



## International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at <http://www.serialsjournal.com>

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Volume 15 • Number 16 • 2017

### Improvement of Performance Evaluation of the Fixed Capital Consumption in the Russian National Accounting System

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#### ABSTRACT

The relevance of the analyzed issue is caused by the necessity to improve the Russian national accounting in details, particularly to assess the fixed capital consumption. The purpose of the research is a comparative analysis of methodological guidelines, a detailed coordination of the two systems of the Russian national accounting, improvement of accounting and performance evaluation of the fixed capital consumption. The main results are the comparative characterization of the main provisions of accounting and statistical reporting for the further convergence of national accounting systems. The data of the article may be useful to harmonize methodological indicators of macroeconomic statistics with indicators of financial statements and to determine the performance evaluation of the fixed capital consumption, which is the closest to the international standard.

*JEL Classification Codes:* B41; C82.

*Keywords:* Amortization, fixed assets, fixed capital consumption, system of national accounts.

## 1. INTRODUCTION

### 1.1. Establishing a Context

Differences in the Russian methodological positions of accounting and statistics necessitate their coordination and harmonization with international standards. In the Russian accounting system it is impossible to assess impairment of value of depreciable facilities for various reasons of their obsolescence, while in the methodological positions of the latest version of the SNA this issue is given special attention.

## **1.2. Literature Review**

Scientific works of I. I. Veretennikova (2004), N. A. Savelieva (2004), I. A. Blank (2002) are devoted to the methods for calculating depreciation and amortization policy influence on financial results of organizations. The influence of calculation methods and timing of fixed assets on the amount of the depreciation fund was analyzed by S. V. Antonov (2015). Researchers G. R. Khasaev & V. A. Tsybatov (2012) paid special attention to the calculation of the index of the fixed capital consumption while calculating the indicators used for the simulation and prediction of social and economic phenomena and processes at the macroeconomic level.

## **1.3. Establishing a Research Gap**

The distinctive features of national accounting systems suggest that in the understanding of the nature and composition of fixed assets there is a real opportunity to take into account all main assets. In value terms and assessment of fixed assets there are differences that cause some difficulties in comparing these two accounting systems. The practical side of the statement formation in individual businesses and organizations actually has a much larger number of methodological differences in some positions in the accounting of fixed assets.

For a detailed harmonization of the Russian national accounting systems it is necessary to introduce gradually new provisions of the national accounting using the new “statistical unit”. This will improve the calculation quality of industrial production indices, and will make them more uniform and comparable at national and regional levels.

## **1.4. Stating the Purpose**

The purpose of the research is a comparative analysis of methodological guidelines, a detailed coordination of the two systems of the Russian national accounting, improvement of accounting and performance evaluation of the fixed capital consumption.

In 2015, in Russian State Statistics there is an active implementation of SNA 2008 provisions. Special attention is paid to a gradual transition to a new “statistical unit” in the Russian national accounts. The transition from an entity to a small production unit (institution) is dictated by the need to improve the accuracy calculating macroeconomic indicators.

Since the state of macroeconomic statistics, a system of indicators, their calculation and analysis effect the quality of information at all levels, there is a need for a more detailed improvement of the Russian national accounting, particularly in performance evaluation of the fixed capital consumption.

## **2. METHODOLOGICAL FRAMEWORK**

### **2.1. Research Methods**

In the course of this research the following methods were used: theoretical (analysis, synthesis, dialectical method, scientific method of comparison); empirical (observation, comparison, measurement); methods of macro-economic statistics and accounting (methods of national accounts systems, balance method).

## **2.2. Experimental Research Base**

The experimental research base included different kinds of economic activities by the Russian Classification of Economic Activities (NACE) in the Samara region.

## **2.3. Stages of Research**

The conducted research of the two systems of the Russian national accounting was carried out in 3 stages:

1. The study of the literature on this issue, the official forms of reporting and methodological provisions of statistics and accounting, the Federal Law № 402-FL “On Accounting”, applicable regulations, and International Financial Reporting Standards.

The information contained in the above information sources allowed passing to the second stage.

2. Comparison of individual items in the system of statistical and accounting indicators allowed establishing the distinctive features of the national accounting systems.
3. Definition of white spots in the issue of methodological harmonization of statistical indicators with indicators of financial statements may be aimed at improving performance evaluation of the fixed capital consumption closest to the requirements of the international standard system of national accounts.

Differences in the Russian and international statistical methodology, that cause difficulty matching with international standards and methods of their formation, are largely overcome in the past years while testing the version of SNA 1993. However, conceptual provisions of SNA 2008 contain new provisions at levels of details and aggregation of data relating to financial instruments and a more substantial convergence of gross domestic product indicators and results of some companies’ activities (Stepanova, 2014).

Methodology of SNA determines calculation of individual indicators on the “gross” and “net” basis. This special place is given to formation of the indicator “fixed capital consumption.” In the scorecard of Russian accounts the “fixed capital consumption” occupies an important place, as it is one of the most difficult elements of SNA, both in terms of its conceptual definition and in terms of its calculation in practice. The fixed capital consumption is not an aggregated value of operations. According to methodological guidelines of SNA 2008, the fixed capital consumption is the imputed cost, the economic substance of which is different from entries in accounts, reflecting primarily market operations (The system of national accounts, 2008). For this reason, the main balancing items in national accounts are always reflected on the gross and net basis. These methodological principles are stored in SNA 2008, where the balancing items, starting with the value added and finishing savings should be calculated on the gross and net basis. Following the account procedure it is easier to assess the values of indicators on the gross basis, that’s why they are more reliable but indicators calculated on the net basis, from a conceptual point of view, are more suitable for analytical purposes. Thus, this position takes a special place in arriving of the national wealth, in assessment of which, fixed assets should be recognized by costs after deduction of the fixed capital consumption (FCC). The relevance of the FCC values is determined by the relevance calculating the scorecard in modeling and forecasting of social and economic phenomena and processes at the level of macroeconomics (Khasaev & Tsybatov, 2012). Determination of the residual value of fixed assets is one

of troublesome problems in Russian statistics of national wealth, as the definition “depreciation”, used in Russian accounting, does not meet methodological principles of SNA.

### **3. RESULTS**

#### **3.1. Directions to Develop the Methodology of the “Fixed Capital Consumption”**

In the Russian accounting system accrual of depreciation was a regular practice in the XIX century, and it was defined in regulatory provisions on the state mining tax in 1898 (Veretennikova, 2004). Depreciation was considered as a source (reserve) that is used to renew machinery, equipment as “a regulative”, which represents a decrease in the cost of depreciable assets and at the same time links expenses to income. With development of economic science, there were changes in approaches defining the essence of depreciation both in terms of economic substance, a circle of depreciable assets and in approaches to determine the values of accumulated depreciation.

In foreign economic literature the authors distinguished: accounting, financial, tax depreciation. Accumulated objects and types of depreciation are interpreted fairly wide (Savelyev, 2002). Depreciation of the share capital is popular when the company pays off a part or full share denomination to its savers in advance. Depreciation of the share capital is used to attract mobile capital into the sphere of advanced research activities with a high risk. Using depreciation of losses and expenses, enterprises are supported to get overhaul. Repair involves some expenses and a long period (up to several years) of repair works. Therefore, the company can transfer these costs to be debited from the deficit year to future periods (not more than five years). At the same time cost cutting and growth of profits for the current year does not involve an increase in tax payments. Another example is depreciation of receivable requirements that is applied in case when the debtor proved to be untenable, and the bankruptcy process to meet requirements is unprofitable for this organization. In this case, the organization has the right to refuse to collect debts, to take on unplanned losses to write off illiquid receivables and introduce them to unplanned expenses with a decrease in the taxable base. In foreign practice of some countries there may also be depreciation holidays. They are used for businesses that face a difficult financial position. In this case, the company has the ability to deduct depreciation from taxable income, and as soon as the company solves its problems, it can include it in depreciation. Depressive depreciation method is a more rapid depreciation charge of equipment at an early stage by multiplying linear depreciation norms for higher rates.

In the Russian accounting and economic practice the circle of depreciable property is much narrower and is defined by National classification of basic funds (National classification of basic funds, 1994). Depreciation, which was operating in conditions of centralized economy, was characterized by the following rules applicable to fixed assets: depreciation rates were set in the same manner on the basis of reference rates of depreciation charges; there was only a single method of calculation - linear or uniform; there were two norms of depreciation - for overhaul and complete restoration (renovation); depreciation was to be classified in costs of goods, works and services; depreciation was carried out during the actual life of fixed assets; at the national level there was a free redistribution of the depreciation fund (in part “for renovation”) between companies. Under the socialist system of economy depreciation was defined as “the process of transferring the value of labor instruments according to wear on the manufactured product and use that value for subsequent reproduction of labor equipment. The need in depreciation depends on features of

labor equipment in the production process: it works in a number of production cycles, while maintaining its natural form. There is some cost of labor equipment in every new product, in proportion to its wear (Blank, 2002)”. Depreciation policy was formed at the national level so that enterprises do not have the opportunity to participate in developing their own policies regarding depreciation.

Significant changes in approaches to the process of depreciation in our country took place in the early 90-ies. With market relations, in accounting records of the chart of accounts there was abolished the account, which reflected the accumulated amount of the sinking fund; division of charge depreciation on the full restoration and overhaul was replaced by charges on full restoration of machines, equipment, vehicles and other objects over their useful lives. During this period, the carrying value of assets had to be transferred completely to production and distribution costs. Companies were able to keep depreciation in full. Also there was the possibility to use the accelerated method of depreciation of the active part of fixed assets (Antonov, 2015). Small businesses got additional benefits in the field of depreciation. Such innovations have expanded the rights of enterprises in the development and formation of depreciation policy in close coordination with the policies of the economic entity.

Further reforms of accounting and statistical practices at all levels in accordance with international accounting standards and reporting have determined the need for formation of indicators characterizing the process of depreciation of depreciable assets on the basis of international methodology in national accounting.

In modern accounting practice, the term “depreciation” is often used as an analogue of the term the “fixed capital consumption”, but it is deliberately not used in SNA, because in accounting depreciation is often used to reduce the original value of fixed assets, whereas in SNA the fixed capital consumption is determined on the basis of fixed asset assessment at current prices.

Methodological provisions of SNA 2008 define the fixed capital consumption as a decrease during the period of the current stock value of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or accidental damage.

The fixed capital consumption must be calculated for all fixed assets owned by the manufacturer, but not for valuables (precious metals, stones and so on. D.), which can be acquired due to the fact that their value is not reduced over time. The fixed capital consumption does not include depletion or degradation of natural assets, such as land, minerals, or other minerals, coal, oil, natural gas. It also does not include contracts, leases and licenses.

In the Russian accounting system it is not possible to assess the cost reduction of depreciable facilities for various reasons of their obsolescence, while in the latest version of methodological positions of SNA this issue is paid special attention. The value of assets may not decrease just because they wear out physically, but also due to reduction in demand for their services as a result of technological progress and emergence of new types of fixed assets. In practice, many structures, including roads and railways, are demolished and scrapped due to their obsolescence. Although the service life can be long enough for some kinds of facilities, such as roads, bridges, dams, and so on. They cannot be regarded as eternal. Thus, the fixed capital consumption should be calculated for all kinds of structures, including those ones which are owned by government organizations, as well as machinery and equipment.



While implementing the previous version of SNA 1993 in Russian practice it was difficult to achieve the unity in methodological accounting and statistics of the national accounting system, since there was a lack of necessary regulatory and legislative documents. At the initial stage of accounting reforms in statement formation for official reporting forms of fixed assets, enterprises and organizations followed these provisions on accounting: “Accounting of fixed assets”, “Intangible assets accounting”, “Accounting for research, developmental and technological work.”

### **3.2. Harmonization of National Accounting on the Basis of Methodological Principles of SNA 2008**

The subsequent reforms of the accounting system were carried out with a closer coordination with the system of statistical records. The coordination of accounting was based on the unified system of methodological principles of SNA-based International Financial Reporting Standards (IFRS) and as a result it was possible to achieve substantial convergence of national accounting systems based on methodological principles of SNA 2008. At present, it should be admitted that methodological principles of statistical accounting of fixed assets in basic positions correspond to principles of accounting of fixed assets. Accounting principles of assets related to fixed assets in statistics, as set out in the Federal Law № 402-FL “Accounting”, are successfully combined with previously existing regulations and are supplemented by new ones: Regulations on accounting “Accounting of expenses for development of natural resources” RAS 24/2011 and Regulation of the Bank of Russia on July 16, 2012 № 385-A “Accounting rules at credit institutions located on the territory of the Russian Federation.” Following the order of the Russian Ministry of Finance 25.11.2011 № 160n in Russia there have been enacted International Financial Reporting Standards (while there have been continuing actions of RAS), including: IFRS (IAS) 16 “Fixed Assets”; IFRS (IAS) 17, “Leases”; IFRS (IAS) 36 “Impairment of Assets”; IFRS (IAS) 38 “Intangible Assets”; IFRS (IAS) 40 “Investment Property”; IAS (IFRS) 3 “Business Combinations”; IAS (IFRS) 6 “Exploration and Evaluation of Mineral Resources”; and IFRS (IFRS) 13 “Fair Value Measurements.” Introduction of these documents into the Russian national accounting practices substantially concretized ways to assess and re-coordinate assets and operations of accounting and gave an opportunity to the Russian statistics to form many mezo and macro indicators on the basis of financial statements of entities. Considering provisions of these documents, Rosstat has improved the procedure for forming the data of the Russian statistical reporting system. In particular, it is possible to introduce new requirements on accounting data aggregation and on its base to form the federal statistical observation №11 “Data on presence and movement of fixed assets (funds), and other non-financial assets” (Approval of instructions for completing the forms of Federal statistical observation № 11). However, it should be noted that the progress that takes place in convergence of national accounting systems, determines a lot of work in further improvement. Comparison of individual items in the scorecard of statistics and accounting is presented in Table 1. The distinctive features of national accounting systems allow the authors to conclude that in the issue of the nature and composition of fixed assets there is a real opportunity to choose necessary information from the accounting data and reporting on fixed assets. There are differences in issues of value and valuation of fixed assets, which cause some difficulty in comparing these two accounting systems. The practical side of reporting forms at the level of individual companies and organizations actually has a much larger number of methodological differences on individual items in accounting of fixed assets, since in addition to requirements for the statement formation in accounting reporting of financial statements, companies and organizations need to comply with tax laws and form indicators for tax reporting forms.

**Table 1**  
**Comparative characteristics of the main provisions in accounting and statistics**

<i>Compared positions</i>	<i>Methodological positions of statistics</i>	<i>Methodological positions of accounting</i>
Definition of fixed assets (based on OKOF)	Fixed assets are produced assets that are used repeatedly or continuously over a long period, but not less than for one year to produce goods and provide market and non-market services. Fixed assets consist of tangible and intangible fixed funds.	
Composition of fixed assets	is determined by reference for completing the statistical reporting №11. The material object FA is defined as an object with all fixtures and fittings or a separate structurally isolated object intended to perform certain independent functions, or an isolated complex of constructively articulated objects that represent a single entity and are intended to perform specific tasks. According to the library fund, the subject of classification is the library fund of the organization rather than individual editions. The cost of capital investments in inseparable improvements of leased assets that have been made for a year (organization-lessee, unless it is unstipulated in the lease agreement) is analyzed by types of fixed assets. In intangible fixed assets - intellectual property and products of intellectual activity, it is possible to emphasize “subsurface exploration and evaluation of mineral resources, including search produced intangible assets”.	Assets in f.1.of the balance sheet: a) under the article “Intangible Assets”: assets related to intellectual property, objects of intellectual activity, the use of which is restricted by legal protection (patent, copyright, related rights, etc.), or other protection; as well as those for which the organization does not have exclusive rights, b) under the line “Fixed assets”: buildings, machinery, equipment and other fixed assets; -carry-over construction, in terms of facilities for their own use, or paid by the customer; c) under the line “Income-bearing investments in tangible assets”; g) under the article “Tangible search assets”; d) under the article “Research and development”; e) under the article “Intangible search assets”.
Indication of leased fixed assets	Indication of leased fixed assets is reflected in the form of statistical reporting, under condition that the same objects cannot be taken into account both by the lessor and the lessee.	Leased fixed assets (funds) are reflected in statistical reporting of those organizations in which they are recorded on the balance sheet as fixed assets (funds).
Assessment of fixed assets	Fixed assets are stated at a full account and net book value. The net book value of fixed assets reflects changes in the status of fixed assets, their gradual loss of consumer properties and cost of in-service by the forces of nature and as a result of technical progress, in the amount of accumulated depreciation. The net book value of fixed assets is equal to difference of their total book value and the amount of accounting depreciation, accrued (defined) for the entire period since the beginning of relevant facilities’ operation, taking into account their changes as a result of revaluations and impairment.	The original value of fixed assets (funds) and its subsequent amendments are defined by a large number of accounting regulations, and in some cases by IAS, depending on the type of asset. Accounting Regulations determine the change of the original value of fixed assets in which they are accepted for accounting. The cost of fixed assets (funds) is repaid through depreciation. IFRS allow organizations to select the right accounting model: the cost model or revaluation.

*Source:* It is made by the authors

#### 4. DISCUSSIONS

Scientific works of I. I. Veretennikova (2004), N. A. Savelieva (2004), I. A. Blank (2002) are devoted to the methods for calculating depreciation and amortization policy influence on financial results of organizations. The influence of calculation methods and timing of fixed assets on the amount of the depreciation fund was analyzed by S. V. Antonov (2015). Researchers G. R. Khasaev & V. A. Tsybatov (2012) paid special attention to the calculation of the index of the fixed capital consumption while calculating the indicators used for the simulation and prediction of social and economic phenomena and processes at the macroeconomic level. The considered aspect of coordination between the two systems of the Russian national accounting to identify the areas for improvement of accounting and performance evaluation of the fixed capital consumption has not been considered in previous studies.

#### 5. CONCLUSION

In Russian statistics of national macroeconomic accounts to assess the parameters of the fixed capital consumption in 2011 the authors used “Guidelines for calculation of the fixed capital consumption”, allowing, using refinement calculations, the authors to obtain more approximate values of the fixed capital consumption to requirements of international standard SNA. This possibility does not exclude the need for a more detailed harmonization in the Russian national accounting systems and gradual introduction of new provisions of national accounting, the use of the new “statistical unit” in the Russian national accounts will improve the quality of calculating industrial production figures, to make them more uniform and comparable at national and regional levels.

#### Acknowledgements

The team of the authors is grateful to lab researchers of complex regional research at SSEU for cooperation, because they have provided information on forming the system of indicators of the regional development and lighting the controversial issues.

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