institutions, the widespread use of credit unions in Ireland will gradually lead to their transfer to the English financial sector.

A little later, closer to the end of the 19th century, the need to create credit cooperatives based on the models of H. Schulze-Delitzsch and F. Raiffeisen was justified by the representatives of the local aristocracy in the United States and Canada. They were immigrants from European countries (Germany, Great Britain). It resulted in a documentary appeal to local authorities about the possibility of introducing this type of financial institution in economic practice. However, local authorities ignored the development of credit unions in European countries, maintaining a relatively conservative position on the role of non-bank financial institutions in the financial market, so only since 1906 the activities of credit unions have been legally allowed in some states of the USA and Canada (Quebec, New York, Hampshire, Massachusetts, etc.).

Since in the late 19th century, the modern territory of Ukraine was under the rule of two empires – Austro-Hungarian (Halychyna, Bukovyna and Zakarpattia) and Russia (the rest of present-day Ukraine), the process of development of credit unions in them took place differently. It depended on the specifics of the spread of the cooperative movement in each of them, which was influenced by the level of development of the legal framework and the level of integration of these empires in the European financial space.

A similar impact in different parts of modern Ukraine was also observed in the development of the accounting system in enterprises. Thus, in the Austro-Hungarian-controlled Ukrainian territory, accounting developed under the significant influence of the German school of accounting. In contrast, the Russian accounting school was formed in the Russian-controlled part. On the one hand, the latter absorbed the best developments of Italian, German, French, and other accounting schools. On the other hand, they developed their original ideas and concepts implemented in practice. For example, F.V. Iezerskii developed the Russian triple accounting system for the study and implementation of which special courses were organised, which during 1874-1899 taught thousands of applicants (in recent years, 300 of them in St. Petersburg and Moscow each), in particular, 3 of which were from Zhytomyr (1899: 41).

Considering the multinational composition of the Austro-Hungarian Empire, which was also a typical phenomenon for the population of Halychyna, Bukovyna and Zakarpattia, the development of the financial sector in these areas took place through the formation of networks of financial institutions on the national grounds (Jewish, Polish, Ukrainian, etc.). One of the main elements of such networks were

credit cooperatives and credit unions created based on the model of F. Raiffeisen (raiffaizenky), on its version improved by F. Stefchyk (Stefchyk credit funds), and on the model of H. Schulze-Delitzsch. Their active development influenced the spread of such non-bank credit institutions in these territories in the metropolis. Still, considering the problematic relations between the Poles and Ukrainians, there was a separate development of Polish and Ukrainian credit institutions.

Prof. S.Z. Moshenskii notes that in the 1870s, the idea of creating a network of Ukrainian credit associations arose and their main organiser, K. Levitskii, believed that each community should have its own bank, its own loan office (2014: 243). A significant event that influenced the development of credit unions was the creation of Patronage under the Autonomous Government of Halychyna, which facilitated their organisation based on the model by F. Raiffeisen and supervised their activities.

Compared to the Polish, Ukrainian credit associations were not numerous, only a few dozen. The number of such associations increased significantly at the end of the 19th century. As a result, in 1896, the first Credit Associations Union (The National Credit Union) was created, which served as a central bank (lending, accepting investments, performing supervisory and auditing functions) and, in fact, merged the credit unions of Halychyna into a single financial structure.

One of the first cooperatives that researchers confidently refer to as a credit union was the *Vira* Cooperative, which was established in 1894 by a well-known lawyer, T. Kormosh, in Peremyshl, and was based on the provisions of the Austrian law. H. Schulze-Delitzsch's model was the basis of his activity as a credit institution. According to V.Ye. Shvets, the *Vira* Association played a significant role in spreading credit unions throughout the Ukrainian land. The purpose of these associations was to collect the population's savings and to support with credit all those who needed to expand the economy and, foremost, to purchase land. This form of financing was the salvation of the Ukrainian peasantry from the usurious capital. Thus, T. Kormosh became one of the first founders of credit cooperation on a larger scale because some credit associations have been known since 1875 (Shvets 2013: 363-364).

In the Russian Empire, the first credit unions appeared only after the liquidation of serfdom in 1865. The aristocracy and landowners who lived in Germany for a long time and returned home decided to create credit institutions on the model of H. Schulze-Delitzsch. By the end of the 19th century, the activities of credit unions attracted the attention of the government, which, in 1895, issued a law establishing a small-scale credit. It focused mainly on the organisation of cooperative credit. The State Bank and the Special Chancellery, in its turn, issued the model statutes of savings and loan societies that significantly contributed to the development and spread of credit associations throughout the empire, including in Ukraine.

Describing the process of the development of credit unions in the Russian Empire, A.V. Dukhnevych notes that the credit movement in Ukraine emerged in the 19th century during the Alexandrian reforms when due to the abolition of serfdom and the reorganisation of landlordism, peasants received their land and the

opportunity to manage it at their own discretion (2010: 53). A credit union opened in 1871 by G. Halahan in the Poltava province is considered the first officially established credit association. In 1874, a credit cooperative of German artisans was founded in Odessa. Over time, there was a need to centralise the activities of the credit unions. As a result, in 1901, in Berdiansk, A.A. Beretti initiated establishing the first in the Russian Empire Cooperative Credit Union, which generally contributed to the development of the cooperative movement. The accession to it allowed companies to unify activities and exercise joint control.

In 1904, the government established an independent body, the Department of Small Loans, responsible for organising, educating, and controlling institutions that provide such loans and filling with funds from the treasury. In general, this structure carried out many measures and implemented progressive initiatives that contributed to the development of credit cooperation in the Russian Empire.

With the establishment of Soviet power in the Russian Empire in 1917 and during the NEP, the development of credit cooperatives continued mainly due to credit and loan-saving agricultural and industrial cooperatives. However, A.V. Shchepotiev notes that with the introduction of the monopoly of the USSR State Bank on financial services, all credit unions were forcibly liquidated (the 30s of the 20th century) (2014: 14-15).

Thus, starting from the second half of the 19th century and at the beginning of the 20th century, the introduction and development of credit unions (cooperatives, associations, unions, cooperative public banks) begins in the vast majority of countries. The emergence of such new economic entities has necessitated the development of an accounting system to generate accounting information for decision-making on their management.

Today in the scientific literature, there is somewhat incomplete information on the construction of accounting systems in the credit unions in the period of their emergence in the late 19th – early 20th century. It does not allow to analyse the possibility of using its advantages in the current practice of credit unions in Ukraine. To solve this problem, it is necessary to investigate the accounting procedure and provide information to users on the activities of credit unions based on a comparison of the existing scientific papers on this issue by the representatives of different countries.

The procedure for accounting in credit unions in Ukraine, which was part of the Austro-Hungarian Empire, is possible to analyse thanks to the book of T. Kormosh, *Practical Textbook for Depository Societies* (1895). In addition to disclosing historical, theoretical and legal aspects of credit (deposit) companies, the work covers accounting and reporting issues. The accounting part of this work was compiled based on Polish sources, particularly the book by G. Chwat, *Popular Lecture on Double-Entry Bookkeeping (Italian)* (1894). The author does not go beyond the current system of double-entry bookkeeping.

As V.E. Shvets noted, T. Kormosh devoted Chapter 14, “Accounting in deposit associations” (the author considered accounting as record-keeping and bookkeeping),

to accounting and reporting issues. The author treats accounting as legal support of economic entities. At the time of the textbook preparation, the legislation forcing businesses to keep records and bookkeeping and having a precise regulation was already in force (2013: 365). In his manual, T. Kormosh integrated the then existing requirements for the activities of credit associations from regulators ("Związek towarzystw zarobkowych i gospodarczych") for accounting and reporting, based on a system of double-entry bookkeeping (in Italian form), with the model of credit unions of H. Schulze-Delitzsch.

The balance sheet structure of the Ukrainian credit associations operating in the Austro-Hungarian Empire allows us to analyse the study of S.V. Borodaievskii, who provides statistics on the turnover of various credit unions in 1908 (tab. 3.1).

Table 3.1. The structure of the balance sheet of Ukrainian credit unions for 1908 (compiled based on (Borodaievskii 1923: 190)).

Assets	*Liabilities*
Cash	Share capital
Loans	Reserve capital
Belonging income from associations %	Deposits
Real estate	Loans
Other articles	Profits
	Other articles

Analysis of the balance sheet structure (tab. 3.1) allows us to identify the main activities of Ukrainian credit unions in the early 20th century, ways to raise capital and areas of distribution of profits.

A similar structure of the balance is also proposed in the manual of L. Tvaretskii (1928: 210). It was developed based on the work of F. Stefchyk for "… the unions of savings and loans of the F.V. Raiffeisen's system" (1928). The presented balance is more detailed, indicating a specific development of the accounting system in credit unions in the early 20th century and the development of accounting in Halychyna. Thus, in the balance of Stefchik's cash desks, the following articles are disclosed in more detail: types of loans to members (script, promissory note); interest (due, overpaid, other); administrative funds (process, basic); debts to various entities (with the central treasury, with members); special funds (execution reserves, valorisation fund).

Various types of professional organisations and associations influenced the development of accounting in credit unions. Thus, in 1872, the Ministry of Finance of the Russian Empire approved the *Standard Statute of Loan and Savings Associations*; in 1896 – the Charter of Credit Associations, in which special attention was paid to accounting and reporting in such associations. Thus, in the latter, section VIII, "Reporting", was devoted to the accounting issue, which paid particular attention to the need to observe the requirements of the State Bank for accounting and reporting (Ustav … 1889: 11). The associations had to compile an annual report, which included income, expenses, and balances on the association's turnover and separately

for each type of such turnover. Within a month after the end of the reporting period (before February 1), such a report must be prepared and signed by the members of the Board. The procedure for compiling the report included an examination by the relevant council of the books and documents based on which it was formed. In case of non-compliance with the deadlines for the annual report, the audit board had to outsource this function at the board's expense.

In 1917, the Council of the All-Russian Cooperative Congresses developed a model charter of the cooperative credit union. Chapter VII, "Accounting and reporting", was devoted to accounting and reporting in these organisations. In particular, Paragraph 84 of the Statute states that the union must keep books, which include: a) General income and expenditure on all turnover of the union; b) Receipts and expenditures separately for each type of turnover of the union; c) Union accounts with each individual and institution. The audit committee checks with a detailed annual report on the union's operations and the balance of its turnover, as well as an estimate and action plan for the following year. The Board and the Audit Commission were given two weeks to review and approve the report, after which it was to be published in a prescribed manner (Primernuy ustav … 1917: 13-14). Thus, the presence of regulatory requirements for regulating the activities of loan and savings and credit associations, established through the regulation of the structure of the charter of such associations, has become a factor in developing their accounting system.

Due to the rapid rise of accounting thought in the Russian Empire in the early 20th century, such a tendency did not disappear with the advent of Soviet power. It continued during the implementation of the NEP. In this period, in addition to general literature, there also appears a large number of educational publications on sectoral aspects of accounting (S.V. Borodaievskii, F.B. Islankin, P.V. Kamkin, S.B. Smogorzhevsky, V.N. Fedorov, V.V. Khyzhniakov, A.V. Chaianov, etc.), in particular, the construction of an accounting system in credit unions. The need to disclose information about their activities and turnover in the "Systematic Data on Credit Unions" played an essential role in developing the reporting system of credit unions in the Russian Empire. This form was developed by the 19th Inspection Department of the State Bank and first published in 1903 (Borodaievskii 1923: 133). As a result of this innovation, the level of transparency of credit associations has significantly increased, necessitating paying even more attention to the issues of accounting for their activities.

S.V. Borodaievskii, in his work (1906: 30-32) notes that to manage the association well, it is necessary to keep books on the forms and rules established by the Department of Small Credit Affairs. At the same time, the author also emphasises the need to select high-quality accountants who would ensure the maintenance of books and reporting to the association. The primary purpose of accounting in loan and credit unions was to summarise their income and expenses and determine the annual result of activities, which should be reflected in the relevant report submitted to the Board for approval.

F.B. Islankin published the book (1925) mainly devoted to the activities of credit unions. The author focuses on the practicality of applying the American accounting system, which allows taking into account, more fully and clearly, the associations' economic turnover (operations). Unlike other similar publications, this paper reveals in detail the features of accounting for the main objects used in the activities of credit unions (capital (nominal, share, reserve, special), received and issued loans, making-ups, contributions of shareholders, property and securities, intermediary operations). To compile the relevant reports, the association's books should be closed at the end of the reporting period (month or year). The author proposed to submit quite voluminous monthly and annual reports of the association (they should include 14 separate chapters). The internal (from the general and subsidiary ledgers) and off-account information should form the report.

Having analysed this work, we can state that applying the American accounting system in the 1920s, F.B. Islankin developed a comprehensive theoretical and methodological framework for forming information support for the management of credit unions. At the same time, the author paid very little attention to the verification, approval, and publication of reports to meet the needs of external users and their transfer to credit unions.

Although the cooperative movement developed rather slowly in the United States, Canada, Great Britain, and British India in the mid-19th century, in the late 19th and early 20th centuries, with the gradual transfer of this practice from continental Europe and its legislative consolidation, credit activities unions became widespread. Given the significant development of accounting practice in these countries during this period and the emergence of thorough theoretical work of the founders of the Anglo-American School of Accounting (Ch.E. Sprague, H.R. Hatfield, W.A. Paton, P.-J Esquerre, G.D. Greeley, L.R. Dixie, F.W. Pixley, etc.), the necessary theoretical and organisational preconditions for building an effective accounting system in credit unions were created. Consequently, in the works of Anglo-American authors in the early 20th century, considerable attention is paid to the issues of accounting in credit unions.

So, H.W. Wolff, emphasising the desirability of introducing credit unions in the U.K., presents the example of the balance sheet of the Irish rural credit bank "Belmulet, co. Mayo" of 1896 (1898: 22), which differed by the complexity of building an accounting system and a sufficient level of analytical accounting information provided to users. Based on the analysis of this balance sheet, one can state that to manage such credit institutions, accounting information aggregation should be delivered in terms of three main areas: 1) cash flow (in terms of loans and deposits); 2) income and expenses (from borrowing and investing financial resources); 3) funds and effects of activities (reserves, net profit).

In the United States, in the initial stages of the development of the credit cooperative movement, the accounting systems in individual credit unions were formed in a somewhat simplified form. Thus, H. Michell, considering the peculiarities of building an accounting system in credit unions based on the model of

A. Desjardins, gives an example of the balance sheet of "Credit Fund. St. J.B. de Lynn " of 1914. Here, the assets included only loans and cash, and the following articles represent the liabilities: equity; preserved deposits; current year's income; entrance fees; reserve fund; security fund (1914: 10). This credit union was formed based on parishioners' contributions to assist those who need the most funds (purchase of houses, repayment of loans and interest on them, etc.). The analysis of the presented balance allows establishing that the union's management invested the received funds on which dividends were paid and created a reserve fund and a security fund to cover risks in case of non-payment of loans and interest on them by union members.

A.H. Ham and L.G. Robinson, in a manual for the study of cooperative banking, published in 1914, and based on the legislation of the state of New York on the activities of credit unions, developed a more thorough approach to building an accounting system in credit unions. To form a General Ledger, the authors proposed to open the following types of accounts: cash, shares, deposits, accounts payable, accounts receivable (loans made to members and repaid by them), interest (paid and received), investments (money in savings banks and other legal investments), expenses, profit and loss, guaranty fund, dividends, surplus (net profit that is not subject to distribution) (1914: 61). The authors proposed to summarise the final information on the credit union activities in the Report on the credit union, which consists of three parts (Summary Statement of Operations; Summary Balance Sheet; Summary Income Account) and allows you to analyse its activities in statics and dynamics.

A similar model of building an accounting system in credit unions can also be observed in the works of other English-speaking researchers. So, H.R. Crosthwaite (1916: 363-406), studying the practice of functioning of cooperative organisations in British India, considered the procedure for building an accounting system in them. Having revealed the general aspects of building an accounting system (the essence of accounting, structure and types of accounts (real and nominal), types of books, the order of the trial and final balance of the cooperative), the author reveals specific features of the cooperative bank activities, in particular, that its information system should include statistical registers and accounting books. The latter include the cash book, the book of receipts and payments, the books of issued and received loans, the books of long-term and current deposits, the general book, based on which it is possible to understand the structure of the balance sheet of such companies.

In addition to the development of accounting systems in credit unions, many English-speaking authors note the importance of the relationship between accounting information and the functioning of the corporate governance system of credit unions. So, A.H. Ham and L.G. Robinson (1914: 23), E.L. Whitney (1922: 27), and D. Tucker (1922: 236) write that a Supervisory Board must check the books and accounts of credit unions before they are submitted to the Board. At the same time, these authors completely ignore the possibility of an agency problem, which is manifested in the implementation of opportunistic behaviour by management, aimed

at satisfying their own interests rather than the interests of members of the credit union. It is justified by the lack of research that would state the gradual dispersion of ownership and control in American public companies in the early 20h century (which was later identified by A.A. Berle and G.K. Means in 1932) and the lack of negative consequences of such a problem, which became more apparent only with the beginning of the Great Depression in 1929. At the same time, solving the agency problem in credit unions through proper construction of the accounting system still remains one of the most pressing ones. It can be exemplified by the existence of a significant number of accounting frauds in American credit unions, which have occurred in recent years (Strozniak 2013), which necessitates research in this area.

Conclusions to Chapter 3

1. One of the factors of the external environment that influences the development of the national accounting system is military action, which affects both their direct participants and other entities whose activities are under the influence of war. As a result of the analysis of scientific publications, it is possible to allocate the following directions of development of accounting in the conditions of implementation of military actions: 1) Accounting for the subjects of military actions; 2) Accounting for enterprises that perform a supporting function during military conflicts; 3) Accounting for the property of enterprises whose activities were under the direct influence of military actions; 4) Accounting as a political tool in the implementation of military conflicts. In the context of military actions, the transformation of the existing approaches to the organisation of accounting in the direction of its simplification happens, as well as the adaptation of the methodology of accounting for assets and liabilities due to changes in the normal operating conditions of enterprises. In the context of hybrid warfare, improvements are needed in the method of valuation of uncontrolled assets and the practice of valuation of specific assets, the implementation of contracts for the operation of which was threatened due to opportunistic behaviour of counterparties or changes in regulations of enterprises.

2. As a result of the analysis of the evolution of the system of normative regulation of the order of formation of financial reporting by segments in the world, three main stages were identified: 1) Initial accumulation of means of regulation; 2) Improving accounting standards by the practice of decision-making based on segment accounting information by external and internal users; 3) Final harmonisation of accounting standards based on the application of the management approach. Two main groups of problems related to the formation process of accounting segment information are identified and analysed: 1) General problems of information formation by segments; 2) Domestic problems of information formation by segments. Solving the identified problems will improve the reporting process based on the segment approach and will increase the effectiveness of decisions made by users of segment accounting information.

3. An analysis of the historical development of the accounting system in credit unions around the world in the second half of the 19th – early 20th century revealed that the system had been constantly improved through the use of accounting innovations that emerged during this period. The development of the accounting system of credit unions in the Ukrainian territories was determined by the peculiarities of the development of accounting thought in the states part of which they were at the study period (Austro-Hungarian Empire, Russian Empire, Soviet Union). The accounting method used in the activities of credit unions was influenced by the model of credit unions used (model of F.W. Raiffeisen, model of H. Schulze-Delitzsch, Stefchyk's credit offices), understanding of the essence of credit unions as cooperatives, associations, unions, cooperative public banks, as well as the level of development of regulatory accounting in a particular country. The structure of balance sheet items of credit unions in different countries during the study period is not the same, depending on the size of credit unions, their types, the number of information needs of their management and the peculiarities of the financial market in a particular country.

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Monograph