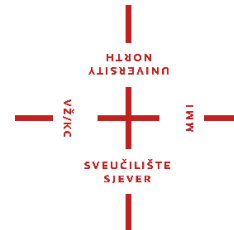




Varazdin Development and Entrepreneurship Agency
in cooperation with

Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat, Morocco
University North, Croatia
Faculty of Management University of Warsaw, Poland



Economic and Social Development

29th International Scientific Conference on Economic and Social Development

Editors:

Mirosław Przygoda, Lana Lovrencic Butkovic, Elzbieta Szymanska

ISSN 1849-7535



9 771849 753006 >

Book of Proceedings

Rabat, 10-11 May 2018

Varazdin Development and Entrepreneurship Agency
in cooperation with
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat, Morocco
University North, Croatia
Faculty of Management University of Warsaw, Poland

Editors:
Mirosław Przygoda, Lana Lovrencić Butković, Elżbieta Szymanska

Economic and Social Development
29th International Scientific Conference on Economic and Social Development

Book of Proceedings

Rabat, 10-11 May 2018

Title ■ Economic and Social Development (Book of Proceedings), 29th International Scientific Conference on Economic and Social Development

Editors ■ Miroslaw Przygoda, Lana Lovrencic Butkovic, Elzbieta Szymanska

Scientific Committee ■ Marijan Cingula, University of Zagreb, Croatia (President); Ayuba A. Aminu, University of Maiduguri, Maiduguri, Nigeria; Anona Armstrong, Victoria University, Australia; Gouri Sankar Bandyopadhyay, The University of Burdwan, Rajbati Bardhaman, India; Haimanti Banerji, Indian Institute of Technology, Kharagpur, India; Asmae Benthani, Mohammed V University, Morocco; Alla Bobyleva, The Lomonosov Moscow State University, Russia; Leonid K. Bobrov, State University of Economics and Management, Novosibirsk, Russia; Rado Bohinc, University of Ljubljana, Slovenia; Zeki Atil Bulut, Dokuz Eylul University, Turkey; Adnan Celik, Selcuk University - Konya, Turkey; Angelo Maia Cister, Federal University of Rio de Janeiro, Brasil; Mirela Cristea, University of Craiova, Romania; Sreten Cuzovic, University of Nis, Serbia; Taoufik Daghari, Mohammed V University, Morocco; Oguz Demir, Istanbul Commerce University, Turkey; T.S. Devaraja, University of Mysore, India; Onur Dogan, Dokuz Eylul University, Turkey; Darko Dukic, University of Osijek, Croatia; Gordana Dukic, University of Osijek, Croatia; Alba Dumi, Vloa University, Vlore, Albania; Ksenija Dumcic, University of Zagreb, Croatia; Galina Pavlovna Gagarinskaya, Samara State University, Russia; Fran Galetic, Zagreb University, Croatia; Mirjana Gligoric, Faculty of Economics, Belgrade University, Serbia; Mehmet Emre Gorgulu, Afyon Kocatepe University, Turkey; Aleksandra Grobelna, Gdynia Maritime University, Poland; Liudmila Guzikova, Peter the Great Saint-Petersburg Polytechnic University, Russia; Anica Hunjet, University North, Koprivnica, Croatia; Khalid Hammes, Mohammed V University, Morocco; Oxana Ivanova, Ulyanovsk State University, Ulyanovsk, Russia; Irena Jankovic, Faculty of Economics, Belgrade University, Serbia; Lara Jelenc, University of Rijeka, Croatia; Myrl Jones, Radford University, USA; Gorazd Justinek, Graduate School of Government and European Studies, Slovenia; Hacer Simay Karaalp, Pamukkale University, Turkey; Grzegorz Karasiewicz, University of Warsaw, Poland; Dafna Kariv, The College of Management Academic Studies, Rishon Le Zion, Israel; Salih Katircioglu, Eastern Mediterranean University, Northern Cyprus, Turkey; Hilal Yildirim Keser, Uludag University, Bursa, Turkey; Sophia Khalimova, Institute of Economics and Industrial Engineering of Siberian Branch of Russian Academy of Science, Novosibirsk, Russia; Marina Klacmer Calopa, University of Zagreb, Croatia; Vladimir Kovsca, University of Zagreb, Croatia; Goran Kozina, University North, Koprivnica, Croatia; Dzenan Kulovic, University of Zenica, Bosnia and Herzegovina; Robert Lewis, Les Roches Gruyère University of Applied Sciences, Bulle, Switzerland; Ladislav Lukas, Univ. of West Bohemia, Faculty of Economics, Czech Republic; Mustapha Machrafi, Mohammed V University, Morocco; Pascal Marty, University of La Rochelle, France; Vaidotas Matutis, Vilnius University, Lithuania; Marjana Merkac Skok, GEA College of Entrepreneurship, Ljubljana, Slovenija; Daniel Francois Meyer, North West University, South Africa; Marin Milkovic, Rector, University North, Koprivnica, Croatia; Abdelhamid Nechad, Abdelmalek Essaadi University, Morocco; Gratiela Georgiana Noja, West University of Timisoara, Romania; Zsuzsanna Novak, Corvinus University of Budapest, Hungary; Alojzy Z. Nowak, University of Warsaw, Poland; Mislav Ante Omazic, University of Zagreb, Croatia; Vera Palea, Università degli Studi di Torino, Italy; Dusko Pavlovic, President DIU Libertas International University, Zagreb, Croatia; Igor Pihir, University of Zagreb, Croatia; Dinko Primorac, University North, Koprivnica, Croatia; Zeljka Primorac, University of Split, Croatia; Miroslaw Przygoda, University of Warsaw, Poland; Nicholas Recker, Metropolitan State University of Denver, USA; Kerry Redican, Virginia Tech, Blacksburg, USA; Humberto Ribeiro, University of Aveiro, Portugal; Robert Rybnicek, University of Graz, Austria; Elzbieta Szymanska, Bialystok University of Technology, Poland; Katarzyna Szymanska, The State Higher School of Vocational Education in Ciechanow, Poland; Jan Turyna, University of Warsaw, Poland; Ilaria Tutore, University of Naples Parthenope, Italy; Rebeka Danijela Vlahov, University of Zagreb; Ilko Vrankic, University of Zagreb, Croatia; Thomas Will, Agnes Scott College, USA; Li Yongqiang, Victoria University, Australia; Peter Zabielskis, University of Macau, China; Tao Zeng, Wilfrid Laurier University, Waterloo, Canada; Snezana Zivkovic, University of Nis, Serbia.

Review Committee ■ Marina Klacmer Calopa (President); Ana Aleksic; Ayuba Aminu; Mihovil Andjelinovic; Josip Arneric; Lidija Bagaric; Tomislav Bakovic; Sanja Blazevic; Leonid Bobrov; Ruzica Brečić; Anita Ceh Casni; Mirela Cristea; Oguz Demir; Stjepan Dvorski; Robert Fabac; Ivica Filipovic; Sinisa Franjic; Fran Galetic; Mirjana Gligoric; Tomislav Globan; Anita Goltnik Urnaut; Tomislav Herceg; Irena Jankovic; Emina Jerkovic; Dafna Kariv; Oliver Kesar; Hilal Yildirim Keser; Martina Dragija Kostic; Tatjana Kovac; Vladimir Kovsca; Angelo Maia Cister; Katarina Marosevic; Vaidotas Matutis; Marjana Merkac Skok; Josip Mikulic; Ljubica Milanovic Glavan; Daniel Francois Meyer; Natanya Meyer; Guenter Mueller; Ivana Nacinovic Braje; Zlatko Nedelko; Gratiela Georgiana Noja; Zsuzsanna Novak; Alka Obadic; Claudia Ogrean; Igor Pihir; Najla Podrug; Vojko Potocan; Dinko Primorac; Zeljka Primorac; Sanda Renko; Vlasta Roska; Souhaila Said; Armando Javier Sanchez Diaz; Tomislav Sekur; Lorena Skuflic; Mirko Smoljic; Petar Soric; Mario Spremic; Matjaz Stor; Tomasz Studzieniecki; Lejla Tijanac; Daniel Tomic; Boris Tusek; Rebeka Daniela Vlahov; Ilko Vrankic; Thomas Will; Zoran Wittine; Tao Zeng; Snezana Zivkovic; Berislav Zmuk.

Organizing Committee ■ Domagoj Cingula (President); Marina Klacmer Calopa; Spomenko Kesina; Erlino Koscak; Miroslaw Przygoda; Rebeka Danijela Vlahov; Sime Vucetic.

Publishing Editor ■ Domagoj Cingula

Publisher ■ **Design** ■ **Print** ■ Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat, Morocco
Faculty of Management University of Warsaw, Warsaw, Poland
University North, Koprivnica, Croatia

Printing ■ Online Edition

ISSN 1849-7535

The Book is open access and double-blind peer reviewed.

Our past Books are indexed and abstracted by ProQuest, EconBIZ, CPCI (WoS) and EconLit databases and available for download in a PDF format from the Economic and Social Development Conference website: <http://www.esd-conference.com>

© 2018 Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia; Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat, Morocco; Faculty of Management University of Warsaw, Warsaw, Poland; University North, Koprivnica, Croatia.

All rights reserved. Authors are responsible for the linguistic and technical accuracy of their contributions. Authors keep their copyrights for further publishing.

LINKING BANKING SECTOR ADVERTISING TO PERSONAL INDEBTEDNESS: THE CASE OF CROATIA

Dunja Skalamera-Alilovic

*Faculty of Economics and Business, University of Rijeka, Croatia
dunja.skalamera-alilovic@efri.hr*

Mira Dimitric

*Faculty of Economics and Business, University of Rijeka, Croatia
mira.dimitric@efri.hr*

Darja Kupinic Guscic

*Media net d.o.o. Zagreb, Croatia
medianet@medianet.hr*

ABSTRACT

The global problem of growing household indebtedness is gaining momentum. It has become one of the prominent societal problems and therefore on the agenda of many governments as a key problem to cope with. So far it can be observed that great attention of both academic and government communities has been directed towards only one agent in the debt generation process – the borrower/household and its responsibility in mitigating the present level of indebtedness as well as accountable management of future new debt. The neglected problem area is the role of the second agent in the debt contract relationship, and that is the lender – mainly the banking sector. The problematization of the responsibility of banks in unsustainable levels of household indebtedness is founded on multiple phenomena as sources of inequality in debt contracting. The first phenomenon that makes banks the superior side of the relationship is massive information asymmetry. Banks are far more knowledgeable on all matters of financial nature than their counterparts (borrowers). The second phenomenon is banks' enormous advantage in resourcefulness, both material (technological) and intangible (intellectual capital) resources. Therefore, it is only fair to focus the research on shedding light on banking sector operations as drivers of excessive household indebtedness. To gain market share and stimulate demand for their financial services, mainly expansion of credit, banks heavily rely on non-price competition tools such as advertising, sales promotion, personal selling, and publicity. Hence, the goal of this research is development of causal links among banking sector advertising activities, their outcomes in credit market developments and personal indebtedness. The empirical analysis of the 15-year time series is performed by using quarterly data on Croatian banking sector advertising expenditures and household sector credits. The results of the Granger-causality analysis indicate that there is a one-way predictive causality in which the advertising expenditures of the banking sector can be used to predict household sector credits as a principal indicator of personal indebtedness.

Keywords: *Banking Sector Advertising, Personal Indebtedness, Responsible Lending, Household Credit*

1. INTRODUCTION

Households are the heart of any society, and in economic sense, they are the primary actor of consumption. The soundness of all processes connected with sustainability of aggregate consumption is of utmost importance in every economy. Yet, in the past decade we have witnessed the so far unstoppable surge in improperly managed cases of household over-indebtedness.

This phenomenon leaves behind numerous unfavorable consequences on families: loss of all assets including homes, and ultimately, detriment of both physical and mental health. The main body of research tries to explain the problem of personal indebtedness with reasons that lie mainly on the side of the borrower/- household. By contrast, this research aims to add to the existing literature on the role of banking sector in overstimulation of anticipative consumption by additional debt in the form of a bank credit. The specific focus of this paper is examination of advertising expenditures of banking industry as a generator of the above- mentioned additional household credit. The research in this subject area has so far been mainly of descriptive nature and this research is aimed to expand knowledge on the link between banking operations (advertising in particular) and indebtedness through econometric analysis of time series data. The paper is structured in the following way: the first section provides a review of literature dealing with ethical problems in performing contemporary banking operations. The unequal, neglected position of customers/households in the circumstances of great information asymmetry is outlined. There is also a review of different banking phenomena connected with the issue of irresponsible lending. In the next section, data on over-indebtedness in Croatia are used to help develop a hypothesis on the link between banking sector advertising and household credit. Next, the data collection and analysis methodology is explained. Thereafter, the results of the Granger causality test are presented and discussed, limitation explained, and recommendations for further research provided. Finally, conclusions and policy implications are drawn.

2. LITERATURE REVIEW

Banks have a critical role in the society, but this role is burdened by conflicting interests. Research confirms that the goals of bank's top executives and other managers are measured short-term (three months to one year), typically by profit growth and market share expansion (Villa, 2015, p. 158). On the other hand, from the macroeconomic perspective banking system has crucial importance as it provides long-term stability of the financial system and sustainable level of overall growth of national economies. These two goals need an interventionist action in the form of sound regulatory framework able to control undesirable consequences of banks' pursuit of their short-term goals. The growing problem of unsustainable level of household indebtedness has been recorded worldwide (Andresan-Grigoriu, Moraru, 2015; Frade, Pinheiro Almeida, 2015; Gutiérrez de Cabiedes, Cantero Gamito, 2015; Józson, 2015; Kempson, 2015; Méndez Pinedo, Domurath, 2015; Mentis, Pantazatou, 2015; Packman, 2014; Tokeley, 2017; Trading Economics, 2017; United States Courts, 2017; Vandone, 2009). Ramsey (2012) points out that over-indebtedness has become an important social and economic issue; moreover, it particularly affects more vulnerable households (lower income). This links the problem of indebtedness with the problem of poverty and magnifies the mediating role of regulators in tackling these issues. Banks declare in their codes of conduct that their key business values are "the highest personal standards of integrity at all levels, commitment to truth and fair dealing, commitment to quality and competence, commitment to the welfare and development of each local community" (Villa, 2015, p. 80) and many more, all in line with outstanding levels of business ethics and corporate social responsibility. However, evidence collected by researchers, consumer protection agencies and governments (Packman, 2014, p. 135) oppose these statements with numerous cases of irresponsible/reckless/predatory lending practices, many of which refer to advertising as the most important marketing activity prior to the lending transaction. Many European stakeholders provided the following examples of such unfair advertising and marketing practices (European Commission, 2009): disregard for or failure to calculate APRC (Annual Percentage Rate of Charge), the promotion of 0% introductory interest rates or interest-free credit, the advertising of a lower starting rate – called the 'rate of entry' – which is then employed only for the first few months, a lack of interest rate ceiling, floating

rate mortgages, 'buy now, pay later' advertisements that do not indicate that it concerns a credit or loan, advertisements of easy and direct access to credit, failure to mention administrative costs, inadequate information on terms and conditions, the possibility of the lender to unilaterally change conditions, unsolicited increases in credit limits, predatory lending - loan sharks and payday loans, sending direct advertising to already over-indebted borrowers involved in collective debt settlement procedures, revolving credit, consolidated loans and equity release products and interest-only mortgages. These practices are undertaken mainly by banks. Previous research (Škalamera-Alilović, Dimitrić, 2017) detected that many of the above practices are implemented in the Croatian banking sector. Another research (Ipsos and London Economics, 2013) indicates that provision of information at the advertisement and pre-contractual stage is poor to extremely poor throughout the European Union, measured by the level of compliance of creditors to the requirements of central regulation covering this matter – CCD (Consumer Credit Directive of 2008). As Osuji (2017) points out, advertising creates undue and excessive demand for consumer credit which has adverse consequences not only for individual consumers, but also the financial system as a whole. In an Australian study of community attitudes (Fear, O'Brien, 2009) 80% of survey respondents agreed that advertising encourages people to spend more than they earn, and there is a strong belief that lenders and regulators, not individual consumers, are responsible for the debt situation in Australia. Regulatory responses (legislation and guidelines) to such situation are scarce (e.g. Belgium, Malaysia, South Africa, Australia) (Solli-Hubbard, 2013). Despite the existing legislation there is a general lack of appropriate enforcement; it is therefore not surprising that such incomplete interventions (absence of control and sanction) failed to affect the debt levels; they are still high and rising. In his study of countries across Europe, North America, parts of Australasia, and beyond, Packman (2014) finds a commonality that he calls the neoliberal experiment that is a result of financial sector deregulation. The main goal of such experiment is to give primacy to the consumer, roll back the state, but still hold the regulator responsible for rising levels of personal debt. The view expressed in this paper does accept the vital role of regulation, especially its improvement in the implementation process, but also emphasizes the need for fundamental turnaround in the implementation of responsible, ethical, voluntary practices in the operations of the banking sector itself. An example of such an attempt has been found in United Arab Emirates (Martin, 2013, Kassem, 2015) where the banking sector aims to regulate itself by implementation of an industry code of conduct (UAE Banks Federation, 2014) with a key target of the strategy being misleading advertising about loans. Customers would expose bad services and an industry body would name and shame irresponsible lenders. There is still no information about the outcomes of this positive attempt, only the fact that it has been five years since the inception of this idea, and there is no implementation of any concrete tools for customer feedback (web page was announced in 2013).

3. HYPOTHESIS DEVELOPMENT

Credit market in Croatia shows a pattern of redirection of the banking sector principal market segment from corporate towards household and other (mainly state) sectors. The following table presents the scale of this undesirable shift from the viewpoint of national economy development.

Table following on the next page

Table 1: Structure of loan allocation of Croatian banks in % (Authors' calculations according to the data by Družić. 2001, Croatian National Bank, 2018)

Year	Corporate credit	Household credit	Other credit
1994	69,9	28,8	1,3
2006	40,0	39,4	20,6
2016	26,0	45,0	29,0

The share of household credit rose in this period of over two decades by 16,2 percentage points, and the share of other sectors by 27,7 percentage points, all at the expense of the corporate sector. This trend may be explained by the risk aversion of the banking sector since limited liability of companies increases the risk of default and motivates banks to turn to less risky, unlimited liability households and the public sector. Consequences of such profit-seeking short-term banking sector strategies can be observed in the following data on over-indebted individuals in Croatia.

Table 2: Personal over-indebtedness – individuals with frozen accounts (Financial Agency, 2018b, 2017b, 2016b, 2015b, 2014a and authors' calculations)

Year	Number of individuals	Share in population	Share in working – age population
Jan 2012	211.234	4,9	7,4
2012	245.441	5,7	8,5
2013	299.795	7,0	10,4
2014	322.498	7,5	11,2
2015	321.580	7,5	11,2
2016	327.176	7,6	11,4
2017	319.752	7,5	11,1

The statistics of frozen accounts of individuals has been followed since January 2012 when public institutions detected a large-scale societal problem. The first information on individuals' frozen accounts show already more than 200 thousand of such personal over- indebtedness cases which then affected almost 5% of total Croatian population and more than 7% of working-age population. Six years later, at the end of 2017 the number of frozen accounts rose by more than 50%, now affecting 2,53 percentage points more of total population and 3,78 percentage points more of working-age population. Every fifth household in Croatia is affected by a frozen account.¹ The following table presents additional data in line with the argument of a strong link between financial sector activities and steeply rising debt of over-indebted persons.

Table following on the next page

¹ According to 2011 Census, there are 1.519.038 households in Croatia (Croatian Bureau of Statistics, 2016)

*Table 3: Personal over-indebtedness - frozen accounts debt indicators
(Financial Agency, 2018a, 2017a, 2016a, 2015a, 2014b)*

Year	Total debt (bn HRK)	Share of debt to financial institutions	Share of debt to banks	Share of small debt*	Share of medium debt**	Share of large debt***
Jan 2012	13,2	n.a.	n.a.	n.a.	n.a.	n.a.
2012	17,7	n.a.	n.a.	n.a.	n.a.	n.a.
2013	23,8	62,9	54,1	48,7	40,1	10,6
2014	31,1	65,0	56,8	43,2	43,6	13,2
2015	36,5	62,3	54,5	39,4	45,3	15,3
2016	41,2	57,5	50,1	36,0	46,8	17,3
2017	42,8	51,2	44,1	33,0	47,7	19,2

* HRK 2.000 ≥ HRK 10.000

** HRK 10.001 ≥ HRK 100.000

*** < HRK 100.000

The process described above is additionally worsened by the fact that the size of the debt of over-indebted persons rose with even higher intensity (more than threefold) than the number of over-indebted persons. The main reason for such a difference in pace are heavy compound and penalty interest loads that worsen the situation of every indebted person every day. The personal bankruptcy framework is very weak (e.g. only two personal bankruptcy officers in Croatia), so there are no effective state mechanisms to mitigate the personal over-indebtedness problem. Debt structure, according to the type of creditor and its dynamics, reveals two important points. Firstly, the financial sector, predominantly banks, are, without any doubt, the single, most important, most influential creditor of over-indebted households. This very much justifies the focus of this research on bank activities as potentially the most powerful remedy area for the problem of over-indebtedness. Secondly, trends in the past five years indicate the emergence of the whole new “over-indebtedness industry”, often labeled in the media as “over-indebtedness sharks”. Namely, the data (Financial Agency, 2018a, 2017a, 2016a, 2015a, 2014b) show that creditors labeled as “others” had their share in debt raised from 22% (2013) to 32% (2017). Interestingly enough the agency that produces data is one of those “other” creditors, and keeps such a large portion of debt nontransparent. These various “other costs” are rising even faster than interests. This explains why the share of “other” creditors is rising on the account of banks’ share. Debt structure according to the size of debt has been changing, too. Over the five-year period one can observe that it is obviously easier to manage small-scale debt (its share is falling) and that large-scale debt, without an efficient personal bankruptcy procedure, will just keep soaring. The size of the macroeconomic impact of these trends in Croatia is visible in the following table:

Table following on the next page

*Table 4: Indebtedness and over-indebtedness related to GDP
(Croatian Bureau of Statistics, 2017, Financial Agency, 2018a, 2017a, 2016a, 2015a, 2014b,
Croatian National Bank 2018, authors' calculation)*

Year	GDP (bn HRK)	Household credit share in GDP	Frozen accounts debt share in GDP
2011	333,3	37,5	4,0*
2012	330,9	37,0	5,3
2013	331,4	35,7	7,2
2014	331,3	35,3	9,4
2015	339,0	34,1	10,8
2016	348,7	31,1	11,8
2017	358,4**	31,3	11,9

* January 2012 frozen accounts data related to 2011 GDP

** calculated based on Croatian Bureau of Statistics (2018) estimate of 2017 GDP growth rate

The share of household credit in GDP has stabilized due to the effect of recession; nevertheless it is almost at the level of one third of the GDP value. Compared to other countries this share is more than 10 percentage points higher than the upper range of emerging economies (15-21%, IMF, 2017). It is lower than household debt level in advanced economies (52-63%, IMF, 2017) mainly because of the public health and education system. Still, this level of overall household debt poses a serious macroeconomic stability risk. Namely, recent studies (Alter, Xiaochen Feng, Valckx, 2018, Mian, Sufi, Verner, 2017, Jordà, Schularick, Taylor, 2016) confirmed increases in household debt are associated with lower GDP growth, higher unemployment, and greater probability of future banking crises. Even worse indicators are associated with over-indebtedness (measured with frozen accounts debt), its level rose between 2011 and 2017 three-fold as the share of GDP. These data indicate that regulators should both try to solve existing debt in the short-term, but long-term focus should be on re-inventing the regulatory framework to tackle the source – generator of the problem which is embedded in financial industry operations. There are many questionable lending practices that have been detected so far to support the soar of household indebtedness (Filipović, Škalamera-Alilović, Štambuk, 2016), but the focus of this paper is directed towards the first one (first in the time-line of credit generation) – getting attention of the households by means of massive advertising. It has been proven (Škalamera-Alilović, Dimitrić, 2017) that the applied advertising tools are largely nonaligned with both European and Croatian regulation and can be labeled as irresponsible lending practice. This research aims at proving that such predatory advertising is closely related to the levels of household debt. This line of reasoning leads us to the main hypothesis of this paper: Based on the variations of the advertising expenditures of the banking sector in the past better predictions of the future levels of overall household debt can be made (banking sector advertising expenditures Granger cause household credit).

4. DATA AND METHODOLOGY

The originality of the approach applied in this paper mainly stems from the data on advertising expenditures of the banking sector which is in Croatia not collected by public bodies, but a private agency that takes part in this research. Banks withhold data on their advertising expenditures as a business secret and there is therefore no previous research that used this kind of data for establishing relationship between the size of banking sector advertising operations and expansion of household credit in the national economy. For the purposes of this paper, data from Media net, a private market research agency have been used. Since 1998 they have been tracking commercial advertisements on national TV channels and from print media according

to the selected representative list. Small ads and biddings are excluded from the tracking. The radio ads, the Internet and outdoor advertising are monitored case by case, which does not have a decisive impact on the overall picture, because banks in Croatia are still primarily oriented to classic media, especially television and print. Since 2002, ads have been added to an Access database, which was developed and improved over time. In 2006, in cooperation with the sister company Presscut, Keito zoner application was developed for labeling and selection of press content. The press content is manually classified as ads, biddings or classic articles. The program, which already has a predefined meta media and release data, then automatically sends the selected content for further processing. Analysts then enter the ad information into the Access database: large proportion of data is automatically transferred by database-associated software, and for some data there is a semi-automatic solution - the program recognizes the same or similar ads and offers information the analyst needs to confirm or dismiss. The criteria for the selection of print media are: the reach (data on the number of media consumers resulting from field research), the frequency of delivery (all daily newspapers are on the watch list) and relevance with respect to the number of published ads. The number of tracked print media varies depending on the termination or launch of new titles. The number of the followed print titles varies greatly, e.g. during 2017 the ads were followed in 77 print titles, during 2006 in 111, during 2007 in 110, and the largest number of print media followed was 127 titles in 2008. After that, the number of tracking titles has been declining due to the general recession and worsened position of the print media publishers. Since 2008 a software solution has been developed for the definition and selection of television ads. This program automatically reviews and recognizes TV ads, indicating the time (start, end and duration of the advertisement), TV channel and the show within or before which the ad has aired. Analysts are reviewing individual slot ads to see new ads appear and enter into the database all the relevant parameters, such as media, date, advertising duration, and product information. Once the ad is registered and stored, the program automatically recognizes it every time it appears in the TV program, and data on it is stored in the database. The analyst checks and controls the accuracy of the entry. Ads in the database are, for searching purposes, hierarchically organized in classes (there are 46), types, groups and subgroups of products, and products and their descriptions. Pricelists for both types of media are entered into the database after the first announcement, and regularly at the beginning of each year, and the program calculates the value of each ad depending on its position and size. Advertising expenses are therefore calculated exclusively on the basis of official, publicly published pricelists. This is an unbiased measure of banking sector advertising efforts as an independent variable in this research, since it does not include individual specific terms that a media provider negotiates with each bank. Therefore, the effect of monopolistic first-degree price discrimination (which is regularly exploited in the media industry through the so-called “discounts”) is neutralized. Data on all bank ads for the period 2003-2017 are entered into the database and used in this paper. Regardless of the evolution of the tracking method and data storage method there is consistency in selection, definition, coverage, and recording of ads. This enables the use of temporally comparable data as input for further time-series analysis. The dependent variable being the aggregate amount of household credit in Croatia is provided by the statistics of the Croatian National Bank (2018). Quarterly data for both variables are used, which resulted in 60 observations in total, from Q1 2003 to Q4 2017. Data on advertising expenditures showed extensive seasonal variation and are seasonally adjusted in this research. Statistical procedures are performed in the Stata statistical software package.

5. RESULTS, DISCUSSION AND FUTURE RESEARCH

In the following section, raw data on both variables are presented: the independent variable – advertising yearly expenditures of the Croatian banking sector and the dependent variable – level of household credit, at the end of each year, during the 15-year period, from 2003 to 2017.

Table 5: Banking sector advertising expenditures and household credit in Croatia (in million HRK) (Media net, 2018 and Croatian National Bank, 2018)

	2003	2004	2005	2006	2007	2008	2009	2010
Advertising expenditures	91	104	158	256	299	328	231	292
Household credit	52.587	62.652	75.713	92.682	109.545	122.734	117.886	124.389
	2011	2012	2013	2014	2015	2016	2017	
Advertising expenditures	386	312	286	243	263	310	416	
Household credit	124.852	122.504	118.320	116.889	115.675	108.574	112.203	

The data show significant rise in both variables. The advertising expenditures more than quadrupled over the observed period indicating extreme devotion of the financial industry to the persuasive, psychological impact of such tools on consumers. Credit levels more than doubled, but due to the economic cycle effect, stabilized in the last ten years. The mentioned variations of both variables will be further examined in order to test the possible predictive causality (Granger causality) between them. In order to do so, 60 pairs of quarterly data on both variables (seasonally adjusted) were used. The theoretical logic of the sequence of events is that there is a time lag between the moment of exposure to the advertising content and the moment of signing credit contract. The average time frame is usually around six months, depending on the size of the credit and the complexity of the pre-contract phase of credit issuance (collateral and miscellaneous documentation generation, risk assessment procedure etc.). Various optimal lag period selection tests (FPE, AIC, HQIC and SBIC) are performed. The results are presented in following table:

Table 6: Optimal lag period selection (Authors' calculations)

Selection-order criteria								Number of obs. = 56
Sample: 2004q1 – 2017q4								
lag	LL	LR	Df	p	FPE	AIC	HQIC	SBIC
0	18.6307				.001893	-.593955	-.565911	-.521621
1	215.325	393.39	4	0.000	1.9e-06	-7.47589	-7.39176	-7.25889
2	238.912	47.174	4	0.000	9.7e-07	-8.17543	-8.03521	-7.81376*
3	245.658	13.491	4	0.009	8.8e-07	-8.27348	-8.07718*	-7.76715
4	250.429	9.5429*	4	0.049	8.6e-07*	-8.30104*	-8.04864	-7.65003

The result of the most rigorous method (Bahovec, Erjavec, 2009, p. 296) – Schwarz-Bayesian information criterion (SBIC) confirms appropriateness of the application of the two-quarter (six months) lag period on the variable “household credit”. The Granger causality test is performed on ln-transformed variables: $x = \ln(\text{advertising expenditures})$ and $y = \ln(\text{household credit})$. The purpose of this test is to establish whether in the forecasting of the household credit variable the historical variations of banking sector advertising data provide statistically significant information about future values of household credit. The null-hypothesis states that advertising expenditures do not Granger cause household credit. When examining the opposite direction of Granger causality null-hypothesis states that household credit does not Granger cause advertising expenditures. Results are provided in the following table:

Table 7: Results of Granger causality tests (Authors' calculations)

Granger causality Wald tests				
Equation	Excluded	chi2	df	Prob>chi2
y	X	15.049	1	0.000
x	Y	.10371	1	0.747

In line with the previous hypothesis development, the first null-hypothesis is rejected, and the second is confirmed. Advertising expenditures are proven to be the predictor of future values of the household credit. In other words, it is fair to say that the level of household credit in Croatia can be better forecasted if predictions were based on the past values of advertising expenditures of the Croatian banking sector, and not only on its own past values. These results speak in favor of directing the research interest towards a specific banking sector operation (advertising) as a generator of undesirable levels of household debt. It is also considered useful to use these results as a scientific foundation of future new regulation efforts which should aim at suppressing the growth of household debt. The results indicate that any kind of more stringent regulation of banking sector advertising activities would have a favorable effect on controlling the level of household indebtedness and indirectly also over-indebtedness. It is expected that the absolute ban of financial services advertising would have the strongest impact in that sense. The recommendation for further research would be in modelling a stronger relationship between the studied by the analysis and testing the hypothesis on panel data on the level of particular banks, and not only the aggregate data for the entire banking sector. There are multiple limitations of this research which include: only Croatian national economy is covered, the banking sector consists of a small number of units (banks), Croatian banking sector is highly concentrated, the structure of banking sector underwent multiple changes in the period in question (mergers, acquisitions, bankruptcies, new entries). Further research would benefit from the comparison of banking sectors of multiple countries, if data for a longer period would be available, and if other banking operation procedures would be operationalized as variables (such as risk assessment procedures, setting of credit limits and similar, potentially irresponsible lending practices that may boost household indebtedness and over-indebtedness).

6. CONCLUSION

Credit policy and orientation of the banking sector towards households and the problem of personal indebtedness are very closely related. Credit market in Croatia shows that the share of household credit in the structure of loan allocation is growing rapidly as well as individuals with frozen accounts and their share in total and working-age population. The size of the debt of over-indebted persons has grown with even higher intensity than the number of indebted persons. The process is obviously accompanied by the fact that the share of large and medium debt has also risen. The macroeconomic impact of these trends in Croatia is disastrous, because the household credit share in GDP is almost one third, and the frozen accounts debt share in GDP has grown to almost 12%. These data and evidence about similar processes in other countries lead us to the necessity of linking the problem of personal indebtedness and banking practices. Previous research deals to a great extent with ethical problems in performing contemporary banking operations in light of constant growth of the personal indebtedness problem. Discrepancy between regulation and its successful implementation places focus on the problem of irresponsible lending, especially advertising as the main marketing tool prior to the lending transaction. The research presented in this paper proves the main hypothesis: that better predictions of the future levels of overall household debt can be made based on historical variations of advertising expenditures of the Croatian banking sector. Aggregate advertising expenditures time series have proven to be a good predictor of future values of the household credit.

Predictive causality is a strong argument for further research and policy adjustments directed towards solving of the huge societal and economic problem of personal over-indebtedness.

ACKNOWLEDGEMENT: *This work has been supported by the Croatian Science Foundation under the project 6558 Business and Personal Insolvency: The Ways to Overcome Excessive Indebtedness and by the University of Rijeka under the project: Approaches and Methods of Cost and Management Accounting in Croatian Public Sector (No. 13.02.1.2.09).*

LITERATURE:

1. Alter, A., Xiaochen Feng, A., Valckx, N. (2018). Understanding the Macro-Financial Effects of Household Debt: A Global Perspective. *IMF Working Papers WP/18/76*. Retrieved 09.04.2018 from <https://www.imf.org/en/Publications/WP/Issues/2018/04/06/Understanding-the-Macro-Financial-Effects-of-Household-Debt-A-Global-Perspective-45744>
2. Andresan-Grigoriu, B., Moraru, M. (2015). Country Report Portugal. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 117-134). Farnham: Ashgate Publishing.
3. Bahovec, V., Erjavec, N. (2009). *Uvod u ekonometrijsku analizu*. Zagreb: Sveučilište u Zagrebu; Element.
4. Croatian Bureau of Statistics (2017). Annual Gross Domestic Product, 2010 – 2016, Revised Data. *First Release*, 54(12.1.5.). Retrieved 20.03.2018 from https://www.dzs.hr/Hrv_Eng/publication/2017/12-01-05_01_2017.htm
5. Croatian Bureau of Statistics (2018). First Quarterly Gross Domestic Product Estimate Fourth Quarter of 2017. *First Release*, 54(12.1.1/4.). Retrieved 15.03.2018 from https://www.dzs.hr/Hrv_Eng/publication/2017/12-01-01_04_2017.htm
6. Croatian Bureau of Statistics (2016). *Census of Population, Households and Dwellings 2011, Households and Families* (Statistical Reports no. 1583). Retrieved 17.02.2018. from https://www.dzs.hr/Hrv_Eng/publication/2016/SI-1583.pdf
7. Croatian National Bank (2018). *Distribution of other monetary financial institutions' loans by domestic institutional sectors*. Retrieved 12.01.2018 from <https://www.hnb.hr/en/statistics/statistical-data/financial-sector/other-monetary-financial-institutions/consolidated-balance-sheet-of-omfis>
8. Družić, G. (2001). Banking System. *Ekonomski pregled/Economic Review*, 52(3-4), 293-313.
9. European Commission (2009). *Summary of Responses to the Public Consultation on Responsible Lending and Borrowing in the EU*. Retrieved 15.01.2018 from http://ec.europa.eu/internal_market/finservices-retail/docs/credit/resp_lending/feedback_summary_en.pdf
10. Fear, J., O'Brien, J. (2009). Where does the buck stop? Community attitudes to over-lending and over-spending. *Australasian Accounting, Business and Finance Journal*, 3(1), 3-12.
11. Filipović, I., Škalamera-Alilović, D., Štambuk, A. (2016). Commercial Banking and Personal Indebtedness in Croatia. In A. Jovancai Stakic, P. Kurecic, D. Dobrinic (eds.) *Economic and Social Development*, (pp. 66-79). Belgrade: Varazdin Development and Entrepreneurship Agency, University North, John Naisbitt University.
12. Financial Agency (2018a). *Objave 2018: Pregled blokiranih građana po vjerovnicima i ročnosti - stanje 31.12.2017 – 15.02.2018*. Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=13059>
13. Financial Agency (2018b). *Objave 2018: Pregled stanja blokade građana po gradovima i županijama - stanje 31.12.2017 – 19.02.2018*. Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=13059> - 31.12.2017.

14. Financial Agency (2017a). *Objave 2017: Pregled blokiranih građana po vjerovnicima i ročnosti - stanje 31.12.2016. – 03.03.2017.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?sec=1839>
15. Financial Agency (2017b). *Objave 2017: Pregled stanja blokade građana po gradovima i županijama - stanje 31.12.2016. – 27.02.2017.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?sec=1839>
16. Financial Agency (2016a). *Objave 2016: Pregled blokiranih građana po vjerovnicima i ročnosti - stanje 31.12.2015. – 03.03.2016.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1801>
17. Financial Agency (2016b). *Objave 2016: Pregled stanja blokade građana po gradovima i županijama - stanje 31.12.2015. – 14.03.2016.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1801>
18. Financial Agency (2015a). *Objave 2015: Pregled blokiranih građana po vjerovnicima i ročnosti - stanje 31.12.2014. – 25.02.2015.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1759>
19. Financial Agency (2015b). *Objave 2015: Pregled stanja blokade građana po gradovima i županijama - stanje 31.12.2014. – 25.03.2015.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1759>
20. Financial Agency (2014a). *Objave 2014: Informacija o neizvršenim osnovama za plaćanje građana - stanje 31.1.2014. – 17.03.2014.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1688>
21. Financial Agency (2014b). *Objave 2014: Pregled stanja blokade građana po gradovima i županijama - stanje 31.12.2013. – 20.03.2014.* Retrieved 16.03.2018 from <http://www.fina.hr/Default.aspx?art=1688>
22. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 47-65). Farnham: Ashgate Publishing.
23. Gutiérrez de Cabiedes, P., Cantero Gamito, M. (2015). Country Report Spain. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 67-83). Farnham: Ashgate Publishing.
24. International Monetary Fund [IMF] (2017). *Global financial stability report: Is Growth at Risk?* (World Economic and Financial Surveys). Retrieved 16.03.2018 from <http://www.imf.org/en/publications/gfsr/issues/2017/09/27/global-financial-stability-report-october-2017>
25. Ipsos and London Economics (2013). *Study on the Functioning of the Consumer Credit Market in Europe*. Final Report to the European Commission. Retrieved 17.01.2018 from http://ec.europa.eu/consumers/archive/rights/docs/consumer_credit_market_study_en.pdf
26. Jordà, Ò., Schularick, M., Taylor, A.M. (2016). The Great Mortgaging: Housing Finance, Crises and Business Cycles. *Economic Policy*, 31(85), 107–152.
27. Józson, M. (2015). Country Report Hungary. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 85-98). Farnham: Ashgate Publishing.
28. Kassem, M. (2015). *UAE banking industry to tighten compliance on advertising claims.* Retrieved 11.02.2018 from <https://www.thenational.ae/business/uae-banking-industry-to-tighten-compliance-on-advertising-claims-1.125606>
29. Kempson, E. (2015). Over-Indebtedness and its Causes Across European Countries. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 137-153). Farnham: Ashgate Publishing.
30. Martin, M. (2013). Lenders adopt code of conduct to aid consumers. *Middle East Economic Digest*, 57(46), 19.
31. Media net (2018). *Database on Croatian banking sector advertising expenditures*. Internal documentation. Zagreb: Media net d.o.o.

32. Méndez Pinedo, M. E., Domurath, I. (2015). Country Report Iceland. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 99-116). Farnham: Ashgate Publishing.
33. Mentis, G., Pantazatou, K. (2015). Country Report Greece. In H.W. Micklitz and I. Domurath (eds.) *Consumer Debt and Social Exclusion in Europe*, (pp. 29-45). Farnham: Ashgate Publishing.
34. Mian, A., Sufi, A., Verner, E. (2017). Household Debt and Business Cycles Worldwide. *Quarterly Journal of Economic*, 132(4), 1755-1817.
35. Osuji, O. K. (2017). Responsible lending: consumer protection and prudential regulation perspectives. In K. Fairweather, P. O'Shea, R. Grantham (eds.) *Credit, Consumers and the Law*, (pp. 62-85). Abingdon; New York: Routledge. Publishing.
36. Packman, C. (2014). *Payday lending: Global Growth of the High-Cost Credit Market*. New York: Palgrave Macmillan.
37. Ramsay, I. (2012). A Tale of Two Debtors: Responding to the Shock of Over-Indebtedness in France and England – A Story from the Trente Piteuses. *Modern Law Review*, 75(2), 212-248.
38. Solli-Hubbard, J. (ed.) (2013). *Responsible lending: An international landscape*. London: Consumers International. Retrieved 20.02.2018 from http://www.consumatoridirittimercato.it/wp-content/uploads/2013/11/ciresponsiblelending_finalreport_06-11-13.pdf
39. Škalamera-Alilović, D., Dimitrić, M. (2017). (Ir)Responsible Lending and Personal Indebtedness: Consumer Credit Marketing. In A. Jurcic, D. Oreski, M. Mikic (eds.) *Economic and Social Development*, (pp. 390-401). Belgrade: Varazdin Development and Entrepreneurship Agency, University North, John Naisbitt University, Faculty of Management University of Warsaw.
40. Tokeley, K. (2017). It's for your own good: legal paternalism and New Zealand consumer credit laws. In K. Fairweather, P. O'Shea, R. Grantham (eds.) *Credit, Consumers and the Law*, (pp. 19-41). Abingdon; New York: Routledge. Publishing.
41. Trading Economics (2017). *Euro Area Consumer Credit*. Retrieved 25.02.2018 from <http://www.tradingeconomics.com/euro-area/consumer-credit>.
42. UAE Banks Federation (2014). *Code of Conduct*. Retrieved 10.04.2018 from <http://www.uaebf.ae/CodeofConduct.php>
43. United States Courts (2017). *Business and Non-Business Filings Years Ending December 31, 2012-2016*. Retrieved 10.03.2018 from <http://www.uscourts.gov/news/2017/01/25/bankruptcy-filings-fall-59-reach-lowest-level-2006>
44. Vandone, D. (2009). *Consumer Credit in Europe*. Berlin Heidelberg: Springer – Verlag.
45. Villa, J. (2015). *Ethics in Banking: The Role of Moral Values and Judgements in Finance*. Basingstoke: Palgrave Macmillan.