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Quantitative Methods in Accounting and Finance ISSN 1899-3192

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ESTIMATE OF FINANCIAL STOCKS IN THE HOUSEHOLD SECTOR

Summary: This paper discusses the concept of financial stocks with economic value, the flows that reflect changes in their economic value, and the accounting rules applied to the reporting on financial stocks. A definition of financial stocks in the household sector is considered. The requirements and methodical approaches to the calculation of indicators of financial stocks in the household sector of the Ukrainian economy are considered. The methodology of System of National Accounts in the partthree, "Financial assets and liabilities of households" is used. Financial assets and liabilities of households and their estimation is presented. The concepts of stocks and flows, and developing the rules for recording the changes in their economic value as part of the System of National Accounts are considered. An estimate of the level and dynamics of the currency indices of the financial stocks of the household sector of the Ukrainian economy is provided.

Keywords: financial stocks, household sector, indicators, Ukrainian economy.

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1. Introduction

Financial stocks of households are included in the category of decentralized financial resources, tightly connected to the circulation of financial flows in society as a whole. To estimate the financial stocks of households, we have to identify the parties that have requirements concerning the economic value contained in such stocks, or are changed by flows. In general, stocks measure economic value at a specific point in time, while flows measure the changes in economic value over a certain period.

Stocks must be reported on the balance sheet and in tables related to it, and flows reported on all other accounts and tables of the System of National Accounts (SNA) [U.N., 2009, p. 39]. Unfortunately, Ukraine does not yet have a practice of drawing up a balance sheet and related tables for the household sector.

To have a comprehensive, internally consistent system, all changes of the economic value of stocks between two points in time must be reflected in flows. To do this, we have to determine the concepts of stocks and flows, and develop rules for recording

the changes in their economic value as part of the System of National Accounts. These rules must provide for the internal consistency of the SNA concerning the value, recording the time and classification of stocks and flows.

The aim of this paper is to discuss the methodical approaches to the calculation of the indicators of financial stocks as economic value and the accounting rules applied to the reporting on financial stocks. These approaches are used to calculate the indicators of financial stocks in the household sector of the Ukrainian economy. The methodology of System of National Accounts in the part three "Financial assets and liabilities of households" is used.

2. Definition of financial stocks in the household sector

Stocks under SNA mean the existence of assets or liabilities at any given point in time [U.N., 2009, p. 39]. Stocks related to flows are a product of accumulation after the preceding operations and other flows, and they change as a result of the operations and flows in the current period. They are a product of continuous replenishment and diminishment, and of some changes in their volume or value, which occur during the period when such assets or liabilities are included in stocks.

An asset under SNA is an accumulated amount of value that generates economic gains, or a number thereof, which is received by the economic owner of the asset because of the ownership or use of the asset during a specific period of time [U.N., 2009, p. 39]. Assets can be financial and non-financial. For most financial assets, there are corresponding (financial) liabilities.

A liability arises when one party (debtor) takes up an obligation to make a payment, or a number of payments, to another party (creditor) under specific circumstances.

A household can select a smaller, but definite future gain, over a larger, but less definite gain. An especially interesting case is one where the household can exchange the gains and risks associated with production for the gains and risks associated with financial assets and liabilities.

The economic owner of financial assets and liabilities is an institutional entity (e.g. a household) that is entitled to claim economic gains associated with the use of the above objects in the course of economic activity, under the condition of certain risks. Each object has a legal and an economic owner, even though in many cases, they are the same. Otherwise, the legal owner transfers to the economic owner the responsibility for any risks associated with the economic use of the object, together with the appropriate gains. In exchange, the legal owner accepts another set of risks and gains from the economic owner.

The gains associated with financial assets and liabilities are rarely transferred unchanged from the legal owner to the economic owner. Usually they are transformed into new forms of financial assets and liabilities, owing to the mediation work of a financial institution which accepts some of the risks and gains while transferring their balance to other entities.

3. Financial assets and liabilities of households and their estimation

There is no concept of non-financial liabilities in the SNA, and therefore the term "liability" always applies to a liability that is financial in nature.

A liability arises when one party (debtor) takes up an obligation to make a payment, or a number of payments, to another party (creditor) under specific circumstances. The most common circumstance under which a liability arises is a legally binding contract, with clearly defined terms and timeframes for payments to make. Such a liability is unconditional, according to the contract.

Furthermore, a liability does not have to arise in connection with a contract. It can be permanent, exist during a long period, and be difficult to contest or refute. In such cases, the creditor has legitimate grounds to expect a payment, regardless of the absence of contract. In the SNA, such liabilities are called constructive liabilities [U.N., 2009, p. 42].

When any of such types of liabilities exist, the creditor has a corresponding financial claim to the debtor.

A financial claim is a payment, or a number of payments, which must made by the debtor to the creditor according to the terms of liability [U.N., 2009, p. 46]. Liabilities, like financial claims, are unconditional. Furthermore, a financial claim may exist that entitles the creditor to demand payment from the debtor, but while the debtor's payment is unconditional if demanded, the claim itself is discretional for the creditor (presented at the debtor's discretion).

Financial assets of households include all financial claims, such as cash, savings accounts, shares, bonds, etc. Under the SNA, shares considered financial assets, even though the financial claims of their holders to corporations do not constitute fixed or pre-determined monetary amounts.

Financial assets and liabilities arise when one entity takes up an obligation to make a payment to another entity. They cease to exist when the obligation of one entity to make payments to other entities no longer exists. This may result from the expiration of the agreement under which the obligation was determined, or from other circumstances.

Stocks must be estimated at their current purchase price, or at their production costs, adjusted for changes and events related to the products, which occurred after their purchase. Such changes include the consumption of fixed assets, partial exhaustion, depletion, degradation, unforeseen wear, contingency losses, or other unforeseen events. The same method must be used to estimate non-monetary flows and existing assets.

Stocks or flows that are created in relation to the use of assets can be estimated at the discounted real value of the expected future incomes. For some financial assets, particularly those whose nominal value is applicable to a specific point in the future, real market value can be calculated by discounting their nominal value using the

market interest rate. Therefore, with an acceptably reliable estimate of the flows future of incomes from the asset and an appropriate discounting rate, we can estimate the real value of the asset. However, seeing as determining the flow of future incomes with a sufficiently high degree of confidence can be difficult, and in view of the necessary assumptions of an asset's useful life and the discounting factor, other possible sources of the estimate should be considered before this method is used. Then, if using this method, we must carry out a sensitivity test for the assumptions we accept. In reality, the method most commonly used to estimate fixed asset consumption and fixed capital stocks connects the flow of future incomes with the depreciation of the fixed asset in the course of its use in production.

Even though the method for calculating net real value depends on the forecast of future income flows and the discounting rate, it is theoretically substantiated, which can be verified against a whole range of financial assets.

In the SNA, providing assets, services, labor or capital in exchange for foreign currency is reflected at the actual value of the exchange operation, agreed between the two parties in the operation. Flows and stocks in foreign currency are converted into the national currency at the average rate that exists at the time of their registration in the accounts, that is, at the time of the operation, at the time when other flows take place, or at the time reflected in the balance sheet. To exclude the payment for the currency exchange operation, we must use the average value between the buying and selling exchange rates.

Operations with financial assets and liabilities are registered in the prices at which they are received or sold. Operations with financial assets and liabilities must be registered in prices net of any commissions, fees and taxes, regardless of whether such are included in the buyer's price in any form, or excluded from the seller's revenue.

This is related to the fact that both the debtor and the creditor must reflect the same financial instrument at the same value, in their accounts. Commissions, fees and taxes must be reflected separately from the operation with financial assets and liabilities, as part of the appropriate items. The estimate of financial instruments, which excludes commissions, is different from the estimate of non-financial assets, which includes any expenses related to the transfer of title.

To determine the value of other changes in the asset volume, we must usually estimate the asset before and after the change, and calculate the difference that does not result from any operations and may be viewed as the value of other changes.

Other changes in the volume of financial assets and liabilities are recorded in the equivalents of market price for similar instruments. To reflect the retirement of financial instruments estimated at nominal value, their value recorded in the account of other changes in asset volume must correspond to their nominal value before retirement. In cases of a change in the classification of assets and liabilities, the values of the new and old instruments must be identical.

Holding incomes and expenses are estimated as total changes in asset, minus changes that can be attributed to changes resulting from operations or other changes in asset volume. Seeing as most financial assets have corresponding liabilities, either in the scope of the country's economy or concerning foreign entities, an important requirement of national account is that holding incomes in some sectors must have corresponding holding expenses in other sectors, and vice versa. A holding income arises when the asset value is increased, and the liability value decreased. Holding incomes or losses during the reporting period are reflected as net changes in holding incomes and holding expenses, and separately for assets and liabilities. In practice, the value of holding incomes and holding losses are calculated for each asset and liability during a period between two points in time: at the start of the period, when the asset and the liability are received or accepted, and at the end of the period, when the asset and the liability are sold or discharged.

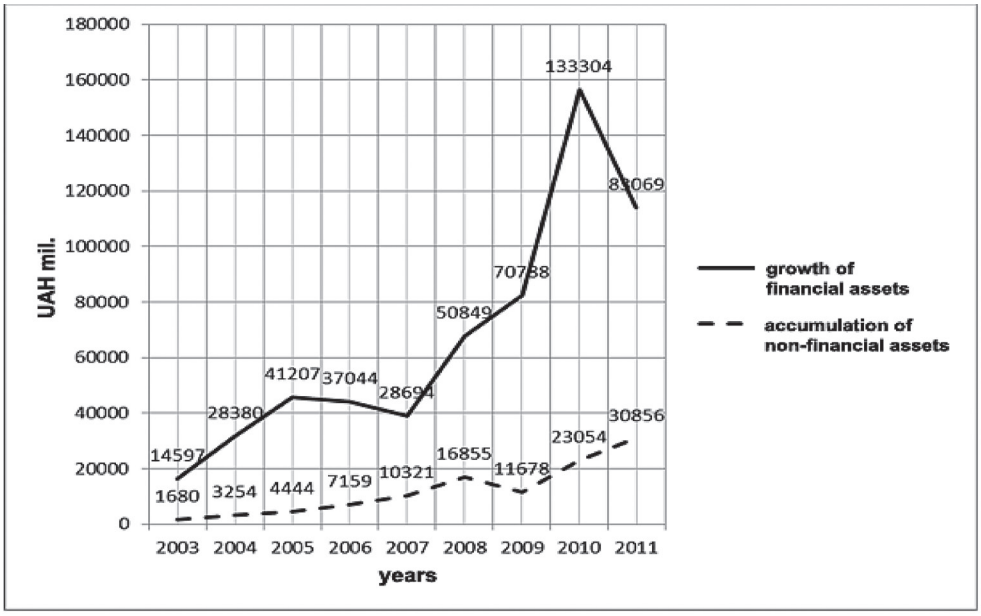

Fig. 1. Dynamics of non-financial asset accumulation and financial asset growth in Ukrainian households, 2003-2011

Source: calculated according to the data of the State Statistics Service of Ukraine, http://www.ukrstat.gov.ua/.

Analyzing the dynamics in the structure of the financial assets of Ukrainian households allows for showing a following trend: the increase in financial assets was mainly due to the growth of cash deposits and investment in securities (except in 2009). We also have to point out the considerable increase of the "savings in foreign

currency" ratio, starting from 2006, which indicates the growing mistrust of the population in the national currency as a keeper of value.

We also analyzed the dynamics of correlation between non-financial asset accumulation and financial asset growth in the households. The dynamics of correlation between financial asset accumulation and financial asset growth in Ukrainian households in 2003-2011 is shown in Figure 1. This indicates that purchasing financial assets became less risky and more profitable for households.

To determine the structure of the financial assets purchased by households, we will use the financial account for the household sector (Table 1). This data allows us to say that at present, households prefer monetary savings, namely, cash and deposits. There is also a large share of other receivables, as well as shares and other capital participation. The share of investments in other securities is low (approaching zero).

Table 1. Structure of net purchase of financial assets by households, in actual prices, 2010-2011 (percentage)

Asset types	2010	2011
Total financial assets purchased, including:	100	100
– cash and deposits	84.3	93.4
– securities, except shares	0.1	0.3
– shares and other capital participation	3.8	2.0
– insurance technical reserves	0.6	1.1
– other receivables	11.2	3.2

Source: calculated based on the data of the State Statistics Service of Ukraine, http://www.ukrstat.gov.ua/.

The fact that most households keep their savings in cash indicates the general instability of the macroeconomic situation in Ukraine and, in particular that the risk of investing savings in other assets is relatively high and not offset by their profitability.

Stocks of financial assets and liabilities must be estimated as if they were purchased because of market operations, on the day when the balance sheet was drawn up. A large portion of financial assets is regularly purchased and sold on the markets, which is why they can be estimated using direct market quotes. If financial markets are closed on the day when the balance sheet is being drawn up, the prices used for the estimate must be the prices that were prevalent on the latest past date when the markets were open. Debt securities have a current market value and a nominal value; for some purposes, additional data about the nominal value of debt securities can be useful.

To estimate the financial assets and liabilities that not sold or rarely sold on financial markets, the principle of market value equivalent must be used. For these assets and liabilities, we must estimate the fair value which is an approximation of the market price. The real value of future cash flows can also be used as an approximation of market prices, if an appropriate discounting rate can be used.

In the data provided by households, estimates of financial assets and liabilities can be based on commercial, administrative, tax or other accounting standards that do not fully reflect the market prices of the assets and liabilities. In such cases, the data must be adjusted to approach the market value of the financial assets and liabilities.

4. Conclusions

Analyzing the dynamics of the financial assets' structure in households revealed the following trend: the growth in financial assets resulted predominantly from the growth in cash deposits and investment in securities. Shares and other capital participation, as well as other receivables, also account for a significant percentage. Bank deposits are currently the most accessible of these instruments. This indicates that the risk of investing savings in other assets is relatively high and not offset by their profitability.

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