European Research Studies
Volume XX, Issue 2A, 2017

pp. 281-307

Reconfiguration of Financial System Elements to Restore Economic Growth: The System Simplicity and Transformation towards State-Based and Corporate-Based Types

Sergey Vladimirovitch Anureev[1]

Abstract:

Since subprime mortgage crisis of 2008, financial system has no longer driven economies; zero or small GDP dynamics was only maintained by massive sovereign borrowings. The article reviews various theoretical approaches of the financial system characteristics and elements to find its better configuration and to reshape the system as economic engine.

The review relies on the main macroeconomic statistics, interpretation of some major economic events, the system diversity across major economies and on various historic analogues. The article represents an attempt to observe and combine as wide amount of information, as opposite to popular stressing of a few conventional the system types or main characteristic.

Keywords: *investments, savings, corporate finance, household finance, public finance, public budget, sovereign debt, corporate retained earnings, commercial banks, investment banks, stock market, public credit, trade credit, financial regulation*

JEL Classification*: G00, G01, G10, G20, H00.*

[1]*Sergey Vladimirovitch Anureev, Doctor of Economic Science,*
Financial University under the Government of Russian Federation, Department of Public Finance, professor, program director of master program Public Financial Management in partnership with ICAEW,
Lomonosov Moscow State University, Economic Faculty, Visiting professor
e-mail anureev@bk.ru

Highlight

The analysis indicates that credit in general have been driving the long-term economic growth more than diversity of financial systems or financial innovations. However, the driver becomes a drug as GDP growth needs a several times faster growth of credit. The scholastic review of the traditional system characteristics (functional, intermediation, institutional) stresses the characteristics as different sides of one coin and the characteristics conventional simplicity cannot explain the system little contribution to economic growth.

The research also stresses practical complexity of the financial system, not only the problematic of "too-big-to-fail" banks, but also interrelations of such seemingly uncorrelated natural and social disasters as the Iceland volcano and the Arab Spring, Obama care and military tensions in Ukraine. Conventional market-based or bank-based approaches are criticized as staying too far from primary distribution of money by corporate finances and secondary redistribution by public finances, based on statistics of fixed capital investments and its sources.

The article collects opinions and evidences that the financial system simplicity should become a conventional trend combined with the financial instruments approach. The only few leading financial instruments should be offered widely, but others should service the niches to decline an excessive burden of the financial sector for economies.

The important contribution of public finances to long-term economic growth is not only visible by sovereign borrowings and infrastructure investments, but also by income redistribution, optimization of consumption and maximization of output by the current budget.

The article also collects the evidences and explanations that large non-financial corporations effectively invest in fixed capital and support credit sales without real financial intermediation, and also that many financial services are now provided by IT companies without banks.

Problem set and research methodology

Financial system, the system types and elements and the country specific features are one of the most popular topics for scientific articles. At the same time, the publications rarely stress the reality that financial system is neither the economic driver, at least in 2008-2016, nor the accumulator of financial sources for economic growth. The mainstream economic thought points that major economies face cyclical crisis, not systematic, and only the time is needed.

Economic history of the 20th century shows that financial systems of major economies changed noticeably during every financial crisis and economic cycle.

Such system elements as commercial banks, financial markets, public budgets, corporate finance practices fundamentally act without any significant changes.

However, economies are really driven by few of the most influential financial institutions and financial instruments, which have been changing from one generation or a long economic cycle to another. Hence, providing many historic analogues of the past transformation of financial system seems to be an important illustration of modern challenges and proposed shifts.

The bulk of literature is written about the financial system nature and its role, about two conventionally popular market-based and bank-based models, as well as about the system complex approach. The review of such literature forms a first third of this article and allows shaping the analytical approaches to another proposed system types, such as state-based and corporate-based. Avoiding a wide observation of conventional thought, only several articles were segregated for the review, either from the respective international finance organizations or highly ranked by citations.

Financial system has been developing by bright economic events. Thus, the article mainly interprets them and specifies their influence, along with the system shift to unconventional state-based and corporate-based types. Such events include market bubbles and financial crises, creation of new financial tools and new leading financial institutions, bright bankruptcies of the institutions, significant changes in financial regulation, as well as socio-politic tectonic shifts. Some scholastic theoretic exercises could be illustrated by macro indicators.

Conventional indicators primarily show financial system troubles, that GDP no longer grow rapidly and that total credit levels record high figures. The indicators could be broadened by sector specific or country specific statistics, interesting rankings, and even evidences from financial statements of the leading corporations or banks. The article purpose is not a wide observation of loads of statistics and rankings, but a suitable illustration of financial system possible progress.

As the result, the article combines scholastic literature review about conventional types of financial system, which then guides clarifying proposed state-based and corporate-based simplified financial systems. Suitable historic analogues, recent brightest economic events and unconventional statistic evidences also make the proposed types more clear.

Definitions of financial system and the system role

The shortest and the most respective definition of financial system could be taken from the Financial Times glossary: “the institutions and markets that enable the flow of money around the world”[2]. Increasing complexity of the topic, the next respective

[2] *http://lexicon.ft.com/Term?term=financial-system*

definition is taken from the OECD glossary: "A financial system consists of institutional units and markets that interact, typically in a complex manner, for the purpose of mobilizing funds for investment, and providing facilities, including payment systems, for the financing of commercial activity"[3].

The third more complex definition is from one of the IMF publications, which expands the list of institutional units, complexity of their functioning and economic growth as the system role. "A country's financial system includes its banks, securities markets, pension and mutual funds, insurers, market infrastructures, central bank, as well as regulatory and supervisory authorities. These institutions and markets carry out economic transactions and monetary policy, channel savings into investment, thereby supporting economic growth." (IMF, 2016)[4].

Financial system not only redistribute resources and support growth, it could generate problems and exacerbate economic crises. According to the Bank of England publication: *"If a large bank or insurer gets into serious difficulties, problems can spread rapidly across the financial system"*[5]*. "Problems in financial systems … can exacerbate economic downturns, trigger capital flight and exchange rate pressures, and create large fiscal costs related to rescuing troubled financial institutions. Therefore, resilient financial systems … are essential for … economic and financial stability."* (IMF, 2016).

Defining financial system, economists often emphasize corporate finance (or corporate financial management) as a subsystem. According to Investopedia, "A financial system can be defined at the global, regional or firm specific level. The firm's financial system is the set of implemented procedures that track the financial activities of the company"[6]. "For the European Central Bank (ECB), theories on corporate finance are important for ... the relationship between corporate finance and financial and economic developments ... comparative advantages and disadvantages of different financial structures"[7].

Different financial structures are also pointed the most often by Russian authors, for example, by Polyakova O.A. (Financial University under Government of Russian Federation, Dean) (2011), who wrote, that "financial system could be defined as complex of interrelated spheres and elements of financial relations, including

[3] https://stats.oecd.org/glossary/detail.asp?ID=6189
[4] *IMF, 2016, Financial System Soundness, http://www.imf.org/About/Factsheets/Financial-System-Soundness?pdf=1*
[5] *Ganley J., 2016, Your Money and the Financial System. Bank of England. http://www.bankofengland.co.uk/education/Documents/resources/financialsystem/yourmoney.pdf*
[6] *http://www.investopedia.com/terms/f/financial-system.asp*
[7] *Solans E. D., Member of the Governing Council and of the Executive Board of the European Central Bank, 13 June 2003, Why does the structure of the financial system matter? Seminar speech, https://www.ecb.europa.eu/press/key/date/2003/html/sp030613.en.html*

corporate finances, public finance and finance of households". She also distinguishes such sub elements as finances of nonprofit organizations, municipal finances and off budgetary funds, entrepreneurial finances.

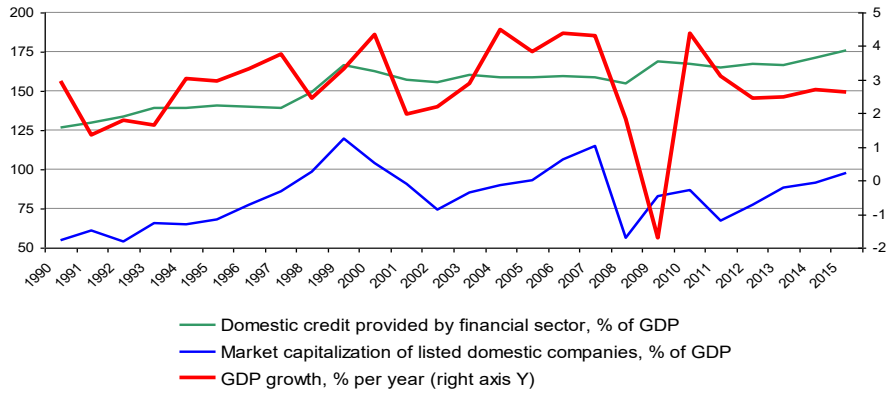
Corporate finance as a core system element correlates with the bulk of university courses and textbooks, as well as with professional certification exams (CFA, ICAEW, and ACCA). Students stress corporate finance more than such courses about financial intermediaries as banking or financial markets, and professional certifications have no exams on financial intermediaries. Similar approach could be taken for crystallizing another important financial subsystem and stable word collocation as Public Finance or Public Financial Management (AGA CGFM, GFOA CPFO, and CIPFA professional certifications).

Key statistical evidences of the financial sector role

Various definitions of financial system emphasized such system role as promotion of economic growth. The World Bank data conforms the correlation of world GDP growth and the two most popular indicators of bank-based and market-based subsystems of the financial system (see Figure 1)[8].

The graph shows the average world GDP growth about 2.8 p.p. maintained by long-term increase in bank credit from 126% to 176% of GDP over 25 years. Moreover, GDP growth accelerates in the years of bear stock market, and slowdowns and even declines in the years of bull market, with general significant fluctuations without permanent growth as it happened for bank credit. Two depicted GDP drivers mainly replace each other from one year to another, with few exceptions in dotcom bubble years, when the synergy factors created the highest growth.

Figure 1. *The correlation of world GDP growth, domestic credit and market capitalization*



[8] *World Bank Data*

The growth promotion role of financial system is often stressed by the popular comparisons of a country economic development and development of its financial system (see Table 1). Simply speaking, economists compare a country GDP per capita with the share of financial system in GDP structure or the share of bankers in all jobs. Popular examples are such rich countries as Switzerland or Singapore, which demonstrate the highest contribution of financial sector to GDP and to jobs. Opposite examples of rich countries are the US and Germany, which have similar GDP per capita, but the US financial sector is 2.3 times more than it is in Germany, and there is a noticeable difference in jobs. More striking comparison includes Russia and Brazil with Japan and Germany, where financial sector contribution to GDP looks similar, but there is a difference in GDP per capita and job structure.

Table 1. *GDP per capita, financial sector contribution to GDP and jobs, selected countries (OECD, Trading economics, Swiss info, 2014, Calculated by author)*[9]

	GDP per capita, USD 000	Fin. sector countribution	
		to GDF, %	to jobs, %
Switzerland	75,5	10,5	5,8
Singapore	51,9	12,6	6,7
USA	51,6	8,2	4,3
Japan	44,7	4,6	2,6
Germany	51,9	3,6	3,4
Great Britain	41,1	6,8	5
Brazil	15,6	5,5	1,3
Russia	11,1	4,3	1,9

The interrelation looks like the chicken-egg question: "while some economists continued to consider financial development as an engine of growth, others claimed that it was not a cause but rather a consequence and a symptom of real economic development" (Schmidt and Tyrell, 2003). Cecchetti and Kharroubi underlined the harmful domination of financial sector: "the level of financial development is good only up to a point, after which it becomes a drag on growth" (Cecchetti and Kharroubi, 2012). Another explanation relies on countries sector specific international specialization: financial sectors of Switzerland and Singapore service mainly foreigners; Japan and Germany manufacture the best cars and industrial equipment (also promoting its sales by sustainable banks). As the result, there is no strict statistical correlation between countries and their financial sector development. At the same time, it is impossible to deny the sector importance for prosperity and complexity of such interrelation.

[9] *http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE1*
http://www.tradingeconomics.com/singapore/gdp-per-capita
http://www.swissinfo.ch/eng/business/by-the-numbers_is-switzerland-really-the-country-of-bankers-/40473658 Dus-Quang N., Sep. 18, 2014, Is Switzerland really the country of bankers?

The main function of financial system is the allocation of savings into investments. The relative size and sources of investments could be specified by national accounts, including GDP formation and utilization (see Table 2). The statistics shows that listed economies invest about 20% of GDP into gross fixed capital formation, depreciating capital about several percentage points of GDP less than investing. Corporate operating surplus constitutes about 40% of GDP, and based on EBITDA the surplus is subdivided to depreciation (consumption of fixed capital), interest (calculated below), taxes and net profit. Imaginary consolidation of all corporations to the one J.P.Morgan-kind huge conglomerate shows that all investments are financed by corporate depreciation and net profit without any financial intermediaries or household savings.

Table 2. *Investments and its financial sources, 2015, % of GDP (OECD, Trading economics)*[10]

	Gross fixed capital formation	Corporate operating surplus	Consumption of fixed capital	Taxes on operating surplus	Net corporate profit	Household savings net	Capital formation by public budget	Net public borrowing per annum
Switzerld	23,8	37,6	21,2	2,8		13,5	2,9	-1,1
USA	20,6	42,7	16,3	6,8	8,8	3,6	3,3	4,4
UK	16,9	38,3	13,1	12,2	5,3	-0,3	2,7	4,4
Japan	22,0	40,0	21,4	8,4	3,6	1,2	3,5	6,2
Germany	20,0	39,4	17,1	9,9	5,8	9,7	2,0	-0,7
Brazil	19,9	41,5		14,9			2,1	0,0
Russia	21,2	41,4	11,1	11,4	10,4	11,9	2,4	1,0

In complicated reality, financial intermediation and household savings exist because of variation in corporate business success and financial policies. Some corporations stay in mature phase of its life cycle, earn substantial profits, retain profits and avoid any intermediation. Other corporations earn profits and pay dividends, which then "shake" household bank accounts and reinvest with the assistance of financial intermediaries. The fourth corporations stay in the beginning of its lifecycle and search more investments compared to retained earnings. In the ending phase of its lifecycle corporations could generate losses, finally covered by financial intermediaries and household savings. In addition, public budgets fund capital investments including formation of public infrastructure and corporate production facilitates (Hamid and Won Kie, 2016; Havlíček *et al.*, 2013; Suryanto, 2016).

Financial intermediaries as corporations contribute to corporate operating surplus, and the comparisons of corporate operating surplus with EBITDA could clarify the

[10] *http://stats.oecd.org/Index.aspx?datasetcode=SNA_TABLE1*
http://www.tradingeconomics.com/country-list/corporate-profits

role of financial system. If financial sector serviced corporations only, it would be possible to subtract financial sector share of GDP from corporate operating surplus, as interest and commission are subtracted from EBITDA to net profit calculation.

By this assumption, the average 40.1% of corporate operating surplus equals 16.7% consumption of fixed capital, plus 7.1% share of financial sector in GDP, plus 9.5% of taxes, plus 6.8% of net corporate profit. In more complicated reality, financial intermediaries pick up household savings and credits, allocate corporate interest expenses to household interest revenue, get and pay dividends from net profit.

Financial intermediaries professionally take risks; include risk related reserves and costs to gross interest income or commission (Uruglu *et al.*, 2012; Liapis and Thalassinos, 2014). Colangelo and Inklaar (2010) suggested that, "risk-taking would reduce the estimated output of the financial sector by about 25-40%". The suggestion figure correlates with the difference in financial sector contribution to GDP and to jobs (Table 1), where finance jobs share is about 3/4-2/3 of the financial sector share in GDP.

The highest suggestion and the difference are in the US, where investors and financial intermediaries usually take high risks and reserves. The lower figures are in Germany, there commercial banks and risk minimization dominates, about vast majority of financial sector output ends up in salaries and compensations.

Household net savings (6.6% of GDP average from Table 2) and capital formation by public budget (2.7%) need to be included into gross fixed capital formation (20.1%), as such corporate sources as depreciation (16.7%) and net profit (6.8%). The sum of listed investment sources (26.0%) noticeably exceed the investments (20.1%), which indicates the surplus of the financial resources compared to the resources actual use. The surplus occurs because not all net corporate profit and depreciation are reinvested and their parts are paid as regular or outstanding dividends. The dividends contribute to household income and savings, and financial intermediaries then transfer the dividends parts to sources of fixed capital formation. Financial intermediaries do not transfer back all dividends, because households consume part of dividends and also fund other household loans.

Public budgets fund about 1/7 of fixed capital formation and mainly do it from public borrowing. From listed countries, only Germany and Switzerland achieved public budget surplus, decline public borrowing and fund public investments from general tax revenues. Households and non-financial corporations rarely invest directly into the sovereign debt, which is usually held by various financial institutions and governmental units. Some countries accumulate substantial reserves in foreign currencies and welfare sovereign funds (China, Japan, Russia), adding more complexity to public financial sources and investments.

Functional, intermediation and institutional analysis of financial system

The analyzed definitions of financial system contain only short phrases, and presented GDP statistics illustrates the system role by few figures. Conventional approaches for the system analysis give more complex representation of the system nature and mechanisms. The three most popular theoretical concepts show that seemingly different points of view complement each other towards the system complex representation.

In the scientific thought, the functions of key economic elements act as popular step to deeper explanation of the elements nature, such as functions of money. Resource allocations as financial system function or redistributive function of finance are widely pointed by economists. *"The core function of the financial system is to facilitate the allocation … of resources, both spatially and across time, in an uncertain environment"* (Merton, R.C., 1990). *"Functional approach of the financial system characteristic assumes integrity of economic entities, involved in distribution on monetary sources"* (Shimigol, N.S., 2010). *"GDP value is allocated to salary, amortization, taxes and profit, which then form financial sources of corporations, governments and households. The allocation takes place firstly by corporate financial management, then redistribution continuous by public budgets and by financial markets",* (Griaznova A.G., Markina E.V., 2010).

The resource allocation function is fundamentally universal across countries and over history, only varying in its practical performance. Redistribution of financial resources is performed by public budgetary sector and financial market professionals. The authorities collect taxes and borrow money to finance public social and investment programs, intermediate between rich and poor, consumption and investments to maximize economic output. Banks, insurance companies, pension funds and other financial market professionals also intermediate between various economic entities for the same purpose (Thalassinos *et al.,* 2014; 2015; Liapis *et al.,* 2013.

Commercial and investment banks intermediate most visibly towards investments and economic growth linking together savers and borrowers. Insurance companies and their customers do not directly act as savers and borrowers, but such intermediation targets more effective allocation of scarce resources to minimize losses and increase output. Intermediation by public budgetary system often looks like linking winners and losers, rich and poor, but aiming to the same goal of output maximization. Pension funds constitute the most complex type of financial intermediation with some roles of banks, insurance companies and governments, aiming to deliver the longest and the biggest financial resources.

Some economists focus on the two core functions of financial sector, namely intermediation and transformation, while others point the two as too abstract and aggregate. Schmidt and Tyrell (2003) listed wider functions: " *1. A way to transfer*

economic resources through time and across regions and industries; 2. A payments system to facili-tate the trade of goods, services and financial claims; 3. A mechanism for pooling resources and for subdividing shares in large-scale indivisible enterprises; 4. A way to manage uncertainty and control risk; 5. A price information that can be useful in coordinating decentralized decision making; 6. A way to deal with the asymmetric information and incentive problems".

Functional and intermediation approaches emphasize the general course of action of financial intermediaries for better resource allocation, more long lasting assets creation and financing, as those contribute higher to output and economic growth. Another conventional stream of economic thought about financial system is the institutional approach, which stresses not what the participants perform, but who exercises redistribution of financial sources. The approach gives clear determination of the key responsibilities and rights of specially designated economic agents for specific functions. It focuses on the types of financial intermediaries, such as commercial and investment banks, pension and investment funds, insurance companies, shadow banking or industrial conglomerates.

In the institutional approach economists focus on the institutions nature and weight in macro statistics, analyze which contributes the biggest and the most efficient to economic growth (or even to economic crises). Comparing sub sectors of financial system, economists analyze reasons of their success and failure, such as degree of centralization or competition, transparency and investor protection, openness to foreign financial institutions or promotion of domestic ones. Widely recognized approach of sub sector comparisons stresses countries with polar domination of various institutions, such as German bank dominated model and the US market dominated model. In addition, economists compare such cases as Russia with the domination of state run commercial banks, China with noticeable shadow banking, Mexico with small banks and domination of foreign investors.

The institutional approach points out dominating types of financial institutions, and many other less visible assistants. Jacobsson and Crockett (2011) extended the institutional approach with wider components. *"The system first component is the financial sector, the set of financial intermediaries (banks, insurance companies, pension funds) ..... A second is the markets in which claims are exchanged (equity and fixed interest securities, foreign currencies, derivative contracts). A third is the infrastructure for the intermediaries and markets (securities exchanges, payment and settlement systems). A fourth component…..provides contractual certainty (financial law, justice and law enforcement, sector regulators and supervisors). A fifth the system part includes financial information release and verification…..(credit ratings, accounting, auditing and financial analysis)".*

There are many contra and pro evidences for financial giants' domination, considering financial institutions as a set of many mid-sized, diversified and specialized organizations. The subprime mortgage crisis of 2008 and the collapse of

several financial giants, generous state funded bailout programs and the word collocation "too big, to fail" stresses the giants role in the institutional approach. Every country finance system consists of not only several leading giants, but hundreds and thousands of recognized financial organizations, which competition and diversity stimulate progress and better the redistribution.

Financial system historically highlights such arguable and famous segregation of institutions as investment and commercial banks, or audit and consulting. At least, the segregation of five listed institution types seems undoubtedly important, including prohibition of private bankers decisive influence on stock exchanges or payment system, separate functioning of audit companies and rating agencies.

Logical comparison of the institutional approach and the functional approach, presented by citations of Jacobsson and Crockett, based on the opinions of Schmidt and Tyrell, does prove that both approaches are two sides of one coin. Also Allen and Gale (2001) characterized financial system with similar ideas, which coincide with both functional and institutional approaches.

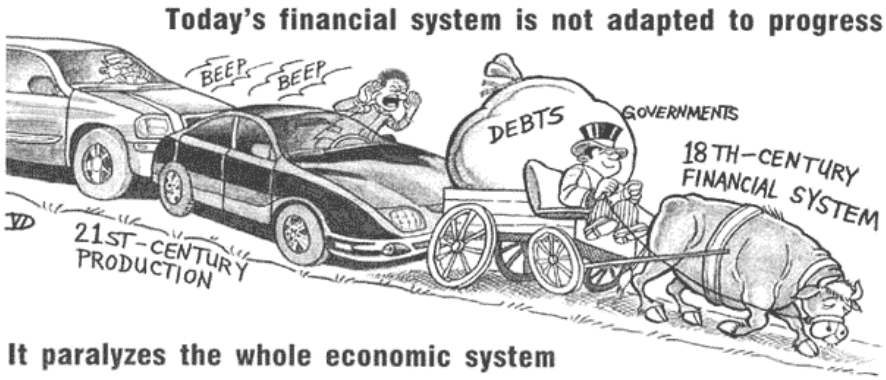
Financial instruments approach

Growing complexity of finance and global competition stimulates Mergers and Acquisitions, building financial conglomerates. They offer wide range of financial services, products and tools from one group, one brand, one office chain and IT platform, benefiting from effect of scale and cross sales. Classical commercial banks started offering intermediation in securities issuance, while investment banks offer insurance. Thus, previously popular institutional approach fails to clarify roles of financial conglomerates. Economists point out securities instead of investment banks, bank credit instead of commercial banks, corporate financial management and retained earnings instead of any intermediation.

Based on tools specific approach, any forms of credit or debt financing have been stressed as the main artificial and modern driver of investments and economic activity. This idea could be wonderfully exemplified by Picture 1 with the slogan "Today's financial system is not adapted to progress; it paralyzes the whole economic system". Credit prevalence as the engine of economic growth is also well stressed by the US macro statistics over the decades of 1980-2010's. Debt mounted in terms of trillions of USD or as the percentage of GDP, including household debt, corporate debt, and sovereign debt[11]. What is more, debt has become a drag for the US economy, when the more leverage mounted, the less effective it becomes as an economic engine. In other words, 1% increase in GDP is secured by several times more percentage points of a debt growth.

[11] *See the US debt clock web site http://www.usdebtclock.org/*

Picture 1. *(Jude Potvin, Michael Journal, 2004)*[12]



Credit domination can be noticed in every financial crisis, when banks stop lending money and credit crunch pushes economy to recession or even depression. Credit crunch was very significant after 2008 subprime mortgage crisis, when several major sectors, including construction and car manufacturing fell by tens of percentage points. Only generous replacement of bank credit by sovereign credit stopped negative GDP dynamics. The attempt of macroeconomic deleverage in 2009-2012 in developed countries and major economies, supported by G20 summits resolutions, reduced consumer and corporate debt by about 5-8% of GDP. Such small deleverage causes Great Recession, even if private deleverage was compensated by more generous increase in sovereign debt by 30% of GDP.

Stocks seem to play a significant role in financial system as an allocation channel of savings to investments. The second important role of this channel is proved by business media or by the correlation of growing or falling stock indexes and GDP figures. During financial crises, companies with dominant stock financing demonstrate stability compared to companies with debt financing, even if the companies stock prices fall due to market turbulence. Stock financing is especially visible in the US corporate giants, vast majority of which recovered their sales and profits faster than their competitors by the stock index participation.

Critics of stock financing point a controversy between huge market capitalization and real money flows to corporate balances and investments. A free-float of publicly listed companies is often ten times less than the share of stocks locked-in portfolios of strategic investors. Net cash injections into corporations by IPO or SPO are quite rare and thousands times less compared to speculative trading. The US macro indicators of 2014-16 show a significant increase in stock capitalization closer to 100% of GDP with little increase in real GDP. Stock market mainly redistributes

[12] *http://www.michaeljournal.org/articles/social-credit/item/the-young-people-want-a-new-financial-system*

financial sources between various groups of shareholders: from strategic to portfolio investors, not from savers to investments in productions facilities.

The importance of financial instruments approach is underlined by financial innovations. If the US economic boom of the 1990's was supported by the combination of IT innovations and old fashion stock bubble, booms of the mid 1980's and the 2000's were supported by new financial tools. Commodity derivatives and junk bonds were innovative tools in the 1980's; subprime mortgage and CDOs (collateralized debt obligations) were drivers in the 2000's. The absence of any new significant financial tools in the 2010's, an emphasis on more strict financial regulation and reliance on old fashion sovereign bonds seem to be reasons of a little positive economic dynamic. In the previous decades, innovative financial tools occurred as the result of financial deregulation and Trump's administration proposal to fight against the Dodd-Franck Act[13].

The importance of innovative financial tools coincide unclear links of the tools with specific financial institutions. The US federal authorities strictly penalized several leading financial giants for unfair trading of CDOs in 2008, as well as pressured credit rating agencies for false high grading of such securities. The Dodd-Frank Act targeted tens of types of financial system professional participants, not only the most blamed leading investment banks. The CDS (credit default swaps) were mainly linked with the AIG (American Insurance Group), which was associated with the deepest point of 2008 crisis and generous bailout package from the US authorities[14]. Nevertheless, CDS market was driven by many types of financial intermediaries, including investment banks, asset management structures, insurance companies and pension funds, and there is no clear linking of the tool with only one type of financial institution.

The systemic approach and financial system simplicity

Difficulties with clear links of financial tools with particular institutions, big number of their types and complexity of relations point the systematic character of financial system. "A systemic approach describes and analyses a financial system in terms of the interrelations between its elements and the impact which these interrelations have on the performance of the system as a whole". (Schmidt and Tyrell, 2003) The term "system" suggests more than a collection of elements effectively interacting and enhancing the value of each other.

[13]*Trump D. J., Presidential Executive Order on Core Principles for Regulating the United States Financial System, February 03, 2017, https://www.whitehouse.gov/the-press-office/2017/02/03/presidential-executive-order-core-principles-regulating-united-states*

[14]*Alloway T., 2015, Why Would Anyone Want to Restart the Credit Default Swaps Market? https://www.bloomberg.com/news/articles/2015-05-11/why-would-anyone-want-to-restart-the-credit-default-swaps-market-*

In a systemic perspective, a financial system is an ordered set of complementary and consistent elements or subsystems. “Elements of a system are called complementary (to each other) if they mutually increase the "benefit", and mutually reduce their disadvantages or "costs". A system is called consistent if its complementary elements make the system attain a local optimum, and the local optima are clearly distinct configurations of the values of the elements.” (Schmidt R.H., 1999). Financial systems are formed by the complementarity of the systems elements, and there is no only efficient type of financial systems, such as bank-based or capital market-based. Complementarity means that economic benefits maximizes, if the financial system elements effectively add together. Such potential value multiplication is achieved by the system consistency, when one element functioning depends on the other elements of the system.

The example of complementary and consistency is a synergy of big investment banks, main stock exchanges, Big Four auditor companies and key rating agencies. Corporations realize financial statements as the basement for investors’ decisions, auditor opinions and credit ratings put higher trust on the financial statements. Investment bankers do not only intermediate between securities issuers and investors, also add value and trust by own investments during IPO or SPO and by permanent trading activity. Globally recognized stock exchanges provide effective technological platforms and strict listing requirements concentrating trading activity. If listed elements are ineffective, financial system transfers savings into investments in less volume and at higher costs.

Modern history has shown bright examples of the synergy breach. In 2001-2003, there was a crisis of corporate financial statements, followed by large bankruptcies of publicly listed companies and auditors blaming (Enron, Arthur Andersen, Parmalat and so on). In 2008, subprime mortgage securities were highly ranked by the largest rating agencies, but investors got substantial losses similar to junk bonds, and the synergy breach was escalated by fail of several large investment banks with high reputation before. In 2014-2016, various financial sanctions from the US authorities occurred: German Volkswagen diesel gate, Brazil Petrobras corruption scandal, Swiss offshore banking huge fines, Russian Crimea factor. These factors made investors nervous, because previously adopted business practices had lost legitimacy.

Financial system complexity is not only the synergy of obviously interrelated elements in the country scale, but also interrelations of different seemingly uncorrelated elements from various countries. Pointing the idea, the first example is the correlation of 2010 Iceland volcano natural disaster and 2011 Arab Spring social disaster. The Iceland volcano emitted dozens of dust, which caused drought in main agricultural regions in Russia. Wheat harvest was extremely small and wheat prices rocketed. In poor Arabic countries (such as Egypt), household finances were based on highly subsidized consumption of imported wheat. The governments could not

continue subsidizing the bread due to jumped deficits of public budget and trade account and lack of currency reserves.

The second example is Obama care available medicine for poor Americans and political tensions in Ukraine. Medical subsidies contribute the most to record high deficit of the US federal budget and federal debt. Obama care imposed new taxes, including artificial poll-tax in a form of mandatory purchase of medical insurance policy. Smoothing social tensions, Obama's administration pressured down global oil prices, made gasoline prices cheap and supported poor Americans.

Russia faced a significant drop in oil export revenues, pressured neighbors to rebalance oil and gas transit and consumption. Russia also rebalanced general economic relations and supports the neighbors' public budgets. Money flows from Russia to Ukraine dropped by several times, which sparked social tensions, Crimea referendum and war in Donbas. The examples link together public finances and household finances in several countries, as well as corporate finances of major commodity producers and global investment banks as players in derivative market, international capital flows and currency devaluation.

Modern history of financial system and the statistics show the importance of one-two major financial tools in each economic cycle. Without them, economic development would show closer to zero dynamic, because the vast majority of other financial tools do not create enthusiasm for economic agents. Every senior banker or corporate CFO knows the 20-80 rule, which indicates that 20% of customers or transactions create 80% of profit. Only a few financial tools drive financial intermediary business, and vast majority of other tools are only for complexity of customer servicing.

So, the US economy had been driven by stocks of new industries in the 1960's and the 1990's (Go-Go Kennedy market and dotcom bubble), by mortgage and junk bonds in the mid 1980's (saving & loan associations and Drexel) and in the 2000's (subprime CDO and CDS). Australia is a member of G20 leading economies and has complex financial system, but Australian "banks have adopted similar business models, with home mortgages accounting for around 60 to 70 per cent of their domestic lending"[15]. Formally, Russian financial system includes nearly all modern financial tools and financial intermediaries, but really Russian citizens prefer classic bank deposits, and banks mainly lend money to large corporations or parent conglomerates.

[15] *Morrison S., O'Dwyer K., 2015, Improving Australia Financial System: Government Response to the Financial System Inquiry, The Australian Government, Treasury http://www.treasury.gov.au/~/media/Treasury/Publications%20and%20Media/Publications/2015/Government%20response%20to%20the%20Financial%20System%20Inquiry/Downloads/PDF/Government_response_to_FSI_2015.ashx*

Scientists and especially philosophers know the importance of scholastic approach, which simplifies existing knowledge, preserves information overload and broadens human minds for new ideas. The simplicity trend, for example, is shared by Klaas Knot (2013), the President of the DE Nederlandsche Bank, who pointed that *"the financial sector can be seen as one of the most complex areas in today's world. A clear and simple business … will help reduce complexity. Banks need to focus once again on … maturity transformation and lending to the real economy"*[16]. According to Andy Haldane (2012), the head of financial stability at the Bank of England, *"Both banks and financial regulation need to be simplified if another crisis is to be averted"*[17]*. "Financial institutions need … making banking easy and saving people time"*[18], as Jeffry Pilcher (2015) claimed.

Financial system simplicity is supported by financial regulation and optimization of financial institutions due to post 2008 Great Recession. Regulators boost capital requirements, as well as profitability, risk management and competence of financial intermediaries, pressure ineffective and too complex of them. Financial institutions optimize their businesses by cost cutting, staff laying-off, branches closing and subsidiaries demerging. The sovereign debt crisis and austerity programs targeted the size of public finance redistribution towards more compact government and less tax burden. American financial sanctions target complicated financial practices, such as off-shores or corruption, and indirectly reduce global capital flows and financial system complexity.

Reducing complexity of financial system could be exemplified by the following regulatory and market trends. Structural products started to be restricted only for rich customers, with specific education and certificates, long investor experience and minimal money requirements. Shadow commissions and cross sales of financial services had been also restricted since the mid-2000's, being serious headaches for ordinary customers. IFRS (International Financial Reporting Standards) and mandatory audit are not promoted widely to small and medium size enterprises, because only the giants could effectively borrow publicly. In the 2000's, Russia pioneered the simplified tax system for entrepreneurs and freelancers, who paid single tax and could simply complete a tax declaration over several hours without any certified tax advisors.

History knows several waves of financial system simplicity, caused by structural crises and conventional meaning that the system no longer drives economic

[16] *The 20th Annual Risk Minds Conference, Amsterdam, 2nd December 2013 http://www.dnb.nl/binaries/speech_tcm46-300651.pdf*

[17] *Aldrick P., 31 Aug 2012, Simplify bank regulation, Economics Editor, The Telegraph, http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/9511834/Simplify-bank-regulation-Haldane-says.html*

[18] *Pilcher J., 2015, The Simplicity Revolution in Banking, The Financial Brand, https://thefinancialbrand.com/51734/the-simplicity-revolution-in-banking/*

progress. The brightest example is the US financial system in the 1950's, followed by the Great Depression and the World War II, when the classical banking business with few main financial services dominated. Overheating of the economy, resulted in system crisis, and reduced the average wealth of households and demand for expensive and risky market-based financial services. The financial system role transforms from busting financial sector output and its championing as GDP contributor towards preserving human time and energy for real sector progress.

Critics of market-based and bank-based types of financial system

A country financial system type is often associated with commercial banks or financial markets the most often. So, conventionally the US and the UK financial systems are market-based, while German and Japan financial systems are based on the domination of commercial banks. The system bases are conventionally measured by bank assets to GDP and market capitalization to GDP, which sometimes controversially indicate the domination. So, the UK bank assets were about 450% of GDP at the end of 2013 (Bush O., 2014), but market capitalization of listed companies was 114% only. Japanese conventionally bank centric financial system demonstrated 185% deposit money bank assets to GDP and 94% of stock market capitalization to GDP at the end of 2014[19], where the first indicator is little less than that for the UK.

More complex indicators of domination of market-based channel relies on numbers of publicly listed companies, traded securities or stock index participants, which show depth, diversity and liquidity of financial markets. So, the largest US market is characterized by 500 actively traded corporations in S&P index, British main index FT includes 100 corporations, German DAX – only 30, but Japan Nikkei has 225 participants staying between the US and the UK. From the investors' side, the measurements could be households with bank deposits and securities custody accounts as a percentage of total households, and as a number of actively traded accounts or as the value of the accounts. Thus, about half of the US adults invest in stocks[20] and a hundred of millions of personal custody accounts are operated, while it is only about 1 million custody accounts in Russia, according to MOEX report[21].

The controversy of the UK seemingly market-based and statistically bank-based system is clarified by the size of the firms and their financing sources. According to the Bank of England survey, 4 largest British corporations have only market

[19] *https://fred.stlouisfed.org/series/DDDM01JPA156NWDB*
https://fred.stlouisfed.org/series/DDDI02JPA156NWDB

[20] *55% according to Gallup 2015 survey and 48% according to Bankrate's Money Pulse survey. http://www.gallup.com/poll/182816/little-change-percentage-americans-invested-market.aspx*
http://money.cnn.com/2015/04/10/investing/investing-52-percent-americans-have-no-money-in-stocks/

[21] *http://www.moex.com/s719*

funding; 61 from 64 large corporations rely on security issue and 3 on credit financing. Hence, only 1/3 of the next 268 firms issue securities, and among 8750 mid-size firms only few are publicly listed (Burrows O. and Low K., 2015). Volz provided similar opinion, that "even in countries with well-developed capital markets, bank financing is the dominant source of external finance for most small and medium-sized firms" (Volz, 2015). Mayer opinionated against market-based system too, that "no country do securities markets contribute a large portion of sector financing; in some countries the contribution was closer to zero. Equity markets … providing mainly prices and takeover processes" (Mayer, 1990).

Corporate giants dominate in financial markets in any country, which is stressed by a relatively small number of stock index participants or by issuers' concentration in trading activity. Only big corporations can effectively maintain public status, including effect of scale and diversity in consumer and financial markets, while the vast majority of smaller ones effectively borrow from banks. Public status costs include independent audit, credit ratings, consultant issues, underwriters' fees and strict listing requirements, which totally constitute to at least millions of dollars per annum per issuer. In addition, the vast majority of retail investors as well as stock index makers prefer issuers with dominant position in industry segments, because large costs becoming the industry champion insures the champion's stability.

The debates about commercial or investment banks domination deeper explain the financial intermediaries influence corporate management. *"Corporate governance in Germany functions mainly through internal mechanisms and involves "insiders" to the corporations that are typically better informed … than anonymous market participants could be. There does not seem to be an active market for takeovers, the maximization of the shareholder value is not the dominant objective of most large German firms". "In the United Kingdom, the corporate objective is unrestricted maximization of profits or shareholder value. The basic mechanism of corporate governance is the takeover market, and the entire corporate governance system is clearly an outsider control system."* (Schmidt R.H, 1999)

Not only the corporations' size, financial management objectives and insider/ outsider influence are estimated by researchers of bank-based or security-based system types. Vladimir Popov from CEMI and NES pointed some details of cash flow management, risk management and risk – return trade-off. *"American managers used to envy their Japanese counterparts that were able to get the steady financing of the projects from banks …, however Japanese investors were envious about greater variety of opportunities provided by the American system. In the securities based system risk is priced by the market itself and born by investors themselves, in the institution based system investment projects are evaluated by banks and the banks bear main risks. The probability and costs of failure are greater in the American system, but benefits of carrying out risky profitable projects are greater as well."* (Popov V., 1999)

There are also scientific debates about commercial or investment banks as the fundamental basements of financial system. O.A Polyakova and the scientific school of the Financial University (2011) stay in the position that: *"transactions in financial market are conducted by corporations, households and governments, which constitute such financial system subsystems as corporate finances, household finances and public finances". "Without denying many specific features of financial intermediaries, those are better included to financial system as corporations".* As an analogue, *"taxation is not distinguished as a separate subsystem of financial system, even if taxes are undoubtedly important redistributive instrument".*

Financial and non-financial corporations make transactions based on fundamentally the same investment appraisal techniques. Finance officers in both cases calculate Net Present Value, Internal Rate of Return, Payback Period, securities Beta and probability of losses, form reserves on credits and investments, forecast cash flows and cash gap, exercise a budget as list of revenues and expenditures. The differences are in tiny details in internal documents and procedures, as those vary, for instance, in Citibank and Douche bank, in New York Stock Exchange and London Stock Exchange. Finance officers in non-financial corporations seem to be staying closer to real fixed capital assets and production processes compared to bankers.

However, both the officers and the bankers recalculate and select investment proposals offered by engineers or chief operation officers. Similar working style becomes especially clear in aggressively growing by Merges and Acquisitions non-financial giant corporations.

State centric financial subsystem

Modern origin of state-based system takes roots in 1920-1930's, when J.M. Keyence's ideas drove the US economy out of the Great Depression, while the USSR government built central plan economy. Since that time, research publications and practical cases mounted, and the art of pro state economists are mainly reviewing the accumulated significant experience. Researchers and policymakers usually point such the role of governments in the financial system as financial regulation, crises intervention, ownership of financial institutions, public budget deficit and sovereign debt, long-term impact of state to the size of financial sector and economic dynamics.

According to Allen and Gale (2001), *"Governments usually play a significant role in the financial system. They are major borrowers, particularly during times of war, recession, or large infrastructure projects. They sometimes also save significant amounts of funds. Central banks typically issue fiat money and are extensively involved in the payments system."* The World Bank researchers (2013) wrote, that *"the state has a crucial role in the financial sector supervision, infrastructure, state ownership of banks, mitigating adverse effects of a crisis. However, over longer periods, direct state involvement can have important negative effects it is advisable*

for governments to shift from direct to indirect interventions." Cooray (2011) stated, that *"quality of governance and legal origin positively influences both financial sector size and efficiency. The size of the government expenditure and ownership of banks has a negative effect on financial sector efficiency and a positive impact on financial sector size".*

The role of the state-based subsystem could be pointed by macro statistics from the Table 2. Taking into account only annual public investments (average 2.7% of GDP), state-based subsystem takes the third place after corporation internal sources and private financial sector. The role of state-based subsystem becomes the second largest, if sovereign debt is considered and compared with market capitalization. The debt mounted towards 100% of GDP in many developed countries (US, for instance) or even towards 200% of GDP (Italy and Japan) in 2009-2016, while market capitalization rarely touched 100% of GDP.

Sovereign debt is less than total bank assets in the vast majority of countries, but state bailout packages have become critically important for banking sector and contributing substantially to sovereign debt amount. As it has been mentioned before, sovereign debt had been substituting private credit over 2009-2016, and major economies collapsed without exploitation of state-based subsystem.

Bank-based and state-based subsystems interrelate not only by bailout programs funded by sovereign debt. Governments play a critical role in banking regulation and supervision, shaping bank-based subsystem. Governments organize and fund special banks for development, export promotion, specific critically important industries, and international financial organizations (IMF, WB, EBRD). By bank credit and its characteristics governments clarify return from public investments, which is less visible in budgetary funded programs. Authorities of some large countries (Russia, Brazil and China) own and exercise decisive operational management in leading commercial banks, using higher trust from the public and other advantages of the state-based subsystem. La Porta, Lopezde-Silanes and Shleier (2000) pointed, that *"government ownership of banks is large and pervasive around the world,… particularly significant in underdeveloped financial systems"* .

Consolidated general budgetary revenues and expenditures constitute about 35-50% of GDP from country to country, what makes a budgetary sector as large as a corporate sector. Governments mainly redistribute current income and consumption between various social groups, fund public services and pay state administrators wages, formally out of transforming savings to investments. Such public budget programs are aimed to optimize consumption of social groups and production of public services to bust economic output. In corporate sector, not all operating surplus turns directly to net profit and investments, redistribution of the surplus by financial intermediaries and dividend payments constitute an important part of investment processes and returns.

The Soviet Union financial system is the brightest example of the state centric financial system. Central government owned a vast majority of production facilities and managed those through central planning system. The central government centralized retained earnings and amortization funds of state run companies, and invested them to replacement of equipment, to new plants and infrastructure. The Soviet government serviced household savings by monopolistic Sberbank, the companies' payments and cash flows - through three sector specific banks. Pensions, insurance, mortgages were monopolized and state run too; no stock and derivatives market existed, and only a tiny shadow market operated for foreign currency and gold.

The Soviet system did not seem to service investments well, as many financial tools were absent or monopolized. At the same time, the Soviet system mobilized extremely cheap financial sources in huge volumes and for a long time, allowing funding large investments with long return. The reasons of such system success was extremely small contribution to GDP (about 0.5%, compared to modern Russia (4.3%) and the US (8.2%), little system costs and charges. Extremely small system charges resulted from monopolization, simplified financial tools, small labor costs, little risks and risk-premium due to the system stability. The system collapsed in 1991 because of structural weaknesses of the Soviet production sector, as many banking crises originate from the massive toxic credits unpaid by real sector.

The state centric real nature of the western countries financial system should be proved not only by the post crisis policy, but also by state domination in some investment sectors. Public budget investments dominate in infrastructure projects, from federal roads, to local communal utilities. The reason of the domination of governmental money is not a secret penetration of communist ideology, but the theory of public goods, which production could be reasonably monopolized. In addition, the capital intensity and a long payback period could be satisfied only by public investments, as state can borrow cheaper, longer and more massively compared to any private borrowers or issuers.

Public spending dominates in R&D at most and in medicine in particular, when governments covers about 60% of medical service costs worldwide. Even in the US, where private insurance companies and private clinics dominate, the authorities are the biggest single contributors to medical sector (48% in 2014)[22]. Medical programs, such as the US Medicare and Medicaid, formally were not considered as part of governmental investments and stayed in "current" spending. Without public money, private medicine could not massively purchase innovative equipment and new drags. At the same time, the US federal medical programs are the largest contributors to huge public budget deficit and record high American sovereign debt.

[22] *http://data.worldbank.org/indicator/SH.XPD.PUBL?locations=US*

Researchers of bank-based and market-based types of financial system stress such features of corporate and financial management, as their privacy and transparency, long-run business interests or short-term profit maximization. Similar issues exist in state-based type of financial system as well. Relations between tax authorities and individual taxpayers are not disclosed publicly (as commercial bank lending). At the same time, the society demands a high degree of transparency of state funded massive programs similar to listing requirements.

Governments spend money on social programs promoting economic growth and expecting higher taxes, as corporations invest money expecting return. At the same time, public spending programs are measured by the complex of socio-economic indicators, not only for simple profit and monetary return as corporations do.

General advantages of state-based financial system rely on the state big scale, monopolization of law making and enforcing and monetary emission. The scale is undoubtedly the highest in the US, also in other G20 economies, in comparison with ordinary corporations, but corporate giants have financial power higher than governments of mid-size countries.

The monopolistic status allow governments to raise taxes and print currency to pay back sovereign debt, but the volumes limited by similar policies of neighbor states and the states competition for corporate investments. In general the advantages allow governments to raise the biggest funds, for longer time and lower interest, compared to any domestic corporations and banks.

Corporate centric financial subsystem

The importance of corporate finance subsystem take roots from the fact, that corporations provide capital and labor intensive goods, finally transfer savings into investments. “Corporate finances act as initial sphere of financial system, where primary financial resources are formed and started redistributing, and also corporate finances secures production process and investments into fixed assets” (Griaznova and Markina, 2010). Investment and commercial banks are understood as pure intermediaries, because they do not directly manage investment projects and operate by customers’ money. Financial intermediaries only select the projects offered by corporations and agree to allocate money for its realization.

There are some debates about real role of corporate finance officers in production, sales and profit making. Finance officers do not really deal with equipment, raw materials and finishing goods; do not directly communicate with customers and suppliers. The officers operate with accounting and managerial documents; calculate costs and suitable selling prices, advice other managers the ways of profitable conduction of their businesses. They exercise daily routine of cash flow management and budget and supervise thousands of transactions, while bankers only fund or invest clients’ cash flow gaps by few transactions. One of the primary roles

of corporate finance officers includes advisory to top executives on purchasing equipment and acquiring other businesses (Vovchenko *et al.,* 2017).

In the 20th century, big corporations played a substantial role in economies, and financial systems allocated resources to corporate direct investments into fixed assets the most. Even if small businesses and public services contribute the most in GDP of modern developed economies, big corporations determine a skeleton of the economies and countries' place in the global specialization. The corporate landscape has been stabilizing in majority of countries and industries, new industries and stock index participants occur very rare. Leading companies could participate in Mergers and Acquisitions, sell and buy subsidiaries and plants, replace depreciated equipment, but the activity mainly recombine existing resources.

Macro statistics of big countries shows that vast majority of corporate investments is financed by retained earnings and amortization. In Russia, according to Rosstat (2015)[23], 78-90% of all investments (depends on industries and companies) financed by such internal financial sources. In the US, one of the popular rankings is "cash holding", showing how corporate America sits in "treasuries" as the result of record high profits and lack of investment opportunities due to recession.

According to Michelle Davis (2016), the US large corporations hold $ 1.8 tn. of cash, which is near the corporate debt maturing over 5 years (Bloomberg references on Moody's calculations, the end of 2016)[24]. External financial sources and reserves play more significant role mainly in cases of interruption of normal conduct of business, drying up internal financial sources, corporate bankruptcies and investor losses.

Why companies service their investments themselves or even become net lenders (as in the case of the US corporate giants)? An answer relies on the fact, that big corporations manage finances better than banks and avoid any intermediation and commissions. Typically, big non-financial corporations have larger capital buffer and less leverage compared to financial intermediaries.

Real options allow corporations managing cash flow easier and determining better timing and financial sources for investments, while financial intermediaries (especially commercial banks) have to follow strict liabilities schedule and bear commissions for hedging risks by derivatives. Heremans (2007) pointed that *"tradeoffs between equity governance and debt governance for banks,....is a*

[23]*Rosstat data (Russian Census Bureau) http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/investment/nonfinancial/*

[24]*M. Davis, May 20, 2016, Cash-Stuffed Balance Sheets No Match for U.S. Company Debt, https://www.bloomberg.com/news/articles/2016-05-20/cash-stuffed-balance-sheets-can-t-match-even-bigger-debt-loads*

corporate governance model for banks". Caprio and Levine (2002) *"highlighted the special problems facing corporate governance of financial intermediaries,....equity and debt holders influence managers,…impediments to effective corporate control"*

A decisive role of big corporations and declining role of financial intermediaries are approved by the tendency of direct communications of corporations and investors, and direct purchasing of some financial products. For example, SWIFT was organized for banks only, but now offers communicative services directly to big non-financial corporations.

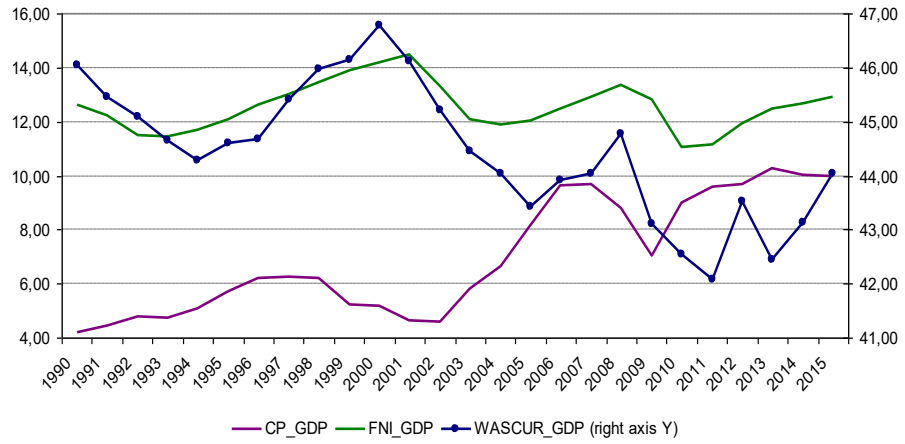
Central banks as lenders of last resorts classically refinance banks only, but the Fed, the ECB and the Bank of England have been massively investing into high grade corporate bonds since 2008. Major stock exchanges were elite clubs for bankers, but now they offer direct access to currency exchange and derivatives sections to non-financial giants. Such word collocation as "banking system without banks" is now supported by active development by IT and telecom giants of payment services and crowd funding. Excluding banks and other financial intermediaries, non-financial corporations pay less commission, cut costs and bust their profits.

There are many evidences that big corporate conglomerates act as owners of big commercial banks and guide its intermediation. The best historic example is J.P. Morgan, who is remembered by the public as a banker mostly, but in fact, he was the owner of the largest industrial conglomerate, that supported his bank during crises.
Azar, Raina, and Schmalz (2016) searched for concentration and intersections of ownership of the 6 largest US banks, which key owners represented famous American corporate conglomerates. Vitali, Glattfelder and Battiston (2011) also found evidences of more complex ownership intersections, where leading investment conglomerates (rarely pure commercial banks) exercised significant ownership of transnational corporations.

Pension funds and insurance companies seem to play a significant role as suppliers of long-term capital for the real sector. Non-financial giants establish corporate pension funds, which reverse parts of employees' compensations to parent corporate stocks and bonds. McCarthy (2014) pointed that *"while pension fund investments accounted for nearly 25 percent of all US corporate equity....American unions.... unable to exert much control over them".* Dombroff (2009) also claimed that *"unlikely that….pension funds ever will be able to....do anything more than chide, chastise, or confer with directors and executives from the large corporations in which they invest".* Governments also establish saving pension schemes for civil employees, allocating pension money to sovereign bonds. The brightest examples are the US social security funds and various federal pension funds, which together hold about $5.5 tn. of American federal debt out of about $20 tn. of the total debt[25].

[25] *https://www.nationalpriorities.org/campaigns/us-federal-debt-who/*

Figure 2. *The US corporate profit, corporate fixed capital investments, household income as percentage of GDP over 1990-2010's (FRED[26], constructed by the author)*



The control of financial institutions allows non-financial giants to raise cheaper and more massive financial resources from households. Cited above Azar, Raina, and Schmalz (2016) pointed the result of ownership concentration of big American banks: "people are charged higher fees and get less for deposits". Over the 2008-2016 Great Recession, extremely small interest rates allowed American corporations doubling total net profits, while GDP figures had not grown and households' income even declined by several percentage points of GDP (see Figure 2). Growing profit (without amortization) nearly reached corporate fixed capital investments, which prove the first role of corporate finance in financial system and declining role of financial intermediaries.

Households and socialist politicians believe that pro-corporate world is not fair, but financial system becomes more stable. Higher profits allow corporations securing real return on investments, asking less refinancing from banks and declining the banks losses. Banks recover the quality of their credit portfolios and prices of securities portfolios, decline the demand or even reverse bailout packages from public budgets.

Federal authorities can decrease new borrowing and fight corporate tax evasion more actively, not pressuring household finances by growing taxes. The US economy demonstrates more sustainable growth and a little move out of generous stimulus packages based on credit drag. Total credit has still been growing in the US, but the growth pace noticeably declined and sources of credit return became more visible. The US financial system dynamics can guide for other countries financial systems and towards the corporate finance-based system in global landscape.

[26] *https://fred.stlouisfed.org/series/A008RE1Q156NBEA*

References

Allen, F., Gale, D. 2001. Comparative Financial Systems: A Survey**,** https://core.ac.uk/download/pdf/6649943.pdf

Azar, J., Raina, S., Schmalz, M. 2016. Ultimate Ownership and Bank Competition, https://ssrn.com/abstract=2710252

Burrows, O., Low, K. 2015. Mapping the UK financial system, Bank of England Quarterly Bulletin, Q2 2015, http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2015/q201

Bush, O. 2014. Why is the UK banking system so big and is that a problem? http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q402.pdf

Caprio, G.Jr., Levine, R. 2002. Corporate Governance in Finance: Concepts and International Observations, The paper was prepared for the 2002 World Bank, IMF, and Brookings Institution Conference, Building the Pillars of Financial Sector Governance: The Roles of Public and Private Sectors http://siteresources.worldbank.org/DEC/Resources/corporategover_finance.pdf

Cecchetti, S.G. and Kharroubi, E. 2012. Reassessing the Impact of Finance on Growth, BIS Working Paper № 381, p. 3, Basel: Bank for International Settlements,

Colangelo, A. and Inklaar, R. 2010. Banking Sector Output Measurement in the Euro Area - A Modified Approach, ECB Working Paper Series No. 1204.

Cooray, A. 2011. The role of the government in financial sector development. Economic Modelling, 28 (3), p. 928-938, http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1963&context=commpapers

Domhoff , G.W. 2009. Pension Fund Capitalism or Wall Street Bonanza? A Critique of the Claim That Pension Funds Can Influence Corporations. http://www2.ucsc.edu/whorulesamerica/power/pension_fund_capitalism.html

Griaznova, A.G., Markina, E.V. et al. 2010. Finance, Finance and Statistics Publisher, Moscow.

Hamid, U., Won Kie, A. 2016. Further Test on Stock Liquidity Risk with a Relative Measure. International Journal of Economics and Business Administration, 4(1), 56-69.

Havlíček, K., Thalassinos I.E. and Berezkinova, L. 2013. Innovation Management and Controlling in SMEs. European Research Studies Journal, 16(4), 57-70, Special Issue on SMEs.

Heremans, D. 2007. Corporate Governance Issues for Banks. A Financial Stability Perspective, Center for Economic Studies Discussions Paper Series (DPS) 07.07 http://www.econ.kuleuven.be/ces/discussionpapers/default.htm

Jacobsson, P., Crockett A. 2011. What financial system for the 21st century? Basel, http://www.bis.org/events/agm2011/sp110626.pdf

La Porta R., Lopezde-Silanes F., Shleifer A. 2000. Government Ownership of Banks, NBER Working Paper No. 7620, http://www.nber.org/papers/w7620

Liapis, K., Rovolis, A., Galanos, C. and Thalassinos, I.E. 2013. The Clusters of Economic Similarities between EU Countries: A View Under Recent Financial and Debt Crisis. European Research Studies Journal, 16(1), 41-66.

Liapis K. and Thalassinos, I.E. 2014. Segmental financial reporting and the internationalization of the banking sector. Chapter book in, Risk Management: Strategies for Economic Development and Challenges in the Financial System,(eds), D. Milos Sprcic, Nova Publishers, 221-255.

Mayer, C. 1990. Financial Systems, Corporate Finance and Economic Development: R. G. Hubbard (red.). Asymmetric Information. Corporate Finance and Investment. University of Chicago Press.

McCarthy, M.A. 2014. Turning Labor into Capital: Pension Funds and the Corporate Control of Finance, Politics & Society, Vol. 42(4), p. 455–487. http://www.mpifg.de/pu/mpifg_ja/PS_42_2014_McCarthy.pdf

Merton, R.C. 1990. The Financial System and Economic Performance, Journal of Financial Services Research, p. 263-300.

Polyakova, O.A. 2011. About financial system and its elements, Chair of Finance and Credit, № 3 (345).

Popov, V. 1999. Financial System in Russia as Compared to Other Transition Economies: Anglo-American versus German-Japanese Model, Comparative Economic Studies, Vol. 41, Issue 1, p. 1-41, http://fir.nes.ru/~vpopov/documents/FINSYS.pdf

Schmidt, R.H. 1999. Differences between Financial Systems in European Countries: Consequences for EMU 1999, https://core.ac.uk/download/pdf/14503800.pdf

Schmidt, R.H., Tyrell, M. 2003. What constitutes a financial system in general and the German financial system in particular? Working Paper Series: Finance & Accounting, № 111, p. 5–12, Johann Wolfgang Goethe-Universitat Frankfurt am Main, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.3750&rep=rep1&type=pdf

Shimigol, N.S. 2010. Modern notion about financial system in economic literature, Chair of Finance and Credit, № 43 (427), p. 56.

Suryanto, T. 2016. Dividend policy, information technology, accounting reporting to investor reaction and fraud prevention. International Journal of Economic Perspectives, 10(1), 138-150.

Thalassinos, I.E., Liapis, K. and Thalassinos, E.J. 2014. The role of the rating companies in the recent financial crisis in the Balkan and black sea area. Chapter book in Economic Crisis in Europe and the Balkans, 79-115, Contributions to Economics, Springer International Publishing.

Thalassinos, I.E., Stamatopoulos, D.T. and Thalassinos, E.P. 2015. The European Sovereign Debt Crisis and the Role of Credit Swaps. Chapter book in The WSPC Handbook of Futures Markets (eds) W. T. Ziemba and A.G. Malliaris, in memory of Late Milton Miller (Nobel 1990) World Scientific Handbook in Financial Economic Series Vol. 5, Chapter 20, pp. 605-639.

The World Bank. 2013. Rethinking the Role of the State in Finance. Global Financial Development Report https://openknowledge.worldbank.org/bitstream/handle/10986/11848/Global%20Financial%20Development%20Report%202013.pdf

Vitali, S., Glattfelder, J.B., Battiston, S. 2011. The Network of Global Corporate Control , PloS one, vol. 6, № 10. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0025995

Volz, U. 2015. Effects of financial system size and structure on the real economy. What do we know and what do we not know? United Nations Environment Programme, Inquiry Working Paper.

Vovchenko, G.N., Holina, G.M., Orobinskiy, S.A. and Sichev, A.R. 2017. Ensuring Financial Stability of Companies on the Basis of International Experience in Construction of Risks Maps, Internal Control and Audit. European Research Studies Journal, 20(1), 350-368.

Ugurlu, E. and Muratoglu, Y. and Thalassinos, I.E. 2012. Income Inequality and Inflation in the EU. European Research Studies Journal, 15(1), 127-140.