Broader Use of SNA Framework and Monetary Statistics for Household Financial Wealth Analysis

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Household financial wealth is one of the key indicators of household wellbeing. Analysis of financial balance sheet items of households can give the most comprehensive picture of financial wealth composition and savings in terms of stocks and flows. This data, combined with indicators from the System of National Accounts (SNA) and monetary statistics, has significant potential to improve user understanding of the major determinants of wealth accumulation. This integrated approach provides not only an overview of how households allocate income to consumption, saving, and investment but also provides researchers with important information regarding the various types of financial instruments used by households for their financial positions.

The main purpose of this article was to show the value of macroeconomic financial statistics in combining a set of household wellbeing indicators. We mainly used national accounts, namely the household financial accounts and financial balance sheets data of the Russian Federation to measure household financial wealth. We analyzed the dynamics and structure of Russian household financial assets and debt indicators, in addition to the financial positions of households in the SNA. We compared Russian household financial investments with similar emerging market countries' indicators. Then we focused on monetary statistics data to analyze the dynamics of households' debt. We conclude that the compilation of consistent data sets facilitates systemic analysis of households' income, expenditure, and financial transactions.

JEL: E21, D10.

Keywords: national accounts, household financial wealth, monetary statistics.

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[1] The views expressed in this paper are those of the authors and not necessarily represent the position of the Bank of Russia.

Introduction

During the last decade, following the 2008 financial crisis, closer attention was given to the reliability of the current set of macroeconomic statistics and their underlying concepts. A range of works provided analyses of available macroeconomic indicators and their ability to describe the economic cycles. They suggested further developments aimed at satisfying the needs of policy-makers, researchers, and other users of statistical indicators.

Many researchers pondered the adequacy of macroeconomic theory and statistics to foresee, prevent, or smooth a crisis. They questioned to what extent available macroeconomic statistics could have signaled a coming crisis at the time. Krugman (2018) noted that there were no serious lack of data but a lack of attention to the right data. He paid attention to the data on the financial side, primarily, on shadow banking activity, housing prices, and, more significantly, on household debt. The sharp rise in the latter during the first years of the 20th century before the crisis led to a conclusion about analyzing household debt sustainability.

Nevertheless, much earlier, when analyzing possible international comparisons, suggestions concerning the development of a statistical indicators system were proposed. Even in 1959, Goldsmith offered concise and distinct features for the statistical framework which contributed to the comparative study of economic growth and structure. He assumed that the recently developed system of national accounts could yield much for study and noted that classification and sectoring could provide full, sectoral, from-whom-to-whom matrices for stocks and flows. Nowadays, this is a main paradigm of compiling sectoral financial accounts and financial balance sheets. He developed a set of statistical concepts which could be statistically implemented from sectoral balance sheets, financial accounts, and supply & use tables. In other words, he suggested a panel of main statistical indicators to be used in a study of financial structure and development. Some of these indicators were included in the Financial Stability Board Survey launched after the 2008 crisis. Goldsmith also conveyed the necessity of household balance sheet data analysis (i.e. the analysis of wealth and holdings of financial assets; distributed by the size of income, age, and other characteristics of individual wealth owners). Thus, he gave a description of the core indicators further announced as distributional statistical indicators.

The Stiglitz-Sen-Fitoussi Report (2010) focused on the importance of statistical indicators for designing policy decision aiming at the progress of society, influencing at the same time the functioning of the economy. It was stressed that economic developments, including a broader use of new information technologies, improvements in education, and financial

innovations, had much influenced society as a whole, which ultimately augmented the use of statistical data to perceive trends and decision-making by a wide range of users. To satisfy the growing demand, the supply of statistics has increased considerably, covering new areas and phenomena, exploring new ways of data access and visualization.

The concepts underlying the statistical figures are of great importance. The Stiglitz-Sen-Fitoussi Report stressed concern about the relevant indicators as a measure of societal well-being. The authors contemplated the lack of a timely and complete set of wealth accounts, namely balance sheet data, and the misplaced focus on GDP as a measure of economic well-being in the pre-crisis years. They assumed that a different analysis outcome could have been made if it had been focused on metrics assessing the sustainability of the private sector. In effect, they proclaimed the necessity to establish a complex statistical system that could be provide a full set of metrics to measure well-being. They prepared a set of recommendations for countries concentrated more on well-being. The starting point should be household financial wealth, simultaneously considered with income and consumption indicators.

A variety of studies have analyzed household income, wealth, debt, and savings recently. In most cases, national accounts and household survey data were used. For instance, J. Honkkila and I. Kavonius (2013) provided a comparison of two data sources of household wealth for the Euro Area - the Survey on Households and the data of the System of National Accounts, presenting their advantages and disadvantages. B. Buck and K. Pence (2014) investigated the analytical value of panel survey data for a better understanding of the household wealth accumulation process and its determinants in the United States. One of the aspects of national accounting which deals with the statements that "debt accumulation is strongly linked to assets accumulation" was the main focus for the paper of C. Giron and M. Rodrigues-Vives (2017) to examine non-financial private sector leverage (including households) through the lens of cross-agent leverage interactions. Long-term net lending or borrowing position of the household sector in the United States were illustrated by Palumbo M.G. and J.A. Parker (2009) on the basis of national accounts data, specifically the National Income and Product Accounts (NIPA) and the Flow of Funds Accounts (FFA). R. De Bonis, D. Fano and T. Sbano (2012) demonstrated an interesting approach for using financial accounts data for international comparison. They provided the detailed analysis of household aggregated wealth in the main OECD countries, continuing studies in the context of Goldsmith's research and the Stiglitz-Sen-Fitoussi Report recommendations.

Thus, when analyzing household well-being, the first step is household financial wealth. The main purpose of this article was to show the value of macroeconomic financial statistics in combining a set of household wellbeing indicators. We mainly used national accounts, namely

the household financial accounts and financial balance sheets data of the Russian Federation to measure household financial wealth. We analyzed the dynamics and structure of Russian household financial assets and debt indicators, in addition to the financial positions of households in the SNA. We compared Russian household financial investments with similar emerging market countries' indicators. Then we focused on monetary statistics data to analyze the dynamics of households' debt. We conclude that the compilation of consistent data sets facilitates systemic analysis of households' income, expenditure, and financial transactions.

The paper is organized as follows. Section 1 describes the main sources to measure the Russian household financial wealth. The broader view on evolution of household financial assets during the period from 2012 to 2018 is presented in Section 1.1, including a more detailed analysis of the dynamic and structure of cash and deposits as the main component of household financial investments. We study also the development of household financial liabilities and debt composition, the role of bank and non-bank financial intermediation activity in household borrowing (Section 1.2.). Section 1.3 analyses Russian household financial net worth and net financial transactions. Section 2 discusses cross-country comparison of the household financial wealth indicators. Section 3 contains the main conclusions.

1.   Data Sources to Measure the Household Financial Wealth

Financial wealth is an integral part of the overall analysis of household wellbeing. Financial assets of households are an important source of their income, which provide their possibilities to receive the interest earning (or dividends) from investments in certain financial instruments. Changes in the structure and dynamics of financial assets can give the signals about the saving behavior of households, their preferences regarding the choice of instruments for investing money, which help to make indirect estimates of the development of various financial market segments and risk exposure of financial imbalances accumulation (for example, from the side of asset prices).

The Bank of Russia began to publish financial accounts and financial balance sheets of the System of National Accounts of the Russian Federation on annual basis from 2015 (starting from 2012). This new source of information provides an extended view on Russian household financial investments, financial liabilities and financial position. Analysis of household financial liabilities usually focuses on indicators of the household indebtedness.

National accounts data complimented with monetary statistics, which have a higher frequency, enrich household financial wellbeing analyses, providing additional opportunities for explaining trends and structure changes of household financial investments and liabilities.

Monetary statistics indicators shed light to the various segments of the banking sector and the financial market where household usually make their financial investment and borrowing.

Thus, monetary statistics data served as an additional source for more detailed analysis of the main components of financial assets and liabilities. We have focused our attention not only on "stocks" but also on "flows" indicators that allow us to look on household financial transactions from the assets and liabilities sides and to estimate the household net financial transactions.

The SNA financial balance sheet and financial accounts provide the most comprehensive picture of financial wealth composition and savings in terms of stocks and flows. These data combining with monetary statistics have significant potential to improve user understandings of the major wealth accumulation determinants. This integrated approach allows to give not only an overview of how households allocate income to consumption, saving and investment, but also provide researchers with important information regarding the various type of financial instruments used by households for their financial investments and borrowings.

In particular, these types of statistics were used to analyze household preferences concerning their portfolio shift. It allows estimating how the disposable income of Russian households transforms into the different types of financial assets (e.g., deposits, securities, insurance technical reserves or shares). On the other hand, household financial resources and its structure are important factors affecting households se expenditure, which in turn has an impact on their consumption and long-term investments.

Another significant aspect of household wellbeing is household financial liabilities, in particular dynamic and structure of their indebtedness, which influence household spending and consumption. In this regard, we combine information from the financial accounts and sectoral balance sheets of the System of National Accounts with the monetary statistics data. It could be effectively applied to present detailed description of Russian household financial liabilities for analytical purposes.

1.1. Household Financial Assets

Financial balance sheets of the System of National Accounts of the Russian Federation allow us to make estimations of the dynamics and structure of household financial assets[2] from 2012 to 2018 on annual basis. According to the System of National Accounts 2008 (SNA 2008)[3],

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[2] In this study, household sector includes households and non-profit institutions serving households (NPISH).

[3] System of National Accounts 2008 (European Commission, United Nations, Organization for Economic Co-operation and Development, International Monetary Fund, World Bank).

household financial assets (as well as financial assets of other sectors) are presented by the following financial instruments: currency and deposits, debt securities, loans, equity and investment fund shares, insurance pension and standardized guarantees schemes, other accounts receivable. Household financial assets are the important source of their income in the form of property income (such as interest earnings or dividends).

Household financial accounts and financial balance sheets of the System of National Accounts can give the additional view and complement the institutional monetary analysis with the information regarding how the household can invest money beyond the traditional allocation of funds into money supply components. "This set of accounts especially helpful when encompassing perspective of the money-holding sectors' financial investment behavior is required in order to monitor possible portfolio shifts"[4]. We use such portfolio balance approach to look at the Russian household sector wealth allocation decisions across asset classes.

During the period from 2012 to 2018 there was an increase of financial assets of the Russian households, but the rate of its increase varied depending on the type of financial instrument (Figure 1). The data shows that Russian households used currency and deposits as the main instrument of their financial investment, the second one were investments in equity and investment fund shares. We can note also the noticeable increase financial assets of households in form of insurance and pension reserves. At the same time, households show little interest in investing into debt securities compared to other types of financial assets.

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[4] Enhancing Monetary Analysis. Editors Lucas D. Papademos and J. Stark. ECB, 2010.
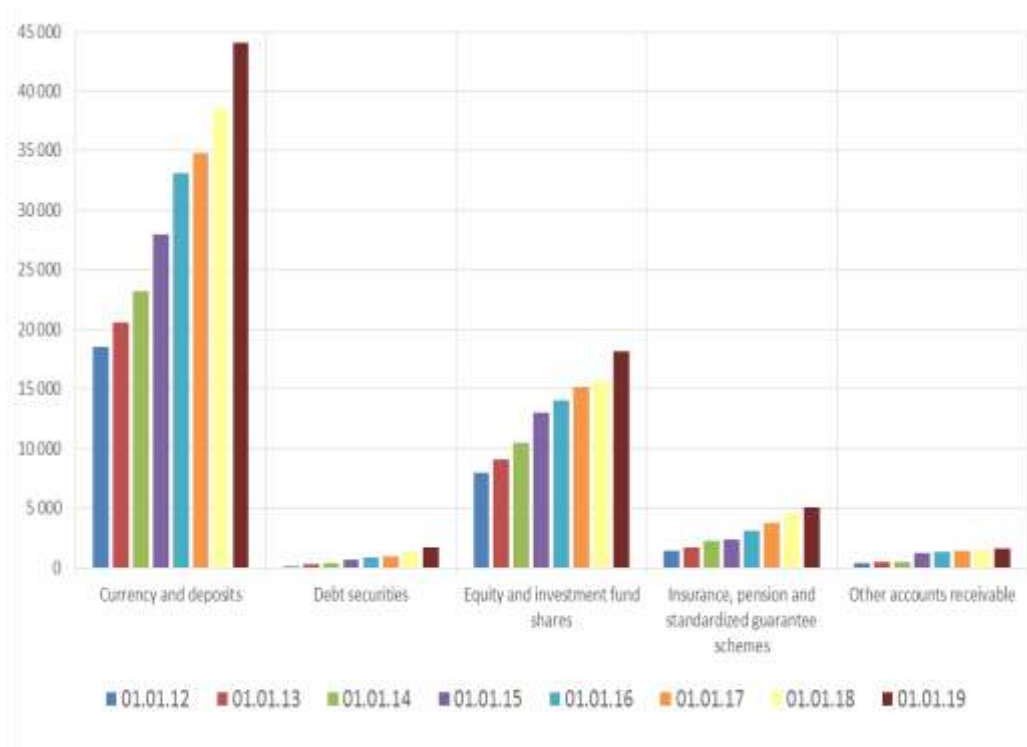
Figure 1. Household financial assets, bn rubles

Analysis of the structure of Russian household financial assets over the past seven years (Figure 2) allows us to see some changes in the share of main components. Currency and deposits have been the dominant component of the household financial assets for many years, forming the traditional preferences of the Russian citizens regarding the choice of bank deposits as the main form of their savings. Over the past seven years the share of currency and deposits in household financial assets was equal on average more than 60% of total assets, although in recent years it has decreased slightly compared to the beginning of 2012.
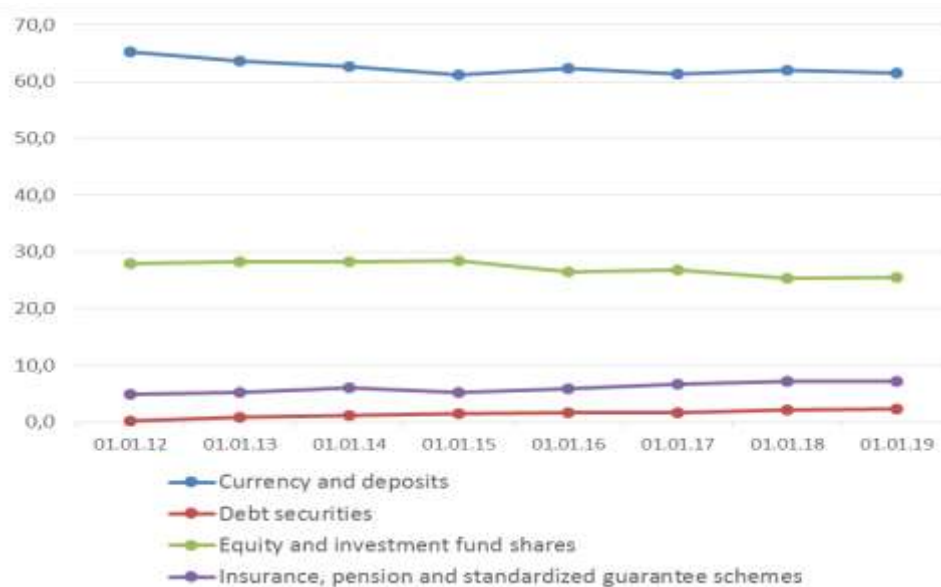

Figure 2. Structure of household financial assets (as percentage of total assets)

In the period from 2012 to 2018 there was a small decline in the share of such financial instrument as equity and investment fund shares. The downward trend appeared from in 2015, at the beginning of 2018 the share of equity and investment fund shares in the structure of household financial assets amounted to 25.3% against 28.4% at the beginning of 2015, when it was the maximum for the reviewed period.

It should be noted here a tendency in increasing the share of insurance, pension and standardized guarantee schemes in the structure of financial investments of Russian households from 2015. Although the share of this instrument in the structure of household financial assets is still small (at the beginning of 2018 it was 7.2%), the further development of the insurance market and the pension system can expand the potential of the households to use this financial instrument for their financial investments.

The share of debt securities in financial investments remained low, although the growing trend in the use of this type of financial assets by households was quite noticeable. Since 2012 the share of debt securities in household financial assets has increased almost twenty times from 0.1 to 2.1% at the beginning of 2019. To some extent, it could have been connected with the fact that from 2017 the Ministry of Finance of the Russian Federation began to issue special bonds for Russian citizens. These securities were distributed through authorized banks.

Taking into account that deposits are the main component of household financial assets, we decided to conduct a more detailed analysis of its dynamics and structure by use the information from monetary statistics. The Banking System Survey, which available on the Bank of Russia website on a monthly basis, allow us to look on changes of growth rates of household deposits, on structure of deposits depending on maturity, as well as identify households preferences regarding the currency of savings (national or foreign).
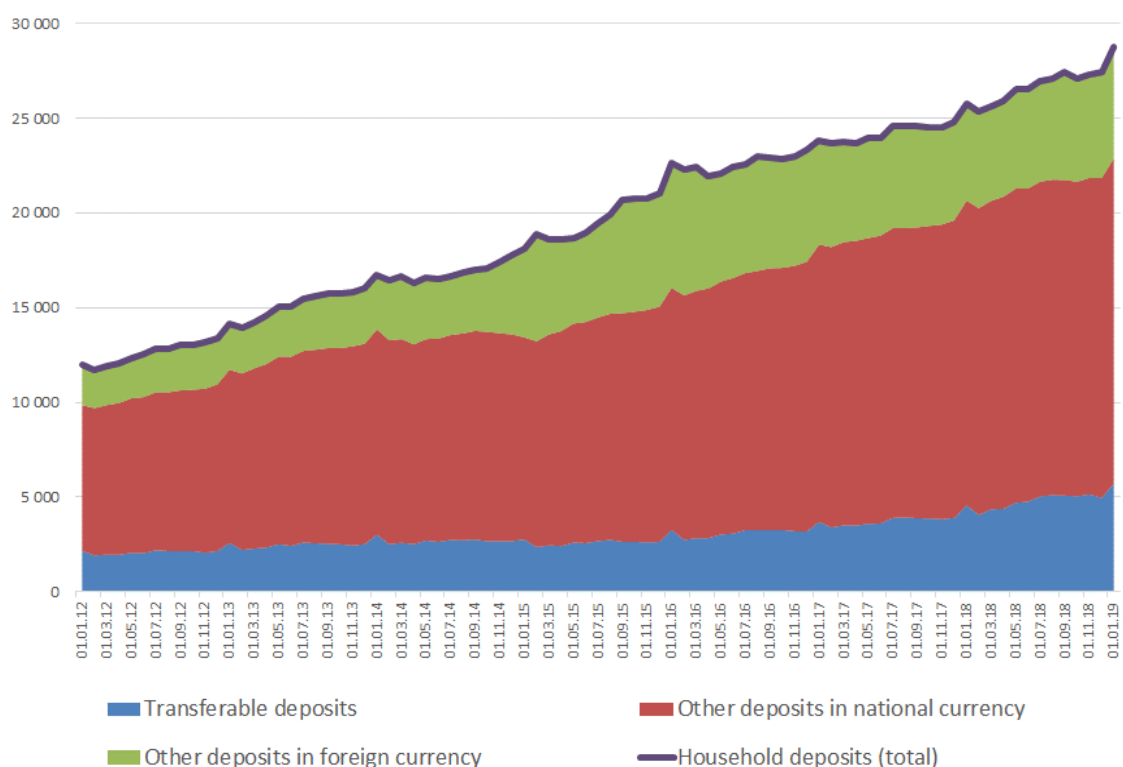
Figure 3. Household deposits (bn rubles)

Figure 3 shows the structure of household deposits in the banking system of the Russian Federation[5]. As can be seen, deposits in the national currency have the largest share in the structure of household deposits (about 80% on average during the period from 2012 to 2018). Deposits in national currency mainly consist of time deposits (about 63% on average), while the share of transferable deposits was about 15%. At the same time, the Russian households also invest in foreign currency deposits. The estimation of this type of financial investment was largely dependent on exchange rate fluctuations during periods of macroeconomic turbulence (similar to other financial instruments denominated in foreign currency).

1.2. Household Financial Liabilities

Analysis of household financial liabilities, in particular, their indebtedness, is an extremely important aspect of the allocation of household borrowings and financial stability risk assessment. This information can help to estimate sources of household financing as well as

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[5] *Transferable deposits* include funds held by the Russian Federation residents (legal entities and households) in settlement, current and other demand accounts (including plastic card payment accounts) opened with operating credit institutions in national currency. *Other deposits* include the Russian Federation residents (legal entities and households) time deposits and other funds held in national currency, deposits denominated in all kinds of foreign-currency and in precious metals, including accrued interest on the deposits (Bank of Russia, Summary Methodology Central Bank Survey, Credit Institutions Survey, Banking System Survey, Other Financial Institutions Survey, Financial Sector Survey).

identify arising structural imbalances. The importance of analysis of household financing dynamics and structure is determined by the role of bank and non-bank financing in providing households with financial resources. It should be noted that analysis of household debt indicators becomes particularly relevant in the period of macroeconomic turbulence or crisis, as they usually accompanied by a sharp decline in economic activity and fall of household income. During these periods there may be a reduction of bank financing and increase the role of alternative sources for borrowing (for example, from non-bank financial intermediaries).

Financial balance sheets of the System of National Accounts of the Russian Federation illustrate that loans are the main component of Russian household financial liabilities and account for more than 90% of their liabilities.
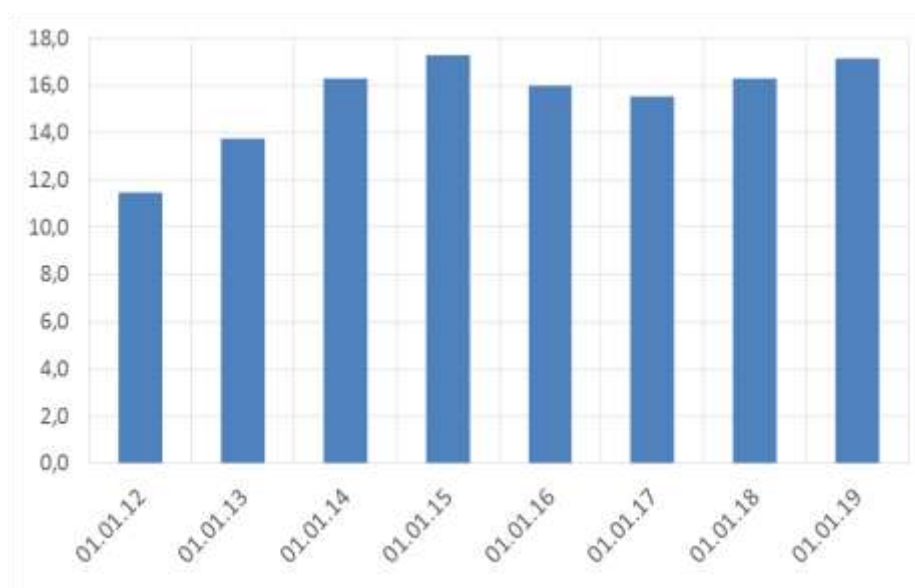

Figure 4. Household debt (as percentage of GDP)

The dynamics of household debt in Russia in relation to GDP during the period from 2012 to 2018 was not stable (Figure 4). We can indicate that from 2012 to 2014, household indebtedness increased from 11.5 to 17.3% in relation to GDP, then, in the period of 2015-2016 its value slightly decreased to 15.5%. The recovery of economic growth in 2017-2018 was accompanied by an enhancement of household borrowing, which led to acceleration of household debt to 17.2 as percentage of GDP.

Financial accounts provide a look of how Russian households financing has changed over the past seven years (Figure 5). Households attracted loans most actively in 2012 and 2013 (the growth was equal to 3.6 and 3.4% in relation to GDP, respectively). The period of economic instability, accompanied by a slowdown and reduction in GDP growth, as well as decline of household monetary incomes, led to a decrease (and to reduction in 2015) of household financial liabilities (in terms of loans transactions). At the same time, starting from 2017, one can observe

a renewed interest of households to attracting financing through lending (up to 2.0 as percentage of GDP). This trend continued in 2018 (up to 2.8 as percentage of GDP).
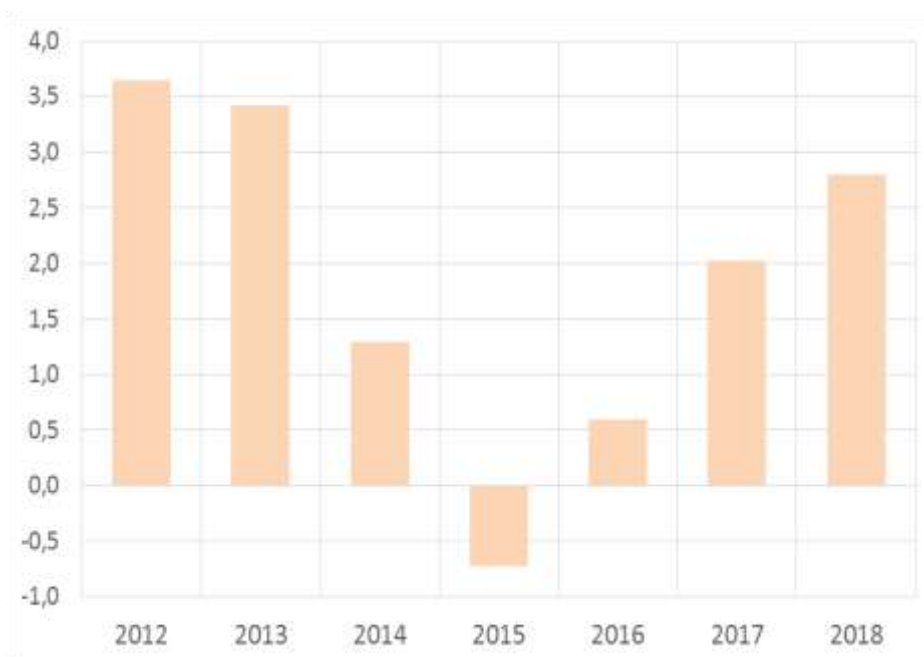

Figure 5. Household liabilities[6] (loans transactions as percentage of GDP)

In accordance with the SNA 2008 methodological principles, the data on loans from financial accounts and financial balance sheets contain the information regarding the household debt and transactions, both from the banking system and non-bank financial intermediaries, as well as borrowing from non-residents. To understand the role of Russian banks and non-bank financial institutions in household financing, we used monetary statistics data as an additional source of information - Banking System Survey and Other financial institutions Survey[7] (the Bank of Russia began to publish it in 2018 on the full scope of other financial institutions on a quarterly basis).

By combining household financial balance sheets data and monetary statistics data from the Banking System Survey and Other Financial Institutions Survey, we were able to make some

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[6] Household loans (Transactions, Financial accounts of the Russian Federation).

[7] *Other financial institutions* include all financial sector organizations excluding the Bank of Russia and credit institutions (banking system). Other Financial Institutions Survey is compiled according to the international statistical standards and contains the data on insurance companies, private pension funds, public financial corporations, professional securities market participants, investment funds, microfinance organizations, consumer credit cooperatives, agricultural credit cooperatives, pawnshops, housing saving cooperatives and other types of financial institutions (Bank of Russia, Summary Methodology Central Bank Survey, Credit Institutions Survey, Banking System Survey, Other Financial Institutions Survey, Financial Sector Survey).

assumption how the structure of bank and non-bank household indebtedness developed and changed during 2018.
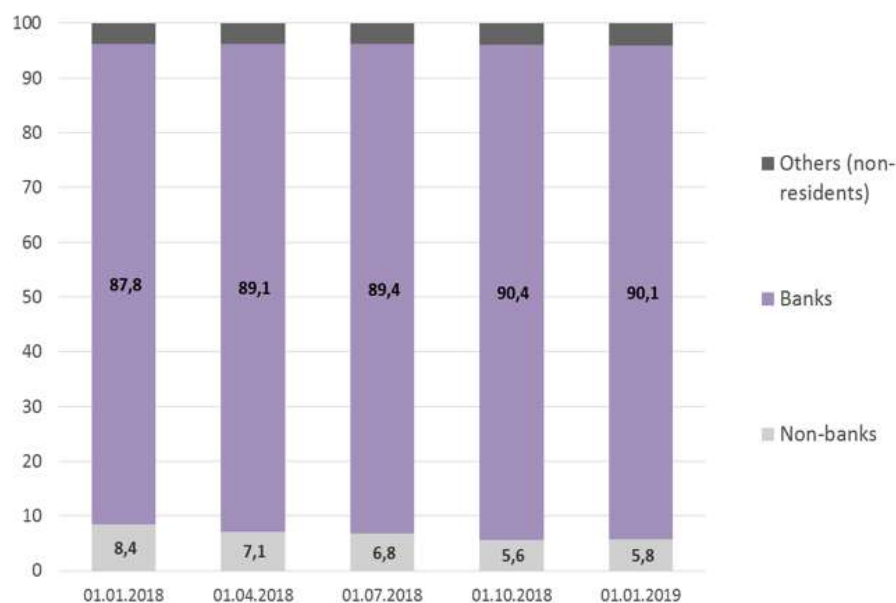

Figure 6. Banks and non-banks household debt (as percentage of total household debt)

If we look on data presented on Figure 6 we can see that the greater amount of Russian household debt was accumulated in the banking sector (the share of the banking financing increased during 2018 from 87.8 to 90.1% of total household indebtedness). The role of non-bank financial intermediaries as an additional source of household financing remained insignificant (the share of non-bank financial intermediaries in the total amount of household debt decreased from 8.4 to 5.8% during this period).

We pay attention to the dynamics of mortgages. In recent years this type of financing, used by households to buy housing, has become increasingly important in the structure of bank loans to Russian households and may has an impact on household financial wealth as a whole. Over the past seven years, the mortgages indebtedness has almost doubled as a percentage of GDP (from 2.9 to 6.2%). The share of mortgages in the structure of bank loans to households has increased from 24.4% at the beginning of 2012 to almost 40% at the beginning of 2019 (Figure 7).

It should be noted that the increasing dynamics of mortgages was observed even in the period of macroeconomic instability in 2014 and 2015, when the household debt on other loans gradually decreased. We could make an assumption that this trend was maintained in certain extend by the development of this segment of banking financing, as well as due to a government measures of support mortgage lending programs.

Figure 7. Mortgages, as percentage of total household loans

In 2018 the Bank of Russia begins to publish on a quarterly basis the information regarding indicators of "Non-financial sector and Household debt, extended". We suggest that this type of monetary statistics could be also one of the additional sources of information for household wealth indicators analysis. These indicators combine data from International Investment Position of the Russian Federation with monetary statistics, complementing household financial balance sheets of the System of National Accounts with more detailed data on external bank financing (relationship with the rest of the world).

Russian households prefer to attract financing from domestic banks (more than 95% of the total household debt). Domestic household borrowings increased significantly in 2017 and 2018. At the same time, the share of external financing during 2013-2018 was small and accounted about 5% on average (see Figure 8).
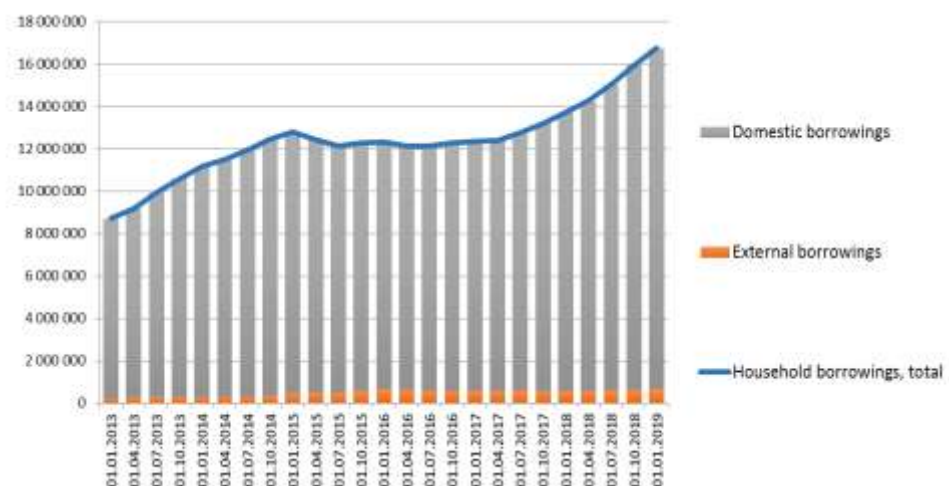

Figure 8. Household domestic and external borrowings
(as percentage of total household borrowings)

Under conditions of significant exchange rate fluctuations, monitoring of household debt currency structure could be a part of household wealth analysis as the currency mismatches may

14

have a negative effect not only on households but also on the maintenance of financial stability. The Russian households mainly attract borrowing in the national currency; the share of loans in national currency in the total household debt in the period from 2013 to 2018 was about 95% on average.

The most significant increase of household debt dollarization occurred during the periods of currency depreciation in 2015 and 2016. Although only a small part of Russian households has loans in foreign currency. In recent years, against the background of the macroeconomic stabilization, there has been a gradual decrease in household debt dollarization. In 2018 household debt dollarization was approximately 4.5% of total household debt.

1.3.   Household Financial Wealth Indicators

We can note that indicator of household financial net worth in Russia has been increasing in absolute terms (Figure 9) during the past seven years due to the quite stable growth of household financial assets. The growth of household financial liabilities was not a determining component in the dynamics of household financial net worth (despite the increase in household debt in recent years).
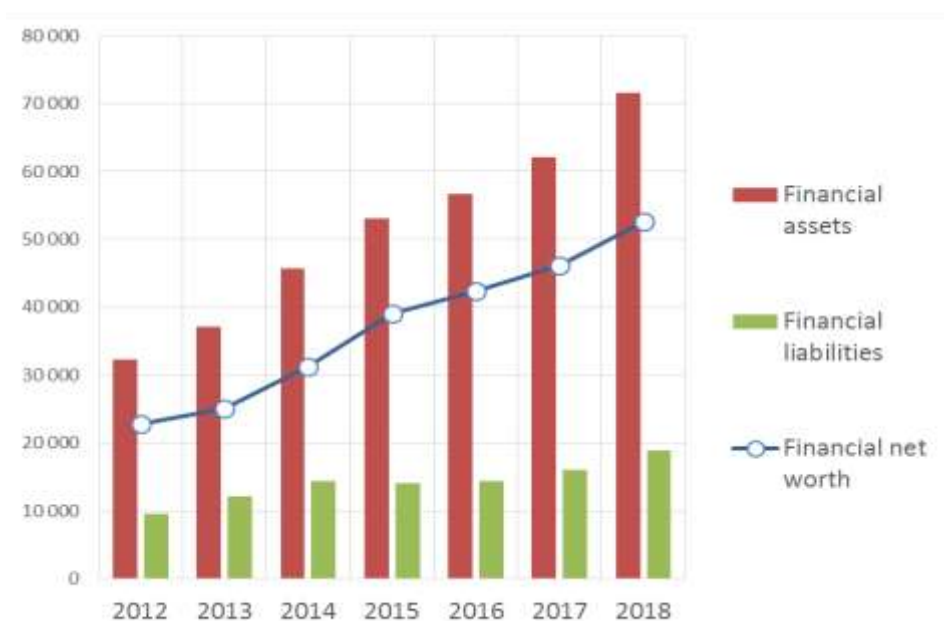

Figure 9. Household financial net worth, bn rubles

It can be concluded in general, that the dynamics of the two indicators (Figure 10) demonstrates the comparable trends. Thus, in the case of absence net disposable income data, we can give a preliminary estimation for this period based on the ratio of household financial net worth as percentage to GDP.
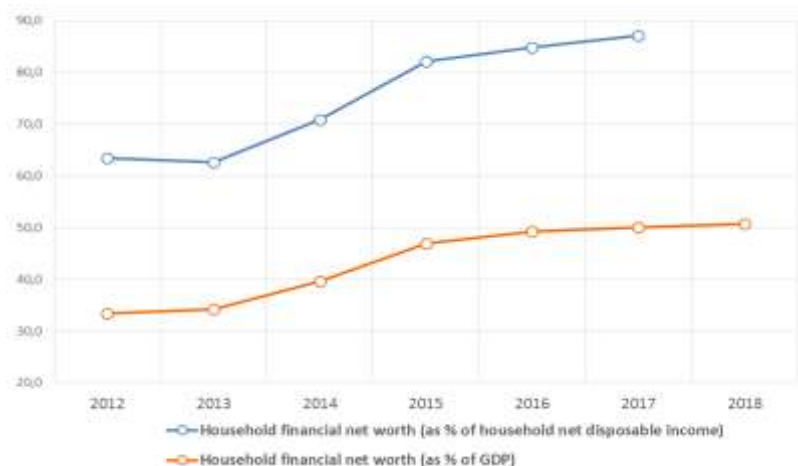
Figure 10. Household financial net worth
(as percentage of household net disposable income and % of GDP)[8]

Dynamics of Russian household financial net worth indicator (Figure 10) showed the following trends. Over the period from 2012 to 2016 household financial net worth increased from 63.5% to 85.9% of household net disposable income (the most significant growth was indicated in 2015 and 2016, when the net disposable income declined). Our preliminary estimations based on relation of this indicator to GDP demonstrated quite slow growth of household financial net worth further in recent years.

We used household net financial transactions as another indicator to estimate Household Financial Wealth (Figure 11 and Figure 12).

Figure 11. Household net financial transactions, bn rubles

There were noticeable changes in the dynamics of household net financial transactions during the period from 2012 to 2018 (Figure 11). This indicator significantly declined in

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[8] Sources: Bank of Russia, Rosstat.

absolute terms in 2014, which was caused by changes both in household assets and liabilities. In 2015, we can see conversely strong growth of net financial transactions due to a sharp decrease in household financial liabilities caused by reduction of household lending (see Figure 5). Under conditions of accelerated growth of household financial liabilities (the maximum increase of household borrowing was indicated in 2018) the amount of household net financial transactions began to decline.
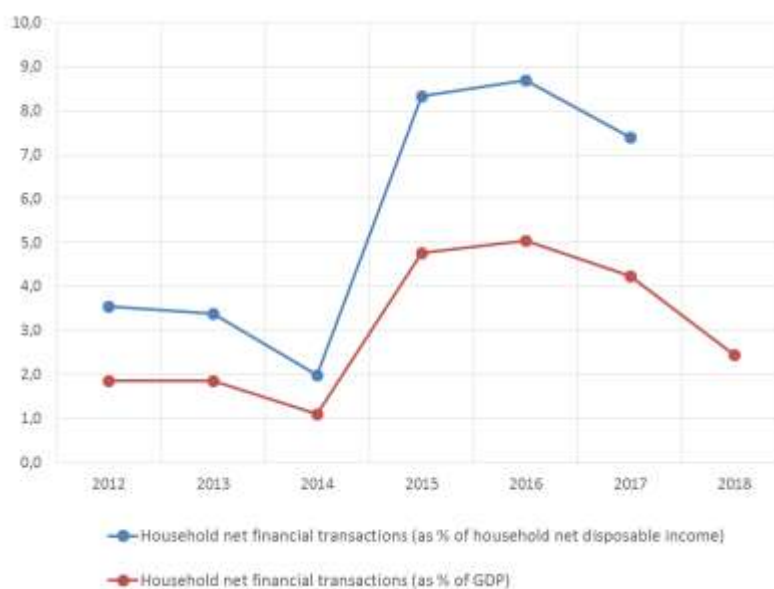

Figure 12. Household net financial transactions
(as percentage of household net disposable income and % of GDP)

Household net financial transactions were positive during the observed period (Figure 12). This information allows us to make some assumption regarding household financial behavior. We can conclude that in general the growth of Russian households financial investments (mainly in the form of cash and deposits) exceeded the accumulation of their liabilities, indicating that the household sector was acting as a net creditor in respect of the other sector of economy. In the last three years, the growth of household financial liabilities has significantly accelerated, which became one of the main reasons of decline in the household net financial transactions indicator.

To provide users with new instruments of ad-hoc analyses, The Bank of Russia published data on household debt in the form of interactive information panels (dashboards). It allows reviewing dynamics and structure of household debt indicators on a quarterly and an annual basis.

Dashboards

| Stocks | Stock changes |

Extended debt amounted to 76 011 bn of rubles as of 01.04.2019
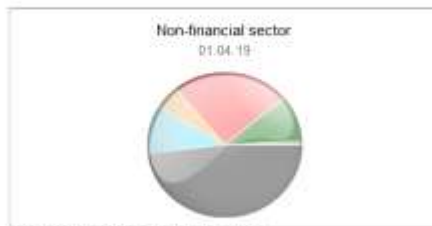
Non-financial sector and Households debt, bn of rubles
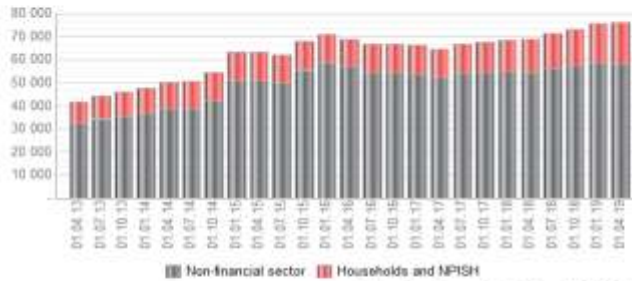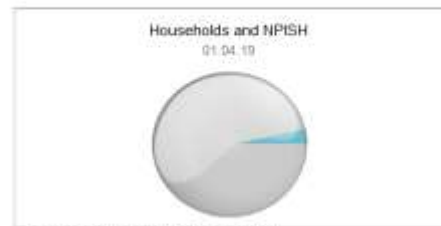
In bn of rubles ▾

- ○ Total
- ○ Structure by source of borrowings
- ● Structure by sector
- ○ Structure by instrument
- ○ Structure by currency

(Help)

▦ Non-financial sector   ▦ Households and NPISH

The structure of extended debt, %

Non-financial sector
01.04.19

Households and NPISH
01.04.19

☑ Currency: rubles, foreign currency
☑ Source of borrowings: domestic, external
☑ Instruments: loans, debt securities

☐ Currency: rubles, foreign currency
☑ Source of borrowings: domestic, external

Dashboards

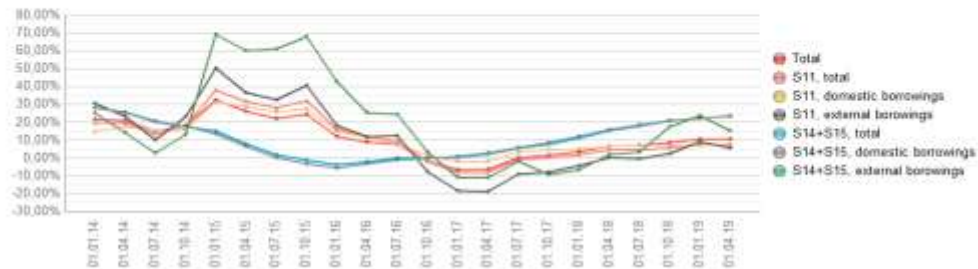| Stocks | Stock changes |

By sector ▾

Quarterly growth of extended debt, bn of rubles

Total ▾

As of 01.04.2019

	Bn of rubles	Quarterly growth, bn of rubles	Quarterly growth, %	Annual growth, %
Total	76 011 ▲ 436	▲ 0,6%	▲ 10,5%	
Non-financial sector	58 421 ▼ -408	▼ -0,7%	▲ 7,2%	
Domestic borrowings	40 607 ▲ 603	▲ 1,5%	▲ 8,0%	
Bank loans	34 355 ▲ 539	▲ 1,6%	▲ 9,0%	
Debt securities in residents' portfolio	6 253 ▲ 64	▲ 0,9%	▲ 2,5%	
External borrowings	17 814 ▼ -1 001	▼ -5,3%	▲ 5,5%	
Loans received from non-residents	17 886 ▼ -992	▼ -5,3%	▲ 5,5%	
Debt securities in non-residents' portfolio	288 ▼ -9	▼ -4,2%	▲ 1,0%	
Households and NPISH	17 590 ▲ 844	▲ 5,0%	▲ 23,3%	
Domestic borrowings	16 943 ▲ 879	▲ 5,5%	▲ 23,6%	
External borrowings	646 ▼ -35	▼ -5,1%	▲ 15,2%	

● Total   ▦ Non-financial sector   ▦ Households and NPISH

(Help)

Annual ▾

Annual growth rate of extended debt, %

● Total
● S11, total
● S11, domestic borrowings
● S11, external borrowings
● S14+S15, total
● S14+S15, domestic borrowings
● S14+S15, external borrowings

2. Cross-countries Comparisons of Household Financial Wealth Indicators

The system of national accounts provided the conceptual framework for analyzing economic performances. During the last decade, data on the full set of accounts was developed by many emerging markets countries, widening the area of international comparability.

In this section, we draw our attention on comparison of the structure and dynamics of household financial assets and liabilities, household financial net worth and household net financial transaction indicators in some EM countries with the similar indicators calculated for Russia.
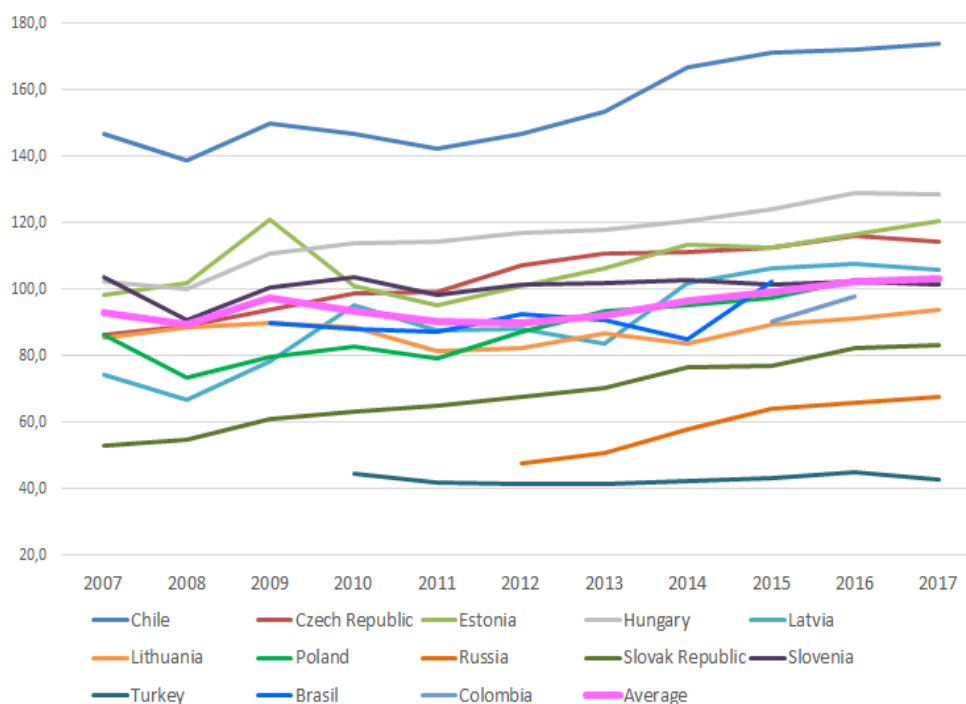

Figure 13. Household financial assets, as percentage of GDP[9]

Data in Figure 13 show how the ratio of household financial assets to GDP was changing in Russia and some other emerging markets economies in the period from 2007 to 2017. During these ten years the ratio of household financial assets increased from 92.9% to 103.1% of GDP on average for selected countries. The indicator of Russian household financial assets in relation to GDP was lower in comparison with the other countries; at the beginning of 2018 it was 67.5% (68.9% of GDP according to preliminary data at the beginning of 2019). At the same time, we can note the emergence of upward trend of Russian household financial assets from 2014, which is in line with the general trend of simultaneous increase of this indicator in other countries.

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[9] Source: OECD. Dataset: 720. Household and NPISH financial balance sheets – non-consolidated – SNA 2008.
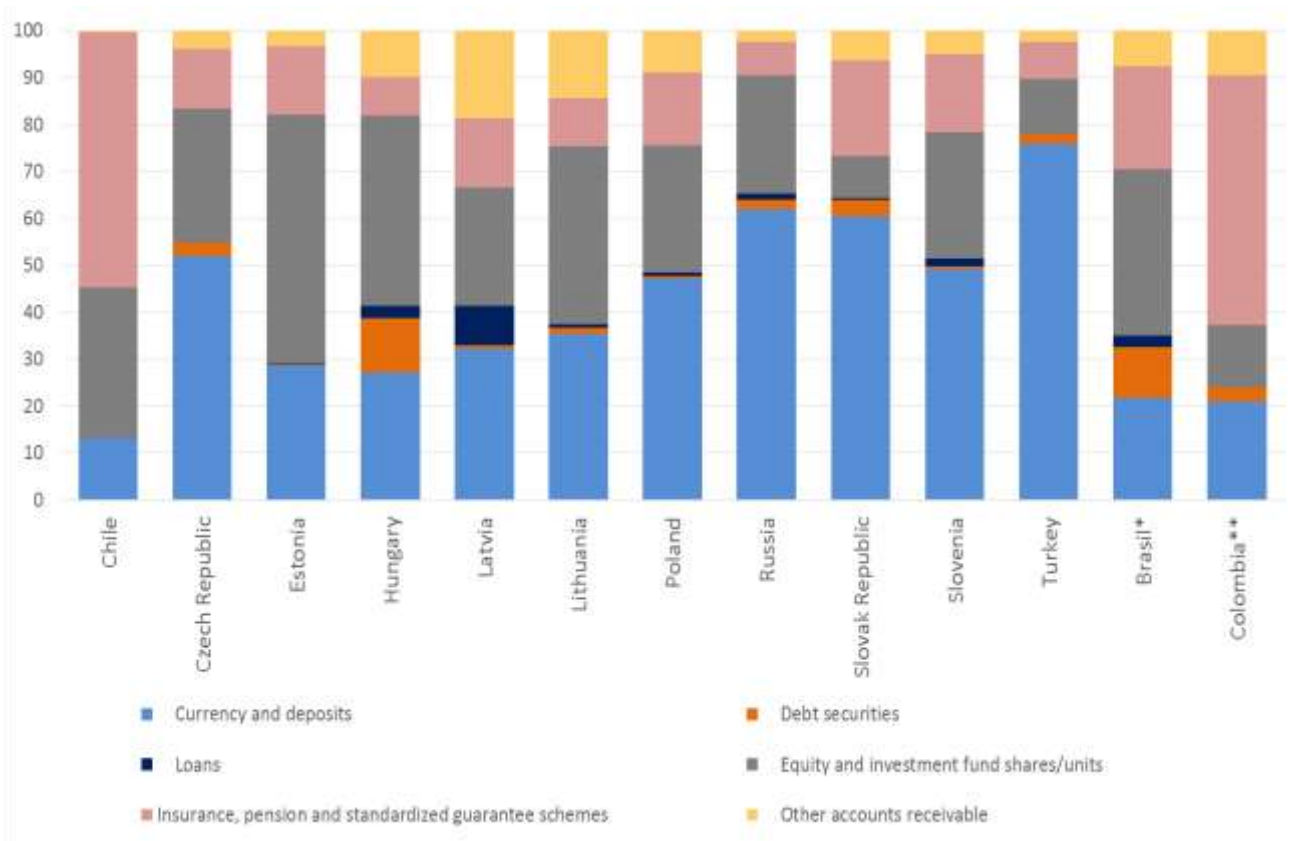
Figure 14. Structure of household financial assets in 2017 (as percentage of total assets)

We also find it interesting to analyze the structure of Russian household financial assets in comparison with the other emerging markets countries (Figure 14). Cash and deposits (as was noted in section 1.1) have the largest share in the structure of Russian household financial assets (it accounted 62% at the beginning of 2018). These types of financial assets also dominated in the structure of household financial assets in such countries as the Czech Republic, Slovakia, Slovenia, Poland and Turkey (the share was about 50%). In contrast to emerging markets countries in some advanced economies this figure is significantly lower, for example, in the USA and Sweden the shares of cash and deposits in the structure of household financial assets are accounted only 12.4 and 13.8%, respectively.

Investments in equity and investment fund shares were mainly the second largest household financial asset in the most of selected group of countries, except two countries (Chile and Colombia) where investments in insurance pension and standardized guarantees schemes were the main type of household financial assets. It can be noted that debt securities were not a priority choice of household financial investments. This indicator was the highest only in two countries, Hungary and Brazil (11.6 and 10.8%, respectively), in other countries (including Russia) it accounted 1-3% on average in 2017.
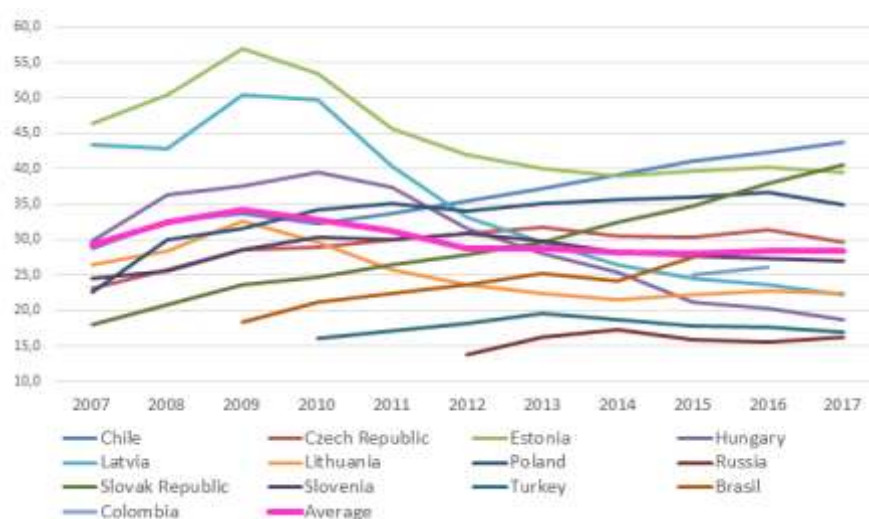
Figure 15. Household loans, as percentage of GDP[10]

Figure 15 shows the dynamics of household loans as percentage of GDP in emerging market countries. We can conclude that ratio of household loans to GDP calculated for selected group of countries decreased on average from a maximum level of 34.2% in 2009 to 28.4% in 2017. Currently, the ratio of household loans to GDP in Russia is lower compared to other countries - in 2017 it was equal to 16.3% of GDP and in 2018 - 17.2% of GDP . At the same time, the current dynamics of household lending (see section 1.2.) showed upward trends in the last years.
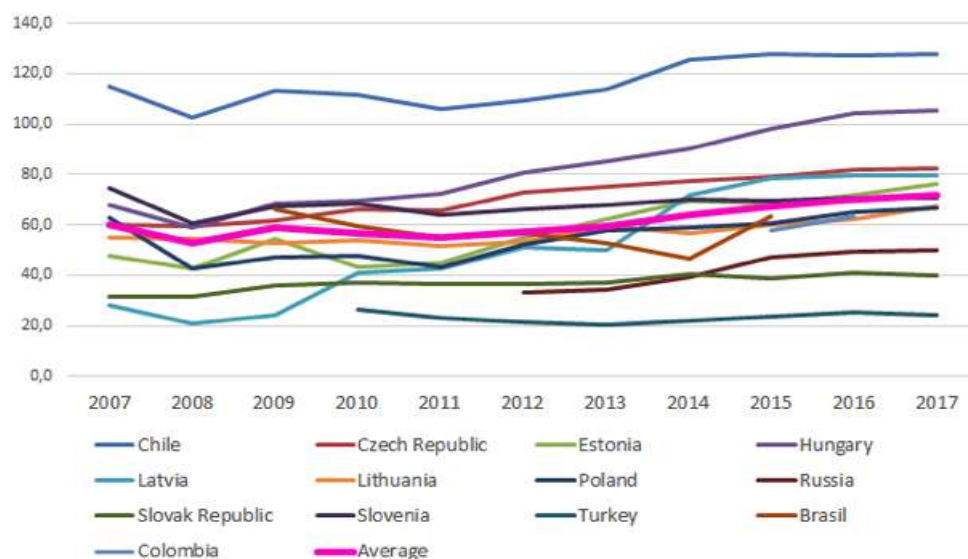

Figure 16. Household financial net worth, as percentage of GDP

We used the indicator of household financial net worth (as percentage of GDP) and indicator of household net financial transactions (as percentage of household net disposable

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[10] Source: OECD. Dataset: 720. Household and NPISH financial balance sheets – non-consolidated – SNA 2008.

income) to compare and estimate financial wealth indicators for EM countries and Russia. As can be seen from Figure 16, the ratio of Russian (as well as Syrian and Turkish) household financial net worth to GDP from 2012 to 2017 was lower in comparison with other EM countries. At the same time. It should be noted the explicit growth of this indicator in Russia from 33.4 to 50.0% during the period from 2012 to 2017 (according to preliminary data it was equal to 50.7% in 2018). The similar trends were observed in dynamic of average indicator calculated for selected group of EM countries -household financial net worth increased from 60% of GDP in 2007 to 71.8% of GDP in 2017.

Household net financial transactions as a percentage of household net disposable income are presented in Table 1. From 2007 to 2017, the vast majority of countries (including Russia) sustained positive household net financial transactions. Households usually acted as net creditors in relation to other sectors of the economy by increasing their financial assets to a greater extent than financial liabilities.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Chile	1,3	1,4	5,2	6,8	4,2	6,3	6,5	6,4	5,1		
Czech Republic	3,1	2,4	5,1	3,8	3,6	6,9	3,7	5,0	4,1	3,2	0,7
Estonia	-10,4	-5,6	8,4	5,2	11,5	10,5	3,1	8,6	7,2	4,5	6,4
Hungary	3,3	2,3	6,7	8,2	9,7	9,4	8,9	11,7	15,4	10,1	11,1
Latvia	-12,4	-12,8	14,1	27,8	30,5	-10,8	-14,5	42,3	9,9	0,1	-0,3
Lithuania	-24,6	-6,4	8,5	-5,2	9,2	3,8	8,4	2,5	-6,7	-1,4	6,7
Poland	2,1	-5,5	5,5	5,9	2,4	9,6	6,8	4,5	5,1	8,2	1,4
Russia						2,0	3,4	2,0	8,3	8,7	7,4
Slovak Republic	-2,1	-2,9	0,0	0,7	-1,6	-0,8	-1,6	0,1	1,4	1,2	0,7
Slovenia	0,3	1,7	2,3	1,9	0,5	0,7	1,7	4,0	4,4	2,7	2,5
Brasil				0,7	0,6	0,7	0,4	0,9	2,9		

Table 1. Household net financial transactions,
as percentage of household net disposable income

In some EM countries (Estonia, Latvia, Lithuania, Poland, and Slovakia), in particular in 2007 and 2008, household net financial transactions were negative, reflecting the cases when the households acted as net borrowers. The SNA statistics indicate that there was a notable shift from household funding the investments of other sectors to borrowing from them in the form of

loans. Simultaneously, in the most of above mention countries, households reduced their financial assets in form of equities and investment fund shares.

Conclusions

The use of SNA framework and monetary statistics can provide researchers and policy makers with broader set of information resources required for household financial wealth analysis. We have made an effort in this paper to look at the Russian household financial behavior from 2012 to 2018 using financial accounts and financial balance sheets of the SNA of the Russian Federation. At the same time, combining the SNA indicators with monetary statistics data enhance monetary analysis as such , which contain more detailed information regarding household financial assets and liabilities. The results of our study may be summarized in the following points.

We find that during the period from 2012 to 2018 there was an increase in *Russian household financial assets*. Households used currency and deposits as the main instrument of their financial investments (more than 60% of total financial assets). Monetary statistics data give an additional information on currency structure. Deposits in the national currency have the largest share in the structure of household deposits and mainly consist of time deposits (about 63% on average), while the share of transferable deposits was about 15%. At the same time, the Russian households also invest in foreign currency deposits (deposit dollarization was equal approximately 20%).

We consider it more important to have a close look at the other side of household financial wealth - *household financial liabilities*. Aiming to illustrate broader view on dynamics and structure of household debt, we use the information from both financial accounts and financial balance sheets and Banking System Survey and Other Financial Institutions Survey. We can see that the greater amount of Russian household debt was accumulated in the banking sector. The role of non-bank financial intermediaries as an additional source of Russian household financing remained insignificant (less then 6% of total household indebtedness in the last years). Debt composition data demonstrates the increasing role of mortgages. The share of mortgages in the structure of bank loans to households rose from 24.4% at the beginning of 2012 to almost 40% at the beginning of 2019. We investigated also the currency structure of household debt and note that level of debt dollarization is much lower (about 5%) in comparison with deposit dollarization.

Further attention was paid to such important financial wealth indicators as *financial net worth and net financial transactions* calculated for Russian households in nominal term and as ratios to GDP and household net disposable income. The information from financial balance

sheets and financial accounts of the SNA of the Russian Federation indicates a constant growth of household net worth in the reviewed period. Nevertheless, the dynamic of household net financial transactions was not stable during this period, showing a noticeable decline of indicator in 2014 and significant growth in 2015. In the last two years, under conditions of lower interest rates, we can observe a decrease of household net financial transactions due to increased household demand for loans.

In order to make *international comparisons* we conduct analysis of structure and dynamics of household financial assets and liabilities, household financial net worth and household net financial transaction indicators for some EM countries and for Russia. The indicators of Russian household financial assets and financial liabilities in relation to GDP were lower in comparison with the other EM countries. However, there were common features in household financial wealth behavior. For instance, for the most of selected group of countries (including Russia) household net financial transactions were positive and households usually acted as net creditors in the economy, by increasing their financial assets to a greater extent than financial liabilities. At the same time, in some EM countries (Estonia, Latvia, Lithuania, Poland and Slovakia), in particular over the period of 2007 and 2008, household net financial transactions were negative, reflecting the cases when the households acted as net borrowers.

We suggest that it would be interesting to compare the structure of household financial assets in selected group of EM countries with the similar household financial assets in Russia. We find that cash and deposits dominates in the structure of household financial assets in such countries as Russia, Czech Republic, Slovakia, Slovenia, Poland and Turkey (more then 50%). Investments in equity and investment fund shares were mainly the second largest household financial asset in the most of selected group of countries.

In sum, we can conclude that broader use of different kind of statistics such as the financial accounts and financial balance sheets of the SNA combining with monetary statistics provide wider understanding of major determinants of household wealth accumulation. The further steps to provide analytical framework of household wealth should be a combination of micro and macro level data, namely, compiling distributional national accounts, and construction of satellite accounts to describe other objective indicators of well-being. The SNA concepts should be the base for these developments, in our opinion, to provide the consistency among different statistical data sets and to facilitate the systemic approach in analyzing economic performance.

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