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**RUSSIAN STATISTICAL PRACTICE OF VALUATION AND REVALUATION OF FIXED ASSETS.
IMPLEMENTATION OF THE SNA PRINCIPLES IN THE FIXED ASSETS STATISTICS**

Supporting paper submitted by Goskomstat of Russian Federation*

Introduction

1. The Russian Federation has experience in compiling the fixed assets balance sheets in book value and residual value in constant prices and in average annual prices of the respective years. The data on fixed assets of large and medium size enterprises are collected through complete census. A sample survey was conducted in 1999 to collect data on small businesses. The estimates of the age structure of the fixed assets are obtained with the help of mathematical modeling on the basis of the perpetual inventory method, as data about the age of the fixed assets are not available.

The most important problem of the fixed assets accounting has been their revaluation to compensate for inflation

2. In the situation of a transition economy and high inflation, it was necessary to undertake revaluations of fixed assets more often. Fixed assets were revalued on 01.07.92, then on 01.01.94, and after that annually, at the beginning of each year.

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3.   In the course of the four consecutive revaluations the book value of the fixed assets increased by a factor of 19, 20, 4 and 2.6 respectively, and for the whole period (with the account for the changes between revaluations) their book value grew by a factor of 5900 as can be seen in the table below:

Gross book value of the fixed assets

	Billion denominated rubles	Growth factor to the previous value	Growth factor to the value on 01.07.92 before revaluation
01.07.92 before revaluation	2.2	1	
01.07.92 after revaluation	41.3	19	19
01.01.94 before revaluation	63.5	1.5	29
01.01.94 after revaluation	1277.7	20	578
01.01.95 before revaluation	1184.7	0.9	536
01.01.95 after revaluation	4729.3	4	2140
01.01.96 before revaluation	4916.3	1	2225
01.01.96 after revaluation	12936.2	2.6	5854

4.   The indexes for the fixed assets revaluation were calculated by groups of fixed assets on the basis of the available price indexes for capital goods (products of machine-building industry and construction materials), construction and installation works and equipment as items of capital investments. The fact that the replacement value of older types of machinery, equipment and buildings was growing slower than that of the new objects was taken into account. The revaluation indexes for older fixed assets were lower than for the new ones. The index method of revaluation allowed doing it rather fast.

5.   In order to increase the precision of the results, it was allowed to carry out the revaluation using a more precise method of direct valuation. It was done on the basis of the documented data using the market prices for new assets, similar to the valued ones. The expert estimates of professional valuers, who apply the replacement cost valuation methods, were used. In the cause of the revaluation of 01.01.97, out of the total value of the fixed assets of large and medium size enterprises, almost 50% of the fixed assets were revalued by a direct revaluation method.

6.   Due to a noticeable decrease in the inflation rate in Russia before the August 1998 crisis, some regulations were issued which allowed a transition from

the mandatory revaluation of fixed assets to voluntary ones. However, voluntary revaluation did not spread wide enough (only 2-6 % of the enterprises undertook it), which can be explained by the prevailing short term interests of the majority of enterprises over their long-term investment interests.

7.   Meanwhile prices for capital goods started growing fast after the crisis. In 1998-99, prices for machinery and equipment grew by a factor of 1.9 and prices for construction materials — by a factor of 1.5. As a result, larger and larger part of fixed assets appeared to be unrealistically estimated. The share of depreciation of fixed assets in the total costs of enterprises started decreasing noticeably. In industrial enterprises, in 1990 depreciation comprised up to 12% of the total costs, in 1997 — 8%, in 1998 — 7%, and in Q3 1999 — 4%. So, while costs of purchasing raw materials, energy, etc., have been growing along with inflation, depreciation has been artificially understated; it distorts the enterprise cost structure.

8.   Increase in value of fixed assets falls behind the real price growth, it impedes accumulation of depreciation funds and timely renovation of fixed assets, distorts the tax base, complicates the decision making process at micro- and macro levels.

9.   In the situation, when mandatory revaluations of fixed assets are not done, the SNA estimates of capital formation and capital consumption are obtained by recalculating mixed book value of fixed assets using a method of statistical revaluation, that is using price indexes of capital goods. However, the increasing uncertainty in valuation of fixed assets damages the quality of these calculations. Similar difficulties arise in obtaining other indicators, where a value of fixed assets is a constituent. It complicates the time series analysis, international comparisons, etc.

10.   The International Accounting Standard (IAS) No.16 stipulates that the "frequency of revaluations depends on the changes in the true value of fixed assets. When the true value of revalued assets differs greatly from their book value, additional revaluation is needed. For some types of fixed assets, their true value may fluctuate significantly; these types of assets require annual revaluation. Such frequent revaluations are not needed for assets with slow changes in their true value, these types of assets may be revalued every three to five years".

11.   In the IAS 29 "Accounting for Hyperinflation" it is said that in the situation of hyperinflation there is no sense in presenting profit and loss statements and financial statements in local currency without revaluation.

12.   The following characteristics of hyperinflation are given in IAS-29:

-    the majority of the population prefer to keep their savings in non-monetary assets or in relatively stable foreign currency. Prices may be set in this currency;

-    sales and deliveries on credit are done at such prices which compensate for the expected loss of purchase power during the credit term, even if this period is short;

-    interest rates, wages, and prices are tied to the price index;

-    the total inflation rate for three years approaches or exceeds 100%.

13.   After 17 August 1998, the inflation situation in Russia had the above features. In this connection, Goskomstat of Russia sent a letter to the economic agencies with a proposal to consider the issue of developing a schedule for conducting revaluations of fixed assets. This schedule may assume annual, as of beginning of the year, revaluations on a voluntary basis, if prices for capital goods for the period after the last mandatory revaluation do not exceed a certain level, say, 20%. If the price indexes for capital goods exceed the stipulated level, then fixed assets of all legal entities should be subject to a mandatory revaluation.

14.   Moreover, it would be expedient to improve the methodology of fixed assets revaluation. Fixed assets still contain many objects acquired in the time of the planned economy, which do not fit into the market economy. This complicates the estimation of the real value of fixed assets. It is not advisable to estimate the replacement value of useless assets. An extensive market valuation of fixed assets (using the most probable free market selling price, with the account for the income from assets' operation) is unrealistic for two reasons:

—   First, at present in Russia there is not enough information for determining market value: a large number of enterprises are not profitable, the expected income from the operating fixed assets is hard to determine, there are not enough data on sales value of fixed assets as their secondary market is undeveloped. Values obtained by cost accounting method, income method, and by comparing purchases of many objects differ too much, and do not allow obtaining a single estimate of a market value.

—   Second, undertaking the extensive and regular market valuations of fixed assets, in principle, coincides neither with international, nor with Russian accounting principles; it is hardly realistic even in the situation of a market economy.

15.   Therefore, there is a need in developing and implementing an approach to determine book value of fixed assets using the cost approach, but applying adjustments, discounts, and coefficients which will allow taking into account different profitability and different degree of adaptation to the market economy in various industries.

16.   In accordance with this approach, at first, full residual value of fixed assets could be determined by a direct valuation method or with the help of indexes, and after that, various adjustment coefficients could be applied. These coefficients are to be set in a centralized way on the basis of the following considerations:

–   time of production and/or purchasing;
–   rate of the accounting depreciation;
–   industry, depending on the rate of decline of the indicator characterizing the industry's performance in comparison with, say, 1990;
–   investment ranking of a region;
–   a single characteristic of an enterprise performance (if it is possible to chose one).

17.   At the last stage residual book value could be estimated on the basis of the full book value and depreciation rate before the revaluation.

An important aspect of measuring the fixed assets is accounting for depreciation

18.   Depreciation rates which are used at present were approved in 1990, they are often obsolete, excessively detailed; for many types of fixed assets they do not correspond with the current rates of their outdating and replacement. The share of machinery and equipment which are fully depreciated but are not written off has reached one third in the total volume of fixed assets, and continues to grow. This demonstrates the existing problems with the renovation of fixed assets and the unrealistic depreciation rates for the majority of fixed assets. On the one hand, the actual service life of industrial equipment is two and a half times longer than the standard life. On the other hand, the actual length of an effective operation of, say, computers, has become much shorter than their standard life.

19.   It would be advisable to develop new standards for depreciation rates, which would take into account the international depreciation practices as well as the actual rates of wear and tear of fixed assets in Russia.

20.   Accounting for depreciation of fixed assets is very important from the point of view of improving the SNA estimates of capital consumption. At present, these estimates are obtained using a simplified method on the basis on

statistical data on depreciation of fixed assets and price indexes for capital
goods. In their turn, statistical data on depreciation of fixed assets are based
on the accounting data on depreciation.

21.   Under this approach, the capital consumption estimates are excessively
dependent on the applied depreciation rates and methods, which do not correspond
in full with the modern trends in wear and tear. Accounting for the fixed assets
that are unusable or ineffective in the situation of a market economy distort
the estimates of capital consumption. The methodology of obtaining estimates in
average annual and average quarterly prices needs to be improved as well.

22.   At the same time, a possibility is being considered for statistics to
account not only for full (gross) and residual (net) value of fixed assets, but
for their productive value. A straight-line depreciation method that has been
used in Russian accounting practices does not reflect a decrease in productivity
of fixed assets. Moreover, the actual length of service life of fixed assets
does not correspond with the standard service life derived from the acting
depreciation rates. As a rule, the actual service life is much longer.

23.   If, under liberalization of the depreciation policy, economic units are
allowed to apply the accelerated depreciation method, it will increase an
already noticeable gap between the residual value of fixed assets which, due to
new depreciation method, is declining fast in the beginning of the service life,
and the productivity characteristics which change slower during this period.
These characteristics tend to deteriorate at the later stages of operation due
to downtime caused by breaks and repairs. *Chart 1* shows changes in the fixed
assets residual value and in the characteristics of their productivity under
different depreciation methods.

**In the near future Russian statistics will have to develop a methodology for
reflecting the value of fixed assets in the SNA assets balance sheet**

24.   There is a problem with the fixed assets classification, which has to meet
the requirements of the SNA. Differences with the existing classification are
mainly those connected with the accounting for unfinished production, intangible
assets, and some cultivated fixed assets. Not all needed data are available at
present.

25.   Provision for intangible fixed assets was introduced in the existing
classification of fixed assets as a result of the Goskomstat's initiative.
However, in the accounting practices and, consequently, in the statistical
practices, intangible fixed assets are not separated from intangible non-
produced assets in the intangible assets. As there was no revaluation of
intangible assets, they are recorded at rather conventional acquisition prices.

26.   Data on unfinished construction are presented in the accounting forms for fixed assets; unfinished construction has been subject to revaluation together with fixed assets. So, the problem is to separate the items of unfinished construction which are, in accordance with the SNA methodology, included and/or not included in the fixed assets, and to obtain estimators for the full count of the economic units.

27.   To be able to separate cultivated assets representing live-stocks and perennial plants, which are included or not included in fixed assets in accordance with the SNA methodology, it is needed to introduce some changes in their accounting standards, or to develop a methodology for imputation.

28.   For compiling assets and liabilities balance sheet in the framework of the SNA it is necessary to account for the residual value of the economic assets in current prices at the date of accounting.
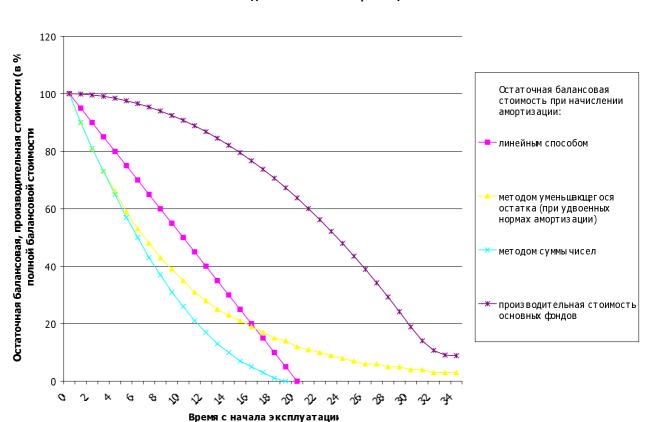
ANNEX

Chart
Residual value of fixed assets using various depreciation methods

Y - Residual book value, productive value of fixed assets (as % of the full book value)
X - Life of fixed assets

Residual book value using various depreciation methods
-   straight-line
-   declining balance (double declining)
-   sum-of-digits

-   productive value of fixed assets

Динамика изменения остаточной стоимости основных фондов при использовании различных методов начисления амортизации.