PANOECONOMICUS, 2019, Vol. 66, Issue 5, pp. 559-588
Received: 17 Janaury 2017; Accepted: 03 April 2017.

UDC 336.717.22(4-672EU)
https://doi.org/10.2298/PAN170117011K
Original scientific paper

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# Regulatory Thresholds of Household Deposit Stability in the Euro Area - Neglected Factors and Omissions Made

**Summary:** The paper investigates the occurrence of three categories of household deposits in 15 euro area countries - guaranteed, high value, and very high value - which, according to the European Banking Authority, differ in terms of their sensitivity to outflows under stress. The analysis is based on household-level data and applies a logit model. Its main finding is that the impact of wealth and socio-demographic features of households on their propensity to possess the deposits was opposite regarding guaranteed and unguaranteed deposits. It proves two separate profiles of households who declared deposits in the euro area. For selected member states, the adoption of the single limit within guarantee schemes was assessed as an incentive which may strengthen the deposits' resilience on withdrawals, and thus positively influence the funding stability of credit institutions.

**Key words:** Household deposits, Guaranteed deposits, High value deposits, Very high value deposits, Credit institutions.

**JEL:** G18, G21.

The paper presents the results of a study carried out under a research project financially supported by the National Science Centre in Poland (grant number: DEC-2013/11/D/HS4/04056).
The analysis is based on household-level data provided by the European Central Bank's Household Finance and Consumption Survey.

The evolution of the financial crisis has contributed to the decisions taken to ensure the continuity of funding of the EU credit institutions through better protection of individual clients and identification of retail deposits which nature is volatile. The European Banking Authority (EBA) proposed two categories of less stable deposits, which have not been fully accepted by the European Commission (EC).

The aim of the study is to assess the correctness of the final regulations on household deposit outflows in periods of stress. The object of research is household deposits in 15 euro area countries with regard to the following categories proposed by the European Banking Authority (EBA 2013b): stable - guaranteed (up to EUR 100,000), high value (EUR 100,000; EUR 500,000) and very high value (above EUR 500,000). The study uses descriptive statistics to characterise the deposits and a logistic regression model to verify whether their occurrence was determined by the same or different factors. The study answers the following research questions. Did the deposits guaranteed, of high value, and of very high value, constitute significant parts of the deposit totals declared by all the households surveyed in the countries analysed? Assuming the EBA stance regarding sight and saving deposits, should the nature of the

guaranteed, high value, and very high value deposits be perceived as stable or unstable? Did the adoption of the single limit of EUR 100,000 within deposit insurance schemes significantly enhance household protection and thus the stability of deposits in credit institutions? Was household propensity to possess the deposits guaranteed, of high value, and of very high value, determined by homogeneous sets of factors within the euro area?

The paper is organised as follows. Section 1 presents related literature, Section 2 discusses the institutional approach to household deposits, Section 3 describes research methods and variables applied in the study, Section 4 contains the description of deposits, while Section 5 presents the results of logit regression regarding the determinants of household propensity to possess deposits of the analysed categories. Section 6 contains conclusions.

## 1. Literature Review

The problem of household deposit stability in the context of the EU post-crisis regulations about funding stability of credit institutions is new in the literature. The reason is the ongoing process of implementation of the single liquidity standards, which emphasise the important role of retail deposits in this regard.

However, retail deposits (including household deposits) are present in the literature which is dedicated to their significance for banks (Douglas W. Diamond and Raghuram G. Rajan 2001; Claudio Borio 2009; Rocco Huang and Lev Ratnovski 2011) as well as for households due to the noteworthy position of deposits in individual financial asset portfolios (Philip Du Caju 2013; European Central Bank 2013; Federica Teppa et al. 2015; Katarzyna Kochaniak 2016). Some studies verify the linkages between deposit transfers and market interest rates (Viral V. Acharya and Nada Mora 2012), the destabilisation of capital markets (George Pennacchi 2006; Evan Gatev, Til Schuermann, and Philip E. Strahan 2009), or the availability of loans (Acharya, Heitor Almeida, and Murillo Campello 2013). This literature relates to relatively recent studies. However, most of the discussion took place long before the last financial crisis, when the reliance of credit institutions on wholesale funding was not so common. More detailed outcomes from the research so far are presented below.

Deposit outflows as the phenomenon linked to the occurrence of shocks in banks are discussed by Adam Gersl, Zlatuse Komarkova, and Lubos Komarek (2016). The authors list the potential causes of withdrawals such as the increasing reputational risk in banks, the occurrence of non-guaranteed (volatile) deposits, fixed costs to cover when extracting the deposits from problematic banks, as well as depositors' doubts regarding the efficient performance of deposit insurance schemes, especially in times of the general government crisis.

The problem of strictly directed deposit transfers within the banking sector in Brasil in the time of the global financial crisis is presented in the study of Raquel de F. Oliveira, Rafael F. Schiozer, and Lucas A. B. de C. Barros (2014). The authors prove that in this country the sector had to face the problem of evident cash movements from smaller banks to those systematically important. According to the results, these transfers were caused mostly by depositors' belief in the existence of implicit government guarantees provided to "too-big-to-fail" entities. The research does not confirm

the significance of other factors for depositors' decisions, like banks' fundamentals or ratings. Moreover, the results allow the conclusion that banks which used to rely on institutional investors suffered relatively more from deposit outflows.

The withdrawals of retail deposits are analysed by Martin Brown, Benjamin Guin, and Stefan Morkoetter (2015). The authors discuss the cases of two large banks in Switzerland which resulted in losses during the US subprime crisis. The study is based on household-level data for the years 2008-2009. The authors find that customers of distressed banks are more likely to withdraw deposits than those of non-distressed banks. However, the propensity to withdrawals from a distressed bank can be substantially reduced when depositors possess only one account or maintain a credit relationship. The results prove the unimportance of household deposit coverage, in contrast to well-established relationships with clients.

V. V. Chari and Ravi Jagannathan (1988) suggest that in certain cases, bank runs can be a consequence of adverse information formed on the basis of the behaviour of those depositors who are willing to take their money and are perceived by others as having access to reliable data about the bank's outlook. Thus, the authors believe that bank runs may occur even when there is a lack of rational premises.

The stable nature of deposits is emphasised in extensive studies relating to guarantee schemes, which create the belief, even among economists, that due to their existence bank runs are almost impossible today (Ben S. Bernanke 2010; Robert M. Solow 2013). However, the schemes differ and not all the deposits are covered. Thus, a vast literature analyses the links between the characteristics of the schemes and market discipline. Part of the studies presents the stance that the lack of insurance is responsible for depositors' decisions about monitoring banks and deposit withdrawals in the case of increased risk of the failure of entities (Diamond and Philip H. Dybvig 1983). This proves that the depositors are prone to withdrawals under particular circumstances.

Deposit runs are in the focus of the research conducted by Jonathan D. Rose (2015). He compares the scale of the withdrawals occurred in 2008 and the 1930s in the US banking sector, however, using the data on large corporate deposits. The findings do not confirm the significance of insurance schemes for the decisions made by depositors. The author reveals long-lasting concentration of the deposits placed with the banking sector. According to the data for mid-2008 and the 1930s, about half of deposit totals was allocated to approximately 1% of accounts, of which only one-quarter was covered. The comparison of withdrawals allows the conclusion to be drawn about their similarities, according to raised issues. First, the deposits in commercial banks have always been concentrated in a small number of very large accounts. Second, deposit outflows have been caused by large depositors. Rose assumes that uninsured and concentrated deposits were responsible for deposit withdrawals so far and may remain their cause in the future.

Some studies show that the introduction of deposit insurance may significantly change depositors' behaviour, making them insensitive to panic (Stuart I. Greenbaum and Anjan V. Thakor 2007). Asli Demirgüç-Kunt and Harry Huizinga (2004) prove that the adoption of an explicit deposit scheme involves a trade-off between increased depositor safety and reduced market discipline on banks. Demirgüç-Kunt and Enrica

Detragiache (2000) note that the deposit insurance may improve bank stability by reducing self-fulfilling or information-driven depositor runs. However, even if the scheme is established, the lack of credibility of the institution involved leads to certain incentives for withdrawals (Demirgüç-Kunt, Baybars Karacaovali, and Luc Laeven 2005). Andrew Crockett (2001) maintains that not only deposit insurance matters in limiting the threat of runs. In his opinion, regulation and supervision are essential as well for achieving the financial stability of banks. Gillian G. H. Garcia (2000) raises the problem of the ineffectiveness of limited deposit insurance for maintaining systemic stability during periods of stress. However, she opposes a full deposit guarantee (i.e. covering all bank debts, including those from shareholders and subordinated debt holders who would not carry blame for the situation). The same is raised by Sebastian Schich (2008), who states that deposit insurance systems with low levels of coverage or partial insurance may not be effective in preventing bank runs. Moreover, the author draws attention to the problem of insufficient knowledge of depositors regarding the conditions of coverage which may influence the propensity to withdrawal as well.

Rajkamal Iyer and Manju Puri (2012) prove that deposit insurance may help to mitigate a panic among depositors. However, its effect is partial due to the behaviour of uninsured depositors, like those with larger balances, who are more likely to instigate runs. The authors draw attention to mechanisms which are complementary to insurance in this respect, such as the length and depth of linkages between banks and their clients. These linkages can be measured by the accounts' age or cross-sold loans and appear as important factors limiting the propensity to run. The authors also find that social networks are significant regarding this problem. The more people in the network that run, the more likely it is that a particular depositor will decide to do the same. However, even within the network, the length and depth of relationships act as a dampening factor on depositors' propensity to withdrawal. Depositors with better relations with a bank may be less likely to run as this may jeopardize their future relationships. The authors observe that higher trust in a bank reduces the likelihood of running. The study shows that the effects of runs are indeed long-lasting because only some of the depositors decide to return to the entities.

The study of Alexei Karas, William Pyle, and Koen Schoors (2013) analyse the impact of deposit insurance on market discipline by comparing the behaviour of particular groups of depositors before and after the introduction of deposit insurance in Russia. However, the analytical background was complicated due to two concurent phenomena in 2004 - the introduction of deposit insurance and the banking panic. According to the results, the adoption of deposit insurance caused an insensitivity of insured households to the signals of the crisis.

Maria Soledad Martinez Peria and Sergio L. Schmukler (1999) argue that deposit insurance may limit the probability of systemic bank runs. The authors emphasise that unconvincing guarantees or potential costs of the recovery of deposits after the bank's failure may encourage insured depositors to withdraw. They recall historical experience about depleted deposit insurance funds which diminished the ability of insurance schemes to guarantee deposits. Thus, traumatic episodes may act as wake-up calls for depositors, increasing awareness of the risk of their deposits during banking crises. The paper analyses the crisis in Argentina, when despite the introduction of

deposit insurance, the sensitivity of depositors to bank risk increased. It leads to the conclusion that the crisis may have an even greater impact on depositors than the introduction of the deposit insurance system. The paper also analyses the crises in Chile and Mexico, where deposits remained covered, whereas their responsiveness increased following central bank interventions. The authors prove that identified market discipline among insured depositors may suggest that deposit insurance schemes are not always fully credible. This happens especially when governments have reneged on their promises in the past or the deposit insurance schemes tend to be undercapitalized. Under such circumstances, the depositors remain concerned about the cost of repayment through the deposit insurance fund. When analysing the sensitivity of smaller insured and larger uninsured deposits, they find that both these types are sensitive to bank risk.

Crockett (2001) maintains that not only deposit insurance matters in limiting the threat of runs. In his opinion, regulation and supervision are essential as well for achieving the financial stability of banks.

The contribution of this paper to the literature is that it analyses on the basis of household-level data the occurrence of the guaranteed, high value, and very high value deposits in 15 euro area countries, which were proposed by the EBA to the EU post-crisis regulations on funding stability of credit institutions, due to their differentiated sensitivity to outflows. It also fills the gap regarding the features influencing household propensity to possess these deposits. Moreover, the paper displays the consequences of the adoption of the single guarantee limit for the risk involved in deposit possession in the group of households surveyed.

## 2. Institutional Background - Towards Single Solutions

The EU banking market was subject to liberalisation from the late 1970s to the early 1990s. To support this process, a Directive on Deposit Guarantee Schemes (EUR-Lex 1994) was issued. It announced the minimum deposit guarantee at ECU 20,000 by 1 January 1993 for all the EU member countries (a limit of ECU 15,000 was possible until 31 December 1999). Before this regulation, in Belgium, Ireland, Luxembourg, and the Netherlands the coverage was lower than ECU 20,000. In response to this, some countries like Greece and Portugal, who did not have any systems, introduced deposit insurance. In the case of Finland, an implicit scheme was continued until 1999.

Before 2007, the limits of deposit insurance systems (DIS) varied among the countries analysed (International Monetary Fund 2013; Demirgüç-Kunt, Edward Kanc, and Laeven 2014). In most of them, they covered the deposits of values from EUR 20,000 to EUR 25,000 (Table 1). Only in Italy and France, did this form of retail depositors' protection exceed this range. Participation of customers in the consequences of entities' insolvency functioned within the DIS in Cyprus, Germany, Luxembourg, Malta, and Slovakia. So-called co-insurance assumed a proportion deductible for claims beyond a specific threshold and required the depositors to bear part of the cost of the banking failure. Among the countries analysed in this study, the cases of co-insurance assumed that amounts up to EUR 22,222 were subject to 10% coverage by the owners and all surpluses above this limit were not subject to protection. Such arrangements were designed to stimulate market discipline, and in fact undermined

confidence in the schemes, which might cause bank runs. Such an opinion was presented by the President of the European Central Bank (ECB) in the discussion on fostering European financial integration, leading to the recommendation that "partial insurance, or the so-called coinsurance, for smaller deposits could be removed where it still exists, as recent experience seems to suggest that it may reintroduce incentives for retail investors to run (on) a bank" (Jean-Claude Trichet 2008).

During the banking crisis, due to the increased risk of deposit outflows, the authorities of individual countries introduced significant changes in their schemes, which were primarily focused on expanding guarantee limits and abandoning co-insurance. However, in part of the countries analysed, these actions were assessed as insufficient leading to decisions to impose government guarantees on certain or all retail deposits.

**Table 1** Principles of DISs and Their Developments in Selected Euro Area Countries, in Years 2006-2013

| | Occurrence of banking crisis in years 2007-2013 | Limit of DIS (in EUR) in 2003 | Strengthen depositor protection in years 2007-2013 | | |
|---|---|---|---|---|---|
| | | | Limit of DIS (in EUR) in 2010 | Government guarantees provided | Abolished co-insurance |
| Austria | √ | 20,000 | 10,000 | √ | |
| Belgium | √ | 20,000 | 10,000 | | |
| Cyprus | √ | 90% of first EUR 22,222** | 10,000 | | √ |
| Germany | √ | 90% of first EUR 22,222** | 10,000 | √ | √ |
| Greece | √ | 20,000 | 10,000 | | |
| Finland | | 25,000 | 10,000 | | |
| France | √ | 70,000 | 10,000 | | |
| Italy | √ | 103,291* | 10,000 | | |
| Luxembourg | √ | 90% of first EUR 22,222** | 10,000 | | √ |
| Malta | | 90% of first EUR 22,222** | 10,000 | | |
| The Netherlands | √ | 20,000 | 10,000 | | |
| Portugal | √ | 25,000 | 10,000 | | |
| Slovakia | | 90% of first EUR 22,222** | 10,000 | √ | √ |
| Slovenia | √ | 18,500 | 10,000 | √ | |
| Spain | √ | 20,000 | 10,000 | | |

**Notes:** * domestic limit - 200 000 000 ITL (EUR 103,291 EUR); ** up to maximum of EUR 20,000.

**Source:** Author's compilation.

Domestic modifications of DISs resulted in cross-country disparities in deposit protection between individual sectors of credit institutions. For this reason, certain decisions were taken to harmonise existing regulations throughout the EU (EUR-Lex 2009). However, in the time of severe instability of the financial markets and economies, the consultations on the projected changes were limited, precluding the implementation of complete, single solutions. In fact, the arrangements taken were treated as temporary, serving only the maintenance of depositors' confidence in credit institutions. The directive assumed an increase of the guarantee limit, planned in the following steps (Article 1, Point 3): at least EUR 50,000 until mid-2009; EUR 100,000 by the end of 2010. Additionally, the period of pay-off for depositors' claims in respect

of unavailable deposits became reduced from 3 months to 20 working days and took effect at the end of 2010 (Article 1, Point 6).

In 2014, the regulations became precise (EUR-Lex 2014a), maintaining the previous guarantee limit but shortening the period of payoffs up to seven working days. It should be noted that new regulations emphasised the need to strengthen protection for certain kinds of deposits, regardless of their value, for periods from 3 months to 1 year after their placement with a credit institution or since a legal opportunity of their transfer. These were the deposits:

- resulting from transactions associated with private residential properties;
- meeting social objectives and related to a particular life of depositor, such as marriage, divorce, retirement, dismissal, disability or death;
- meeting social objectives and based on the payment of insurance benefits or compensation for losses resulting from crime or wrongful conviction.

Retail deposits were also the subject of regulations regarding their direct impact on stability funding of credit institutions in periods of stress and in the long-run. Capital Requirement Regulation (EUR-Lex 2013) set up a framework determining the scale of deposit outflows within the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). It distinguished stable deposits due to their coverage by the guarantee schemes and fulfilment of one of the criteria assumed in Article 421, Paragraph 1. The remaining deposits became assessed as funding of increased volatility (Article 421, Paragraph 2). In 2013, the EBA published a consultation document with proposed guidelines on outflow estimations for unstable retail deposits (EBA 2013b). It pointed out specific categories of deposits with outflow rates, assuming a 30-day idiosyncratic and market stress scenario. From the results of the survey conducted among national supervisory authorities, sight deposits became defined by the EBA as stable, while deposits redeemable at notice as of greater outflows and deposits with agreed maturity as the most volatile ones. The EBA also raised the problem of the influence of the values of retail deposits on their sensitivity to stress, highlighting their following categories:

- high value - above EUR 100,000 but up to EUR 500,000;
- very high value - above EUR 500,000 but up to EUR 1,000,000.

Both deposit categories related to the sum of deposits placed by a single customer with a given institution. In the opinion of the EBA, high value deposits were responsible for the concentration of the deposit base, thus negatively affected its stability. They were usually owned by affluent individuals and served other purposes than transactional, which made them more sensitive to stress than regular retail deposits. Moreover, their increased sensitivity was linked to their semi-professional management. According to some of the national supervisory authorities, in the periods of stress the rates of outflow of such deposits exceeded 20%, whereas deposits of very high value were even higher. The EBA assumed the possibility of adopting individualised thresholds adequate to the local conditions of the guarantee schemes or deposit amounts of negotiable conditions of placement (e.g. the interest rate) which may

reduce the risk of run-offs. The final version of the guidelines (EBA 2013a) was announced in December 2013.

The European Commission (EC) did not accept all the solutions proposed by the EBA. The delegated regulation (EUR-Lex 2014) refers to the problem of increased outflows of the deposits named "remaining" whose values exceed EUR 500,000 (Article 25, Paragraph 2). Thus, this category shows similarities to the category of "very high value deposits" defined in the EBA's documents. However, the adopted solutions do not indicate the nature of deposits above EUR 100,000, but up to EUR 500,000. Moreover, there is no explanation regarding the appropriateness of maintaining such a gap. It should be noted that the EBA assumed increased outflows of deposits from both categories during the recent banking crisis: of high value and of very high value.

The directive establishing a framework for the recovery and resolution of credit institutions (EUR-Lex 2014b) refers as well to household deposits. The bail-in tool is assumed to be used regarding various liabilities of unsound or failing credit institutions, except covered deposits (Article 44). Thus, only these deposits are free from conversion, while any other may be considered for this purpose. It should be noted that the adopted rule may negatively influence the stability of the deposits defined by the EBA as of high value and very high values. While the EUR-Lex (2014) assumes an increased sensitivity of deposits from EUR 500,000, the non-guaranteed deposits of values below this threshold become abandoned.

Thus, the adopted rules raised doubts about their correctness and encouraged to analyse the problem regarding the occurrence of three categories of household deposits - guaranteed, of high value, and of very high value, following the EBA approach.

## 3. Data and Methodology

The study is based on the EBA stances regarding the nature of retail deposits:

- the existence of two deposit categories of increased volatility (high value deposits and very high value deposits), in addition to one stable category (guaranteed deposits);
- the stable nature of sight deposits and the volatile nature of saving deposits.

This one should be perceived as rather intuitive due to the lack of core data in this respect as well as broad analysis regarding the determinants of the nature of the deposits. However, the contestation of this view is not a subject of the study.

The study is based on household-level data derived from the first wave of the Household Finance and Consumption Survey - HFCS (European Central Bank 2016)[1], which was conducted in the following euro area countries: Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain. This database is a reliable and useful source of micro-information, especially for the analyses of the distribution of certain types of household wealth and assets in the populations (European Central Bank 2016). It provides quantitative and qualitative data on 58,436 households who possessed deposits

[1] **European Central Bank (ECB).** 2016. Statistics.
https://www.ecb.europa.eu/stats/ecb_surveys/hfcs/html/index.en.html (accessed July 01, 2016).

which can be classified as guaranteed, high value, and very high value, as well as their wealth and socio-demographic characteristics. It should be noted that this database does not provide information on whether the deposits declared by a given household were placed with one or more credit institutions.

There are certain caveats regarding the relevancy of the database HFCS in the cross-country comparative analyses due to the heterogeneity of institutional and macroeconomic backgrounds of the euro area countries. Household preferences regarding the value and structure of deposits can be affected in individual countries by, for example, pensions provided by unfunded public and occupational pension schemes which are omitted in the HFCS. According to the Organisation for Economic Co-operation and Development (2011), their mean levels significantly differ among the countries. A similar problem occurs due to the differences in domestic taxation systems which may favour the acquisition of assets substitutable for deposits in selected countries. Moreover, household choices are sensitive to the fluctuations in local prices of assets as well as gains and losses arising from investments. The additional issue is the insufficient coverage of specific sub-populations, which may reduce the usefulness of summary statistics for the analyses. It should be emphasised that the post-crisis EU rules for credit institutions were adopted despite the diversity of countries in terms of the institutional and macroeconomic factors. Under such conditions, the entities became obliged to maintain an access to stable funding and assess the nature of deposits in the single manner. Thus, the caveats should not be perceived as significant problem in this study. However, the limitations of the analysis based on summary statistics should be bared in mind.

The adopted sets of variables refer to the following characteristics of household.

1. Wealth, described by the value (in EUR) of:

- guaranteed deposits (the sum of sight and saving deposits up to EUR 100,000) - DG;
- sight deposits classified as part of guaranteed deposits - DG_A;
- saving deposits classified as part of guaranteed deposits - DG_S;
- high value deposits (the sum of sight and saving deposits above EUR 100,000 up to EUR 500,000) - DH;
- sight deposits classified as part of high value deposits - DH_A;
- saving deposits classified as part of high value deposits - DH_S;
- very high value deposits (the sum of sight and saving deposits above EUR 500,000) - DV;
- sight deposits classified as part of very high value deposits - DV_A;
- saving deposits classified as part of very high value deposits - DV_S;
- total financial other than excluding deposits - TFA;
- total deposits (sum of DG, DH, and DV) - D;
- total real assets - TRA;
- net wealth (total assets minus total liabilities from loans) - NW;
- gross annual income - GI.

2. Socio-demographic, including:

- number of members above 16 years old - HM;
- gender of the responding person - G;
- marital status of the responding person (married, single/never married, consensual union on a legal basis, widowed, divorced) - M;
- labour status of the responding person (retiree or early retiree, doing regular work for pay or self-employed or working in family business, on sick leave, maternity or other type of leave, unemployed, student or pupil or unpaid intern, permanently disabled, compulsory military service or equivalent social service, fulfilling domestic tasks, other - not working for pay) - L;
- the highest level of education completed by a responding person (tertiary, upper secondary, lower secondary, primary or below) - E;
- age of a responding person (in years) - A.

3. Country of residence:

Austria - AT, Belgium - BE, Cyprus - CY, France - FR, Finland - FI, Germany - DE, Italy - IT, Luxembourg - LU, Spain - ES. Moreover, the study uses quantitative information about the number of households with the following: guaranteed deposits in individual countries (H_GD), high value deposits in the countries analysed (H_HD), very high value deposits in individual countries (H_VD), and deposits (regardless of their types) in individual countries (H_D).

The first part of the study focuses on the following questions: Did the deposits guaranteed, of high value, and of very high value constitute significant parts of deposit totals declared by all households surveyed in the countries analysed? What was the nature of the deposits guaranteed, of high value, and of very high value - stable or unstable? Did the adoption of the single limit of deposit insurance schemes, which amounts to EUR 100,000, significantly enhance household protection and thus the stability of deposits in credit institutions in the analysed countries?

The analysis is based on descriptive statistics, such as arithmetic mean, quantiles 10-90, and the coefficient of variation (*CV*). The latter is described by the following formula:

$$CV = (\sigma/\bar{x}) \cdot 100\%, \tag{1}$$

where $\sigma$ - standard deviation; $\bar{x}$ - arithmetic mean.

The study identifies similarities and differences between deposits assigned to categories in question, based on their mean values and structures in a cross-country comparison. Moreover, it describes and compares the incidence of occurrence of analysed deposits in national samples. This incidence is defined as a relation of the number of households declaring the possession of deposits from a particular category to the total number of respondents.

The second part of the study elicits an answer to the following question: Is household propensity to possess the guaranteed, of high value, and of very high value deposits determined by homogeneous sets of factors within the euro area? Its verification requires the use of selected variables referring to wealth and socio-demographic features of households, which are proposed to the logit model which is described as:

$$y_i^* = \beta_0 + \sum_{j=1}^{k} \beta_j x_{ij} + \varepsilon_i, \quad (2)$$

where $y_i$* - latent variable; $x_{ij}$ - explanatory variables ($i$ = 1, 2, …, $n$; j = 1, 2, …, $k$); $\beta_j$ - regression parameters ($\beta_0$ - constant); $\varepsilon_i$ - random component.

The logit model is applied parallel for each category of deposits. All observations of individual deposits enable to form a dummy $Y$, which represents the fact that households own them ($Y$ = 1 when a household declares a deposit, otherwise $Y$ = 0). Thus, in the logit model, the fitted value for variable $y_i$* can be interpreted as household propensity to possess a deposit (Gangadharrao S. Maddala 2006) or a probability of its possession by a household (Gary King and Langche Zeng 2001; Pawel Ulman 2011).

Not all national samples which are analysed in the first part of the study contain sufficient numbers of households declaring the discussed deposits. This results in the removal from the regression analysis of the countries with less than nine observations. The final group of member states is formed by Austria, Belgium, Cyprus, Finland, France, Germany, Italy, Luxembourg, and Spain. It includes 50,589 households, of which 48,049 possess deposits which fulfil the criteria of guarantee regarding the value, 2,275 of high value deposits, and 265 of very high value deposits.

Due to the high diversity of the values of continuous variables in the national samples such as net wealth (NW), total financial assets (TFA), total real assets (TRA), and age of reference person (A), their usefulness in the analysis appeared limited. For that reason, they are converted into categorical, allowing to conclude about the influence of particular ranges of features on the household propensity to hold a deposit from a given category (Barbara Podolec, Ulman, and Agnieszka Wałęga 2008). However, it should be emphasised that both types of variables (continuous and categorical) are proposed in the logit model, thus providing complementary information. The advantages of the above solution are seen when the analysed propensity discloses only at a particular range of the variable value or the opposite effects are disclosed for specified ranges. This conversion results in the division of continuous variables into three dummies representing their low level, medium level and high level. The boundaries of assignment of a household to a particular subset were determined by the values of quantile 0.33 ($q_{0.33}$) and quantile 0.66 ($q_{0.66}$). Thus, the levels of the feature were defined as follows:

- low level: lower than $q_{0,33}$;
- medium level: from $q_{0,33}$ to $q_{0,66}$;
- high level: above $q_{0,66}$.

Table 2 shows the values of $q_{0,33}$ and $q_{0,66}$ representing the boundaries for household classification regarding the occurrence of certain features in the sample.

**Table 2** Numerical Characteristics of Households' Selected Features (in EUR)

| *Variable* | $q_{0,33}$ | $q_{0,66}$ | *CV* |
|---|---|---|---|
| NW | 90,749 | 311,643 | 552.71 |
| GI | 24,700 | 49,303 | 176.39 |
| TRA | 103,000 | 298,485 | 589.97 |
| TFA | 100 | 8,769 | 827.81 |

**Source:** Author's calculations based on the HFCS data (ECB 2016).

In the logit model, medium levels of the above characteristics (from $q_{0,33}$ to $q_{0,66}$) are the basis for comparison. Thus, the sets of variables proposed to the model include the dummies referring only to households with lower (~_L) and higher (~_H) values of the features than medium ones. As a consequence, for example, net wealth (NW) is converted into NW_L with the value of 1 when NW < EUR 90,749 and 0 in all other cases; NW_H with the value of 1 when NW > EUR 311,643 and 0 in all other cases. In the case of the age of the reference person (A), households' classification is based on correlation coefficients between the age and value of deposits possessed, as well as the household life cycle. The variable A_L takes the value of 1 when A ≤ 50 years old and 0 in all other cases, A_H takes the value of 1 when A > 65 years old and 0 in all other cases.

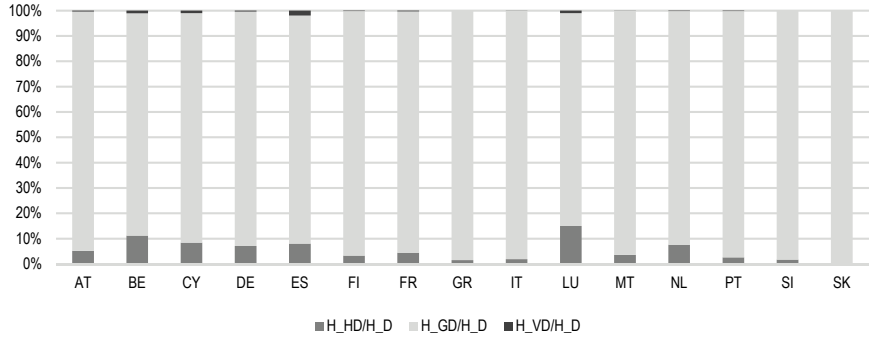
## 4. Deposits' Description

According to the EBA stance regarding the sensitivity of household deposits under stress, their following categories are analysed: guaranteed (up to EUR 100,000), of high value (over EUR 100,000, but up to EUR 500,000), and of very high value (over EUR 500,000).

In all the national samples, the dominant groups of households were those having guaranteed deposits (Figure 1). They constituted 84% of all respondents in Luxembourg to over 98% in Greece, Italy, Slovakia, and Slovenia. It should be noted that the shares close to 100% suggest the lack of significant negative consequences of credit institutions' insolvencies to local households. In all the remaining countries, the high popularity of guaranteed deposits was not always in line with their position in the aggregated values of all deposits declared. For example, in Belgium, Luxembourg, and Spain where more than 80% of households surveyed possessed such deposits, but approx. 30% of all deposits were provided in this form to credit institutions.

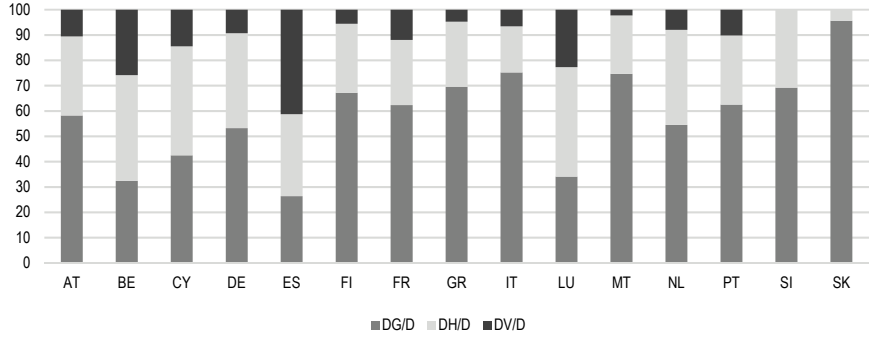
The second group of households regarding the incidence of the occurrence of deposit categories was that with high value deposits. It should be noted that their sensitivity to withdrawals in periods of stress was omitted in the single regulations. The greatest popularity of these deposits occurred in Luxembourg, where 15% of households surveyed possessed them. Their presence was also emphasised by Belgian households (11% of the sample). Both these fractions, despite their relatively small sizes in comparison to those relating, provided significant proportions of all deposit declared: 43% and 42% respectively. The attention should also be drawn to, for example, Austria (31%), Cyprus (43%), Germany (38%), the Netherlands (38%), Spain (32%), and Slovenia (31%) where the shares of high value deposits constituted significant parts of all deposits possessed by the household surveyed.

The category of very high value was identified as of the lowest significance for households and credit institutions in most of the euro area countries. The fraction of households possessing such deposits was limited to 2% and their presence revealed mainly in Belgium, Cyprus, Luxembourg, and Spain. However, they provided respectively 41%, 26%, 15%, and 23% of all deposits to credit institutions.




**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 1** Structure of Households Surveyed Regarding the Categories of Possessed Deposits in Selected Euro Area Countries



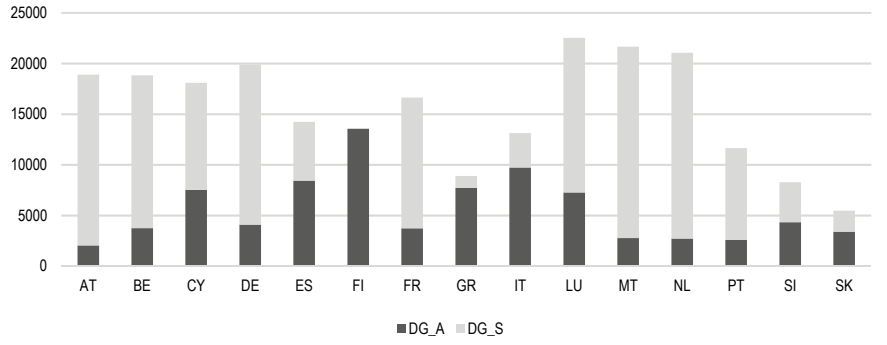

**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 2** Structure of Deposits Declared by the Households Surveyed in Selected Euro Area Countries

The above results did not confirm that the decision about the abandonment of high value deposits in the post-crisis regulations resulted from their insignificance. The study provided evidence of noteworthy shares of these deposits in all deposits declared by households surveyed in individual countries. Moreover, it suggested their greater significance as a source of funding of credit institutions than in the case of very high value deposits, which are subject to the regulations. The adoption of the EBA stance on deposit stability and access to information about the sight or saving character of the guaranteed, high value, and very high value deposits allowed to analyse their sensitivity during the periods of stress. It should be noted that sight deposits were perceived as the most stable under the crisis, whereas saving deposits were perceived as demonstrating greater vulnerability to outflows.

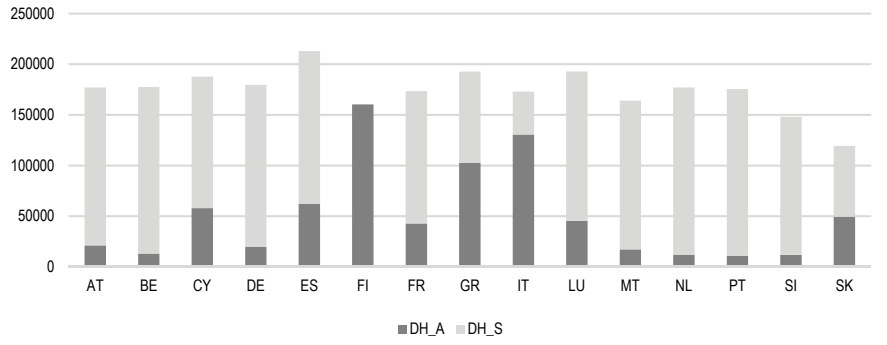
The mean levels and structures of the analysed categories of deposits were considerably differentiated in national samples of households (Figures 3-5). In the case of guaranteed deposits, their mean levels did not exceed EUR 25,000, proving a vast

excess of the single guarantee limit over the households' placement needs. The highest average levels of these deposits, above EUR 20,000, were recorded in Luxembourg, Malta, and the Netherlands, with the lowest, up to EUR 10,000, in Greece, Slovakia, and Slovenia. In nine out of the 15 countries analysed, these deposits developed mainly under the willingness of individuals to possess savings. Therefore, in such countries the importance of the DIS for minimising the risk of outflows might be perceived as significant for credit institutions. The predominance of sight deposits, recognised by the EBA as the most stable, was revealed only in the research samples of Greece, Italy, Slovakia, Slovenia and Spain, which suggested their attractiveness as funding for credit institutions even without the guarantees.




**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 3** Mean Values and Structures of Guaranteed Deposits (DG) in the Samples of Households Surveyed in Selected Euro Area Countries



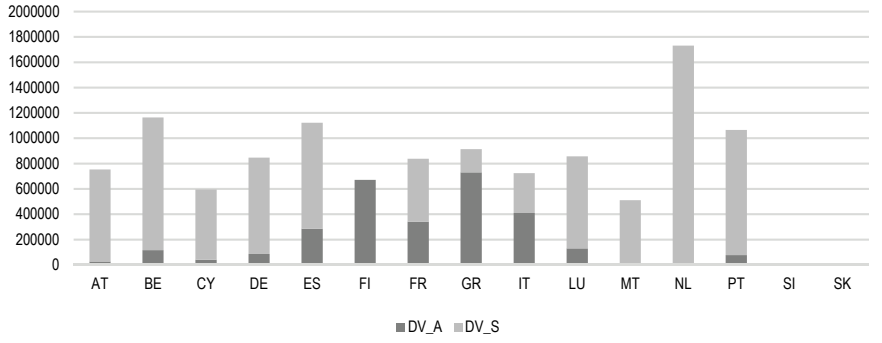

**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 4** Mean Values and Structures of High Value Deposits in the Samples of Households Surveyed in Selected Euro Area Countries

The mean levels of high value deposits ranged from EUR 150,000 to EUR 200,000, displaying lower cross-country differentiation than the previous category

(Figure 4). Only in Spain, the mean level exceed the upper limit, while in Slovakia and Slovenia, it was placed below the lower one. The occurrence of these deposits across the group was mainly driven by the possession of saving deposits by the households surveyed, which suggests their more sensitive nature. Only in Greece and Italy, did deposits remain under the dominance of sight deposits.

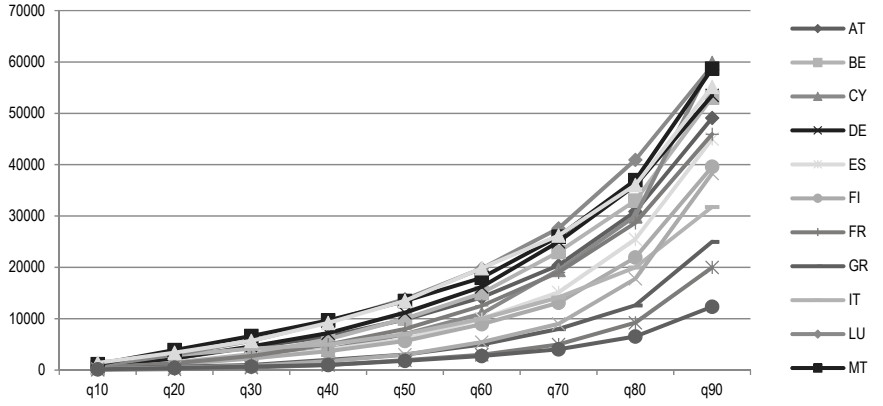
In Slovakian and Slovenian household samples, very high value deposits were not present (Figure 5). Therefore, the post-crisis regulations informing about the limited stability of these deposits seem not to be significant for local credit institutions. On the other hand, high value deposits whose nature is not the subject of current regulations appeared among these households. The analysis of their composition proved the importance of saving deposits, which according to the EBA were vulnerable to outflows during the crisis. In the remaining euro area countries, the mean levels of very high value deposits varied. The largest, exceeding EUR 1,500,000, characterised Dutch households. As in the case of high value deposits, the major parts of these deposits had the form of saving deposits everywhere except in the case of Greece and Italy. The problem of increased sensitivity of deposits should be identified mainly in Austrian, Cypriot, Dutch and Maltese samples, where almost all of them took the form of this type of deposit. However, in the case of Greece, Malta and the Netherlands, general conclusions on the nature of very high value deposits should be limited due to their rarity.




**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 5** Average Values and Structures of Very High Value Deposits in the Samples of Households Surveyed in Selected Euro Area Countries

The information about the sight or saving role of each deposit up to EUR 100,000 allowed to assess the adequacy of the single limit adopted within national guarantee schemes. For that reason, the quantiles ($q_{10}$ - $q_{90}$) and coefficients of variation (CV) were estimated for the deposit values in individual countries (Figure 6 and Table 3). In the group of the euro area member states, a CV exceeding 100% confirmed considerable differences in the values of guaranteed deposits in the national samples. The greatest variation was identified in Greece, Portugal, Slovakia and Slovenia, where the coefficient stood at nearly 170%. On the other hand, it was possible to identify the countries in which individual deposits remained at low levels. Such a situation




**Source:** Author's calculations based on the HFCS data (ECB 2016).

**Figure 6** Quantiles of Guaranteed Deposits Regarding Their Values in Individual Countries

**Table 3** Coefficients of Variation (in %) for Guaranteed Deposits in Selected Euro Area Countries

| Country | *CV* |
|---|---|
| Austria | 119.5 |
| Belgium | 117.1 |
| Cyprus | 133.7 |
| Germany | 111.0 |
| Greece | 165.1 |
| Finland | 138.7 |
| France | 124.2 |
| Italy | 120.8 |
| Luxembourg | 106.5 |
| Malta | 105.2 |
| The Netherlands | 103.2 |
| Portugal | 166.3 |
| Slovakia | 172.3 |
| Slovenia | 176.6 |
| Spain | 135.1 |

**Source:** Author's calculations based on the HFCS data (ECB 2016).

occurred in Slovakia and Slovenia, where half of the households surveyed had deposits not exceeding EUR 1,810 and EUR 1,922 respectively, and in 90% of the cases these deposits were up to EUR 12,339.1 and EUR 20,000. On the other hand, countries such as Belgium, Cyprus, Germany, Luxembourg, Malta and the Netherlands distinguished themselves with the highest values of guaranteed deposits in the group. From all households surveyed in these countries except Cypriots, half of the declared deposits were not lower than EUR 10,000, and 90% of them possessed deposits ranging from EUR 50,000 to EUR 60,000. Thus, the results showed that even in developed countries of the euro area the limit of guarantees amounting to EUR 100,000 significantly exceeded

the allocation needs of the majority of households surveyed and the deposits close to EUR 100,000 could be considered as rare. However, the above findings should not be perceived as a criticism of the decision about the adoption of the single limit, because the maintenance of pre-crisis limits could significantly enhance the outflows from credit institutions in some of the countries. In some of them, the new limit allowed the protection of distinctly larger groups of households, freeing them from the potentially severe effects of the insolvency of credit institutions. In the cases of Luxembourg and the Netherlands, at least 30% of additional households surveyed (with deposits exceeding EUR 20,000 but lower than EUR 100,000) could meet the criteria of guarantee schemes and benefit from such protection. In Austria, Belgium, Cyprus, Germany, and Malta these fractions equalled at least 20%, in Finland, Portugal, and Spain they were close to 10%, while in Greece they were lower than 10%. On the other hand, the change of the limit should be considered irrelevant for the funding stability of credit institutions in France, where the pre-crisis limit was set at EUR 70,000, as well as in Italy, where the former limit was even higher than the current one. This conclusion could also be referred to Slovakia and Slovenia, whose 90% of households surveyed were characterised by the lowest values of deposits in the group, not exceeding EUR 20,000. Moreover, in selected countries, strong sides of increased, single threshold should be assessed as limited due to the stable character of funds composing the deposits. It did not matter whether the accumulation needs of 90% of households surveyed were significantly lower than the pre-crisis limits (like in Italy and Slovakia) or about 10% of households were higher (like in Finland or Spain). In such cases, the guaranteed deposits mainly consisted of sight deposits. However, in Austria, Belgium, Cyprus, Germany, Luxembourg, Malta, as well as the Netherlands and Portugal, where the guaranteed deposits consisted mainly of saving deposits, the introduction of an increased limit should be perceived as an important step towards the greater protection of depositors. Thus, it may reduce deposit outflows from credit institutions in periods of stress.

## 5. Results from Logistic Regression

The idea of adoption of single regulations in the heterogeneous group of countries raised the question whether the probability of occurrence of individual deposit categories (guaranteed, high value, and very high value) in a euro area household is determined by comprehensive, supranational sets of features. These sets can also be interpreted as describing the Eurozone profiles of households that are willing to have deposits assigned to a particular category. Any differences identified in the sets, as well as in the strength and direction of influence of individual features could be useful for the assessment of the correctness of the single regulations.

The study was based on logistic regression, adopted in 4 versions based on merits. The wide range of deposit values, even above EUR 500,000, draws attention to the possible importance of household wealth for their occurrence. The database allowed the expression of this factor by net wealth (NW) and its components - total financial assets (TFA) and total real assets (TRA), as well as gross annual income (GI). Using both types of variables - general (NW and GI) as well as more precise (TRA and TFA) - the conclusions about the analysed propensity could be deepened and provide information about household preferences regarding investments in riskless real assets or

risky financial assets and how important the values of such involvements were for their owners. Socio-demographic features were also in the interest of the analysis and led to the separate household profile detached from financial characteristics. The age of the reference person appeared as an important variable linked with the households' life cycle and evolving ability and willingness to accumulate assets. Due to the analysis conducted for a group of countries, the variables identifying each member state allowed the disclosure of the differences between them. As presented in Table 2, the high diversity of the selected variables encouraged the double use of each version of the model – once with continuous variables (version "a") and once with categorical variables (version "b"). Thus, the following sets were proposed in the versions of the logit model:

*Version 1* - emphasising the importance of household net wealth:

a) NW;
b) NW_L, NW_H.

*Version 2* - comprising variables denoting net wealth and its important driver - gross income, as well as the age of reference person and country affiliation (Germany was the basis for comparison):

a) NW, GI, A, AT, BE, CY, ES, FI, FR, IT, LU;
b) NW_L, NW_H, GI_L, GI_H, A_L, A_H, AT, BE, CY, ES, FI, FR, IT, LU.

*Version 3* - modification of Version 2 with components of net wealth (real assets and financial assets without deposits), reference person's age, and country of residence (Germany was the basis for comparison), leading to more detailed outcomes:

a) TRA, TFA, A, AT, BE, CY, ES, FI, FR, IT, LU;
b) TRA_L, TRA_H, TFA_L, TFA_H, A_L, A_H, AT, BE, CY, ES, FI, FR, IT, LU.

*Version 4* - relating solely to households' socio-demographic features and country of residence (Germany was the basis for comparison):

a) HM, E_T, M_M, G_M, L_R, A, AT, BE, CY, ES, FI, FR, IT, LU;
b) HM, E_T, M_M, G_M, L_R, A_L, A_H, AT, BE, CY, ES, FI, FR, IT, LU.

From each proposed set, only the variables fulfilling formal and statistical criteria entered the model.

*Results from Version 1*

The version 1 of the logit model displayed a statistically significant impact of net wealth (NW) on households' propensity to hold deposits in question (Table 4). In the case of guaranteed deposits, the weaker financial situation of the household determined a higher probability of their occurrence. Moreover, the highest probability was identified among respondents whose wealth was less than EUR 90,749 (NW_L). In such a subset of households, the chance of having the deposits was 89 times higher than in the households being the basis for comparison. On the other hand, net wealth beyond EUR 311,643 (NW_H) resulted in the reduction of the analysed propensity by 90% on

average. The reverse impact of net wealth could be recognised for the two remaining categories of deposits. In their cases, higher net wealth appeared as a stimulus of their possession. However, an almost twice greater impact was identified regarding the occurrence of high value deposits (the increase of NW by EUR 100,000 led to the growth in the analysed propensity on average by 1.5%) than those of very high value the (increase of NW by EUR 100,000 resulted in the growth in the probability on average by 0.8%). Among the wealthiest respondents (NW_H), the interest in high value deposits was almost nine times greater than in households characterised by net wealth from the middle range. From the unit change odds ratio for the variable relating to the low range of net wealth (NW_L) it can be stated that the analysed propensity regarding both categories of deposits did not exist among households with net wealth less than EUR 90,749.

**Table 4** Summary of Logistic Regression (Version 1)

| **Guaranteed deposits** | | | | | | |
|---|---|---|---|---|---|---|
| ***Version*** | ***Spec.*** | ***B*** | ***SE*** | ***t-statistics*** | ***p-value*** | ***o.r.**** |
| 1a | Const. | 3.0896 | 0.0339 | 91.2447 | 0.0000 | |
| | NW | -3.0922e-07 | 4.2496e-08 | -7.2763 | 0.0000 | 1.00 |
| | Chi-square (1) = 1028.26; $p < 0.0000$ | | | | | |
| 1b | Const. | 4.1348 | 0.0622 | 66.5254 | 0.0000 | |
| | NW_L | 4.4892 | 0.5807 | 7.7301 | 0.0000 | 89.05 |
| | NW_H | -2.3287 | 0.0659 | 35.3365 | 0.0000 | 0.10 |
| | Chi-square (2) = 4275.19; p < 0.0000 | | | | | |
| **High value deposits** | | | | | | |
| ***Version*** | ***Spec.*** | ***B*** | ***SE B*** | ***t-statistics*** | ***p-value*** | ***o.r.**** |
| 1a | Const. | -3.0826 | 0.0276 | -111.6026 | 0.0000 | |
| | NW | 1.4515e-07 | 3.0894e-08 | 4.6982 | 0.0000 | 1.00 |
| | Chi-square (1) = 356.40; $p < 0.0000$ | | | | | |
| 1b | Const. | -4.1348 | 0.0622 | -66.5254 | 0.0000 | |
| | NW_L | -4.4892 | 0.5807 | -7.7301 | 0.0000 | 0.01 |
| | NW_H | 2.1953 | 0.0663 | 33.1247 | 0.0000 | 8.98 |
| | Chi-square (2) = 3713.24; $p < 0.0000$ | | | | | |
| **Very high value deposits** | | | | | | |
| ***Version*** | ***Spec.*** | ***B*** | ***SE B*** | ***t-statistics*** | ***p-value*** | ***o.r.**** |
| 1a | Const. | -5.3504 | 0.0694 | -77.0762 | 0.0000 | |
| | NW | 8.4629e-08 | 2.5872e-08 | 3.2711 | 0.0011 | 1.00 |
| | Chi-square (1) = 140.04; p < 0.0000 | | | | | |
| 1b | Const. | -4.8434 | 0.0617 | -78.5367 | 0.0000 | |
| | NW_L | -26.3595 | 0.0622 | -424.0934 | 0.0000 | 3.5e-12 |
| | Chi-square (2) = 212.93; $p < 0.0000$ | | | | | |

**Notes:** * *o.r.* - unit change odds ratio.

**Source:** Author's calculations based on the HFCS data (ECB 2016).

*Results from Version 2*

The second version confirmed the opposite direction of the impact of a financial situation of a household measured by NW and GI on its propensity to hold guaranteed deposits and those not covered by the guarantees (Table 5). The clearest difference was disclosed by the level of gross income (GI). Along with its increase by EUR 100,000, the probability of possession of an insured deposit decreased on average by 5%, and increased in the case of the remaining categories (on average by 39% for a

**Table 5** Summary of Logistic Regression (Version 2)

**Guaranteed deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| | Const. | 4.4994 | 0.0991 | 45.4245 | 0.0000 | |
| | NW | -1.2562e-07 | 3.6469e-08 | -3.4446 | 0.0000 | 0.99 |
| | GI | -5.2014e-06 | 6.2535e-07 | -8.3176 | 0.0000 | 1.00 |
| | A | -0.0260 | 0.0013 | -20.1603 | 0.0000 | 0.97 |
| | BE | -0.6362 | 0.0816 | -7.7984 | 0.0000 | 0.53 |
| 2a | ES | -0.1615 | 0.0726 | -2.2229 | 0.0026 | 0.85 |
| | FI | 0.5537 | 0.0725 | 7.6348 | 0.0000 | 1.74 |
| | FR | 0.5378 | 0.0649 | 8.2894 | 0.0000 | 1.71 |
| | IT | 1.4617 | 0.1037 | 14.0986 | 0.0000 | 4.31 |
| | LU | -0.6878 | 0.1111 | -6.1931 | 0.0000 | 0.50 |
| | Chi-square (9) = 2521.26; $p < 0.0000$ | | | | | |
| | Const. | 4.0077 | 0.1004 | 39.8929 | 0.0000 | |
| | GI_L | 0.3584 | 0.0847 | 4.2328 | 0.0000 | 1.43 |
| | GI_H | -0.9169 | 0.0548 | -16.7204 | 0.0000 | 0.40 |
| | NW_L | 4.2078 | 0.5810 | 7.2422 | 0.0000 | 67.21 |
| | NW_H | -1.8710 | 0.0684 | -27.3465 | 0.0000 | 0.15 |
| | A_L | 0.5069 | 0.0546 | 9.2923 | 0.0000 | 1.66 |
| | A_H | -0.2839 | 0.0503 | -5.6435 | 0.0000 | 0.75 |
| 2b | AT | -0.4906 | 0.1180 | -4.1584 | 0.0000 | 0.61 |
| | BE | -0.5348 | 0.0928 | -5.7657 | 0.0000 | 0.59 |
| | ES | -0.2282 | 0.0772 | -2.9562 | 0.0031 | 0.80 |
| | FI | 0.4678 | 0.0818 | 5.7216 | 0.0000 | 1.60 |
| | FR | 0.4748 | 0.0732 | 6.4832 | 0.0000 | 1.61 |
| | IT | 1.2507 | 0.1102 | 11.3473 | 0.0000 | 3.50 |
| | LU | -0.3399 | 0.1151 | -2.9543 | 0.0000 | 0.71 |
| | Chi-square (13) = 4275.19; $p < 0.0000$ | | | | | |

**High value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| | Const. | -4.2344 | 0.0934 | -45.3234 | 0.0000 | |
| | GI | 3.3200e-06 | 6.6809e-07 | 4.9694 | 0.0000 | 1.00 |
| | A | 0.0235 | 0.0013 | 18.7749 | 0.0000 | 1.02 |
| | BE | 0.5718 | 0.0765 | 7.4776 | 0.0000 | 1.77 |
| | FI | -0.5791 | 0.0655 | -8.8404 | 0.0000 | 0.56 |
| 2a | FR | -0.5057 | 0.0560 | -9.0334 | 0.0000 | 0.60 |
| | IT | -1.5424 | 0.1011 | -15.2610 | 0.0000 | 0.21 |
| | LU | 0.7821 | 0.1088 | 7.1883 | 0.0000 | 2.19 |
| | NW | 5.1089e-08 | 1.8879e-08 | 2.7061 | 0.0000 | 1.00 |
| | Chi-square (8) = 1531.78; $p < 0.0000$ | | | | | |
| | Const. | -3.8673 | 0.0867 | -44.6268 | 0.0000 | |
| | A_L | -0.4616 | 0.0561 | -8.2298 | 0.0000 | 0.63 |
| | A_H | 0.2024 | 0.0525 | 3.8549 | 0.0001 | 1.22 |
| | NW_L | -4.2569 | 0.5808 | -7.3292 | 0.0000 | 0.01 |
| | NW_H | 1.7887 | 0.0692 | 25.8484 | 0.0000 | 5.98 |
| | GI_L | -0.3279 | 0.0863 | -3.7997 | 0.0001 | 0.72 |
| | GI_H | 0.7925 | 0.0559 | 14.1826 | 0.0000 | 2.21 |
| 2b | AT | 0.4024 | 0.1109 | 3.6291 | 0.0003 | 1.50 |
| | BE | 0.4329 | 0.0830 | 5.2126 | 0.0000 | 1.52 |
| | CY | -0.2637 | 0.1303 | -2.0231 | 0.0431 | 0.77 |
| | FI | -0.4959 | 0.0706 | -7.0278 | 0.0000 | 0.61 |
| | FR | -0.5168 | 0.0582 | -8.8879 | 0.0000 | 0.60 |
| | IT | -1.3188 | 0.1032 | -12.7832 | 0.0000 | 0.27 |
| | LU | 0.2811 | 0.1091 | 2.5770 | 0.0100 | 1.32 |
| | Chi-square (13) = 4563.66; $p < 0.0000$ | | | | | |

**Very high value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| | Const. | -8.6740 | 0.2771 | -31.3038 | 0.0000 | |
| | A | 0.0424 | 0.0041 | 10.2239 | 0.0000 | 1.04 |
| | GI | 3.4944e-06 | 5.0395e-07 | 6.9341 | 0.0000 | 1.00 |
| | ES | 1.7638 | 0.1525 | 11.5628 | 0.0000 | 5.84 |
| 2a | LU | 1.4796 | 0.3382 | 4.3754 | 0.0000 | 4.39 |
| | BE | 1.3546 | 0.2445 | 5.5347 | 0.0000 | 3.88 |
| | CY | 1.3085 | 0.3524 | 3.7136 | 0.0002 | 3.70 |
| | IT | -0.7953 | 0.3390 | -2.3461 | 0.0190 | 0.45 |
| | Chi-square (7) = 2521.26; $p < 0.0000$ | | | | | |
| | Const. | -7.7768 | 0.2012 | -38.6570 | 0.0000 | |
| | NW_H | 2.8549 | 0.1805 | 15.8164 | 0.0000 | 17.37 |
| | A_L | -1.1040 | 0.1938 | -5.6951 | 0.0000 | 0.33 |
| | A_H | 0.8419 | 0.1417 | 5.9429 | 0.0000 | 2.32 |
| 2b | ES | 2.1226 | 0.1402 | 15.1358 | 0.0000 | 8.35 |
| | BE | 1.4315 | 0.2283 | 6.2712 | 0.0000 | 4.19 |
| | CY | 1.3179 | 0.3521 | 3.7433 | 0.0002 | 3.74 |
| | LU | 1.0582 | 0.3130 | 3.3804 | 0.0007 | 2.88 |
| | Chi-square (7) = 5369.57; $p < 0.0000$ | | | | | |

**Source:** Author's calculations based on the HFCS data (ECB 2016).

high value deposit, and 42% for a very high value deposit). The differences in the strength of changes proved the more sensitive nature of unguaranteed deposits. The wealth characteristics entered the models for guaranteed and high value deposits also in the form of categorical variables. With gross annual income lower than EUR 24,700 (GI_L) the chance of possession of an insured deposit was greater on average by 43%, while the chance of possession of a high value deposit was limited by 28% on average in comparison to households with middle-level incomes. In the group of households achieving the gross annual incomes greater than EUR 49,303 per year (GI_H), the propensity to possess guaranteed deposits was less likely (on average by 60%) while high value deposits were on average two times more frequent than in the basis for comparison.

Assuming a certain wealth and age of the respondents, it should be noted that the most prone to have guaranteed deposits were Finnish, French and Italian households. On the other hand, Belgians and Luxembourgians at the same stage of life cycle as well as with the same financial situation demonstrated an increased propensity to hold high value and very high value deposits. This proved how different a household approach was to the sums accumulated on accounts in credit institutions across the analysed geographic area. On the other hand, the age of the reference person could be perceived as a factor favouring or demotivating the possession of deposit, depending on its category. Among respondents up to 50 years old (A_L) this feature was assessed as a stimulus of guaranteed deposits' possession, while among those of 65 years old or more it stood out as a disincentive. In the case of the remaining two deposit categories, the impact was reverse. It should also be noted that the probability of the occurrence of guaranteed deposits decreased with every ten years on average by 23%, parallel to enhancing household interest in having high value deposits (on average by 26%) and very high value deposits (on average by 53%), assuming the constancy of the remaining variables.

*Results from Version 3*

The third version examines the significance of the values of households' financial and real assets, place of residence, as well as the age of responding persons for their propensity to hold the analysed deposit categories (Table 6). The outcomes allowed concluding about separate conditions of occurrence of guaranteed deposits from non-guaranteed ones and proved the similarity of the categories included in the latter. It should be noted that both asset types (TRA and TFA), which are the components of net wealth (NW), statistically significantly influenced the analysed propensities, but with inconsistent directions and strength. Their positive impact was recognised regarding the high value and very high value deposits, while it was negative regarding the guaranteed deposits.

Thus, the insured deposits were mostly held by households characterised by low values of real and financial assets (TRA_L and TFA_L), but the impact of real assets was assessed as more than two times stronger than the basis of comparison, whereas in the case of the latter it was only 40% stronger. On the other hand, high ranges of the values of both types of assets (TRA_H and TFA_H) almost equally decreased the likelihood of having such deposits (by on average 61% and 64% respectively).

In the case of high value deposits, the covariates TRA_H and TFA_H boosted the probability of their occurrence in households. The outcomes displayed that a household with such involvements was more than 2 times willing to have such deposits than a household assigned to the basis for comparison. Low values of both types of assets decreased this propensity by at least 47%.

In the case of the very high value deposits, the probability of their occurrence was over 4-times greater with financial assets of high values (TFA_H), and almost 10-times higher with real assets of high values (TRA_H), in comparison to the basis. The covariates referring to low values of both assets did not enter the model.

The results regarding the impact of low values of financial and real assets could be noteworthy for the discussion on the nature (sensitivity to outflows) of high value deposits which became omitted in the post-crisis regulations. They may suggest negative consequences of significant decreases in the values of both types of assets for the occurrence of the deposits. However, such conclusions require additional research in this area.

The significance of the age of the responding person (A) for the analysed propensities was similar to that from the second version. However, a slight difference could be identified in its strength (every ten years, the propensity to hold a guaranteed deposit decreased on average by 21%, while in the cases of a high value deposit and a very high value one it increased respectively by 24% and 47%).

The results displayed different preferences of households regarding the deposit categories among the countries. For those residing in Finland, France, and Italy, the most probable were guaranteed deposits while the least - the deposits from the remaining categories. Taking into consideration all the covariates which entered the model, thus, assuming equal values of real and financial assets possessed by households (TRA and TFA) represented by reference persons of the same age (A) at group level, the limited propensity regarding the possession of the unguaranteed deposits characterised households from the above countries. Under the same assumptions, the strongest tendency to accumulate sums exceeding EUR 100,000 was identified among households

residing in Belgium and Luxembourg. However, the strength of influence of these covariates was greater regarding the very high value deposits. Thus, under the same conditions, Belgians and Luxembourgians appeared as the most prone to keep their wealth in the form of deposits classified as unguaranteed.

**Table 6** Summary of Logistic Regression (Version 3)

**Guaranteed deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| 3a | Const. | 4.0455 | 0.0808 | 50.0662 | 0.0000 | |
| | TRA | -1.7503e-07 | 4.2947e-08 | -4.0754 | 0.0000 | 1.00 |
| | TFA | -2.6381e-07 | 6.0964e-08 | -4.3273 | 0.0000 | 1.00 |
| | A | -0.0241 | 0.0012 | -20.9681 | 0.0000 | 0.98 |
| | BE | -0.5767 | 0.0745 | -7.7452 | 0.0000 | 0.56 |
| | FI | 0.5951 | 0.0654 | 9.0930 | 0.0000 | 1.81 |
| | FR | 0.5325 | 0.0538 | 9.9034 | 0.0000 | 1.70 |
| | IT | 1.6145 | 0.0977 | 16.5262 | 0.0000 | 5.03 |
| | LU | -0.8957 | 0.0987 | -9.0775 | 0.0000 | 0.41 |
| | Chi-square (8) = 1787.48; $p < 0.0000$ | | | | | |
| 3b | Const. | 3.1815 | 0.0872 | 36.4703 | 0.0000 | |
| | TRA_L | 0.7681 | 0.0872 | 8.8246 | 0.0000 | 2.16 |
| | TRA_H | -0.9441 | 0.0870 | -17.9091 | 0.0000 | 0.39 |
| | TFA_L | 0.3360 | 0.0527 | 4.1141 | 0.0000 | 1.40 |
| | TFA_H | -1.0285 | 0.0817 | -14.5040 | 0.0000 | 0.36 |
| | A_L | 0.6801 | 0.0709 | 12.5418 | 0.0000 | 1.97 |
| | A_H | -0.1896 | 0.0542 | -3.8945 | 0.0000 | 0.83 |
| | BE | -0.3551 | 0.0487 | -4.5116 | 0.0000 | 0.70 |
| | CY | 0.3340 | 0.0787 | 2.7309 | 0.0063 | 1.40 |
| | FI | 0.5326 | 0.1223 | 8.1347 | 0.0000 | 1.70 |
| | FR | 0.5905 | 0.0655 | 10.8088 | 0.0000 | 1.80 |
| | IT | 1.4540 | 0.0546 | 14.7272 | 0.0000 | 4.28 |
| | LU | -0.6025 | 0.0987 | -5.7698 | 0.0000 | 0.55 |
| | AT | -0.4171 | 0.1044 | -4.0187 | 0.0000 | 0.96 |
| | Chi-square (13) = 3644.45; $p < 0.0000$ | | | | | |

**High value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| 3a | Const. | -3.9548 | 0.0908 | -43.5509 | 0.0000 | |
| | TRA | 6.6452e-08 | 9.3108e-09 | 7.1371 | 0.0000 | 1.00 |
| | TFA | 1.7226e-07 | 2.3976e-08 | 7.1843 | 0.0000 | 1.00 |
| | A | 0.0221 | 0.0014 | 16.3486 | 0.0000 | 1.02 |
| | AT | -0.1976 | 0.1016 | -1.9436 | 0.0000 | 0.82 |
| | BE | 0.0551 | 0.0772 | 7.1407 | 0.0000 | 1.06 |
| | FI | -0.5918 | 0.0663 | -8.9225 | 0.0000 | 0.55 |
| | FR | -0.4938 | 0.0554 | -8.9136 | 0.0000 | 0.61 |
| | IT | -1.6215 | 0.1012 | -16.0256 | 0.0000 | 0.20 |
| | LU | 0.9458 | 0.1012 | 9.3443 | 0.0000 | 2.57 |
| | Chi-square (9) = 1217.71; $p < 0.0000$ | | | | | |
| 3b | Const. | -3.2304 | 0.0895 | -36.0835 | 0.0000 | |
| | TRA_L | -0.7649 | 0.0882 | -8.6676 | 0.0000 | 0.47 |
| | TRA_H | 0.8351 | 0.0542 | 15.4091 | 0.0000 | 2.31 |
| | TFA_L | -0.3766 | 0.0837 | -4.4991 | 0.0000 | 0.69 |
| | TFA_H | 0.9683 | 0.0725 | 13.3547 | 0.0000 | 2.63 |
| | A_L | -0.6512 | 0.0559 | -11.6461 | 0.0000 | 0.52 |
| | A_H | 0.1317 | 0.0511 | 2.5789 | 0.0000 | 1.14 |
| | BE | 0.4229 | 0.0819 | 5.1620 | 0.0000 | 1.53 |
| | CY | -0.2741 | 0.1289 | -2.1261 | 0.0000 | 0.76 |
| | FI | -0.4251 | 0.0680 | -6.2552 | 0.0000 | 0.65 |
| | FR | -0.4797 | 0.0574 | -8.3627 | 0.0000 | 0.62 |
| | IT | -1.3527 | 0.1031 | -13.1178 | 0.0000 | 0.26 |
| | LU | 0.6911 | 0.1079 | 6.4020 | 0.0000 | 2.00 |
| | AT | 0.4828 | 0.1074 | 4.4979 | 0.0000 | 1.62 |
| | Chi-square (13) = 3028.83; $p < 0.0000$ | | | | | |

**Very high value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| 3a | Const. | -8.0149 | 0.2578 | -31.0859 | 0.0000 | |
| | A | 0.0383 | 0.0037 | 10.2320 | 0.0000 | 1.04 |
| | TFA | 2.0005e-07 | 5.7280e-08 | 3.4925 | 0.0005 | 1.00 |
| | ES | 1.5668 | 0.1559 | 10.0528 | 0.0000 | 4.79 |
| | LU | 1.5658 | 0.3152 | 4.9671 | 0.0000 | 4.79 |
| | BE | 1.1812 | 0.2346 | 5.0355 | 0.0000 | 3.26 |
| | IT | -1.0687 | 0.3400 | -3.1431 | 0.0017 | 0.34 |
| | CY | 1.0600 | 0.3562 | 2.9762 | 0.0029 | 2.89 |
| | FI | -0.4921 | 0.2644 | -1.8615 | 0.0627 | 0.61 |
| | Chi-square (8) = 390.17; $p < 0.0000$ | | | | | |
| 3b | Const. | -8.1334 | 0.2625 | -30.9858 | 0.0000 | |
| | TRA_H | 2.2866 | 0.2327 | 9.8260 | 0.0000 | 9.84 |
| | TFA_H | 1.4380 | 0.1685 | 8.5346 | 0.0000 | 4.21 |
| | A_L | -0.8196 | 0.1932 | -4.2406 | 0.0000 | 0.44 |
| | A_H | 0.5263 | 0.1371 | 3.8389 | 0.0001 | 1.69 |
| | ES | 1.4499 | 0.1436 | 10.0957 | 0.0000 | 4.26 |
| | AT | 1.1128 | 0.3562 | 3.123 | 0.0018 | 3.04 |
| | BE | 1.0183 | 0.2292 | 4.4428 | 0.0000 | 2.77 |
| | LU | 1.0085 | 0.3127 | 3.2247 | 0.0013 | 2.74 |
| | IT | -0.6697 | 0.3347 | -2.0009 | 0.0454 | 0.51 |
| | Chi-square (9) = 694.70; $p < 0.0000$ | | | | | |

**Source:** Author's calculations based on the HFCS data (ECB 2016).

*Results from Version 4*

In the fourth version, like in the previous ones, the opposite directions of the impact of household characteristics on the propensities to possess guaranteed and unguaranteed deposits were manifested (Table 7).

For the occurrence of a deposit from the first category, the most important determinant was a retiree or early retiree status of a responding person on the labour market (L_R). The probability of its possession by such a household was higher on average by 18% in comparison to the households whose respondents were characterised by other statuses. The remaining socio-demographic features were assessed as statistically significant disincentives of the studied phenomenon. They referred to a greater number of adult or almost adult members of the household (HM), marital status of the members (M_M), tertiary education completed by the respondent (E_T), the age of respondents (A) and their male gender (G_M). The strongest limitations in the occurrence of guaranteed deposit were caused by the feature relating to the tertiary level of education (E_T). Such households were less involved in these deposits (on average by 67%) in comparison to households whose respondents completed at most upper secondary level. According to the results relating to the age of respondents (A), in households represented by persons younger than 50 years old (A_L), the probability of possession of guaranteed deposits was almost 2.5 times higher than in households represented by seniors. The importance of the country of origin for the analysed propensities was consistent with that from Versions 2-3. Residing in Finland, France, or Italy appeared to be a condition favouring the propensity to have guaranteed deposits. Austrians, Belgians, Luxembourgians, or Spanish emerged as households of opposing preferences. In this version, Cyprus and Germany formed the basis for comparison.

Regarding the remaining categories, the characteristics influenced the probability of their occurrence with a reverse effect to that identified for guaranteed deposits. From all socio-demographic characteristics, tertiary education completed by the

respondent (E_T) became distinguished. A household represented by such a person was characterised by a greater likelihood of high value (almost 3-times) and very high value deposit possession (more than 5-times) than the others. The remaining characteristics according to their significance were marital status of household members, male reference person, wherein the first one more pronouncedly influenced high value deposits while the second one - very high value deposits. The retiree or early retiree status of a respondent limited the likelihood of holding unguaranteed deposits, but its greater impact was recognised regarding very high value ones. This feature is worth analysing together with the age of respondents. In the case of high value and very high value deposits, the age of reference person (A) positively influenced the probability of their possession. However, the stronger impact (7% increase per year) should be assigned to the latter category. Among the households represented by people with age defined as low (A_L), this propensity was on average 71% lower with regard to very high value deposits and 56% lower with regard to high value deposits in comparison to households with middle aged respondents. From the variables denoting the country of residence, the outcomes confirmed the conclusions from the prior versions of the model, i.e. households in Finland, France, and Italy were the most focused on guaranteed deposits from the group. Residents of Luxembourg were characterised by the greatest propensity to have high value deposits (almost three times greater than the basis for comparison), and very high value deposits (about five times), assuming the constancy of socio-demographic characteristics.

**Table 7** Summary of Logistic Regression (Version 4)

**Guaranteed deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| | Const. | 6.0136 | 0.1330 | 45.2145 | 0.0000 | |
| | L_R | 0.1623 | 0.0665 | 2.4401 | 0.0147 | 1.18 |
| | M_M | -0.4680 | 0.0567 | -8.2570 | 0.0000 | 0.63 |
| | E_T | -1.1048 | 0.0436 | -25.3134 | 0.0000 | 0.33 |
| | G_M | -0.3906 | 0.0469 | -8.3263 | 0.0000 | 0.68 |
| | A | -0.0353 | 0.0020 | -17.2947 | 0.0000 | 0.97 |
| | HM | -0.1539 | 0.0255 | -6.0318 | 0.0000 | 0.86 |
| 4a | AT | -0.3266 | 0.1113 | -2.9351 | 0.0033 | 0.72 |
| | BE | -0.6611 | 0.0890 | -7.4257 | 0.0000 | 0.52 |
| | ES | -0.2389 | 0.0739 | -3.2314 | 0.0012 | 0.79 |
| | FI | 0.4357 | 0.0787 | 5.5377 | 0.0000 | 1.55 |
| | FR | 0.2573 | 0.0710 | 3.6227 | 0.0003 | 1.29 |
| | IT | 1.2862 | 0.1098 | 11.7189 | 0.0000 | 3.62 |
| | LU | -1.1202 | 0.1102 | -10.1673 | 0.0000 | 0.33 |
| | Chi-square (13) = 2438.67; $p < 0.0000$ | | | | | |
| | Const. | 3.7218 | 0.0926 | 40.1868 | 0.0000 | |
| | M_M | -0.4830 | 0.0560 | -8.6242 | 0.0000 | 0.62 |
| | E_T | -1.0817 | 0.0431 | -25.0870 | 0.0000 | 0.34 |
| | L_R | 0.1675 | 0.0503 | 3.3268 | 0.0009 | 0.85 |
| | G_M | -0.3678 | 0.0465 | -7.9051 | 0.0000 | 0.69 |
| | HM | -0.1140 | 0.0261 | -4.3695 | 0.0000 | 0.89 |
| | AT | -0.2684 | 0.1109 | -2.4198 | 0.0155 | 0.76 |
| 4b | BE | -0.6588 | 0.0889 | -7.4075 | 0.0000 | 0.52 |
| | ES | -0.2982 | 0.0736 | -4.0527 | 0.0000 | 0.74 |
| | FI | 0.4899 | 0.0787 | 6.2246 | 0.0000 | 1.63 |
| | FR | 0.2715 | 0.0710 | 3.8244 | 0.0001 | 1.31 |
| | IT | 1.2730 | 0.1097 | 11.6087 | 0.0000 | 3.57 |
| | LU | -1.0982 | 0.1104 | -9.9452 | 0.0000 | 0.33 |
| | A_L | 0.8806 | 0.0557 | 15.8006 | 0.0000 | 2.41 |
| | Chi-square (13) = 2405.08; $p < 0.0000$ | | | | | |

**High value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| 4a | Const. | -5.7735 | 01316 | -43.8798 | 0.0000 | |
| | HM | 0.1511 | 0.0261 | 5.7787 | 0.0000 | 1.16 |
| | M_M | 0.4722 | 0.0588 | 8.0247 | 0.0000 | 1.60 |
| | E_T | 1.0094 | 0.0456 | 22.1580 | 0.0000 | 2.74 |
| | L_R | -0.1280 | 0.0700 | -1.8297 | 0.0673 | 0.88 |
| | G_M | 0.3633 | 0.0486 | 7.4691 | 0.0000 | 1.44 |
| | A | 0.0317 | 0.0021 | 15.0970 | 0.0000 | 1.03 |
| | BE | 0.5810 | 0.0800 | 7.2616 | 0.0000 | 1.79 |
| | LU | 1.0279 | 0.1038 | 9.9065 | 0.0000 | 2.80 |
| | FI | -0.4674 | 0.0670 | -6.9802 | 0.0000 | 0.63 |
| | FR | -0.3125 | 0.0572 | -5.4671 | 0.0000 | 0.73 |
| | IT | -1.3600 | 0.1036 | -13.1252 | 0.0000 | 0.26 |
| | AT | 0.2385 | 0.1051 | 2.2694 | 0.0232 | 1.27 |
| | Chi-square (12) = 1959.76; $p < 0.0000$ | | | | | |
| 4b | Const. | -3.6413 | 0.0826 | -44.0631 | 0.0000 | |
| | HM | 0.1153 | 0.0265 | 4.3486 | 0.0000 | 1.12 |
| | M_M | 0.4824 | 0.0582 | 8.2875 | 0.0000 | 1.62 |
| | E_T | 0.9826 | 0.0446 | 22.0423 | 0.0000 | 2.67 |
| | L_R | -0.1529 | 0.0526 | -2.9038 | 0.0000 | 0.86 |
| | G_M | 0.3406 | 0.0483 | 7.0555 | 0.0000 | 1.41 |
| | A_L | -0.8284 | 0.0578 | -14.3315 | 0.0000 | 0.44 |
| | BE | 0.5311 | 0.0784 | 6.7709 | 0.0000 | 1.70 |
| | FI | -0.5669 | 0.0653 | -8.6775 | 0.0000 | 0.57 |
| | FR | -0.3755 | 0.0546 | -6.8737 | 0.0000 | 0.69 |
| | IT | -1.4010 | 0.1021 | -13.7260 | 0.0000 | 0.25 |
| | LU | 0.9629 | 0.1027 | 9.3799 | 0.0000 | 2.62 |
| | Chi-square (11) = 1952.75; $p < 0.0000$ | | | | | |

**Very high value deposits**

| *Version* | *Spec.* | *B* | *SE B* | *t-statistics* | *p-value* | *o.r.** |
|---|---|---|---|---|---|---|
| 4a | Const. | -11.3042 | 0.4030 | -28.0471 | 0.0000 | |
| | E_T | 1.7409 | 0.1390 | 12.5220 | 0.0000 | 5.70 |
| | G_M | 0.5378 | 0.1606 | 3.3481 | 0.0008 | 1.71 |
| | L_R | -0.4759 | 0.1867 | -2.5495 | 0.0108 | 0.62 |
| | M_M | 0.3679 | 0.1889 | 1.9475 | 0.0515 | 1.45 |
| | HM | 0.1449 | 0.0831 | 1.7435 | 0.0812 | 1.16 |
| | A | 0.0646 | 0.0062 | 10.3760 | 0.0000 | 1.07 |
| | ES | 1.5907 | 0.1488 | 10.6899 | 0.0000 | 4.91 |
| | LU | 1.5795 | 0.3148 | 5.0174 | 0.0000 | 4.85 |
| | BE | 1.2162 | 0.2300 | 5.2889 | 0.0000 | 3.37 |
| | AT | 1.0254 | 0.3494 | 2.9350 | 0.0033 | 2.79 |
| | CY | 1.0150 | 0.3555 | 2.8554 | 0.0043 | 2.76 |
| | Chi-square (11) = 554.31; $p < 0.0000$ | | | | | |
| 4b | Const. | -7.1796 | 0.1913 | -37.5395 | 0.0000 | |
| | E_T | 1.6775 | 0.1352 | 12.4071 | 0.0000 | 5.35 |
| | G_M | 0.5123 | 0.1524 | 3.3616 | 0.0007 | 1.67 |
| | M_M | 0.4354 | 0.1561 | 2.7899 | 0.0053 | 1.55 |
| | A_L | -1.2226 | 0.1928 | -6.3423 | 0.000 | 0.29 |
| | A_H | 0.4614 | 0.1365 | 3.3818 | 0.0007 | 1.59 |
| | ES | 1.7221 | 0.1444 | 11.9240 | 0.0000 | 5.60 |
| | LU | 1.5644 | 0.3160 | 4.9508 | 0.0000 | 4.78 |
| | BE | 1.2255 | 0.2295 | 5.3408 | 0.0000 | 3.41 |
| | CY | 1.0447 | 0.3535 | 2.9553 | 0.0031 | 2.84 |
| | AT | 0.9422 | 0.3496 | 2.6947 | 0.0070 | 2.57 |
| | Chi-square (10) = 524.81; $p < 0.0000$ | | | | | |

**Source:** Author's calculations based on the HFCS data (ECB 2016).

## 6. Conclusions

The household-level data proved that in the euro area the most frequent were the deposits classified as guaranteed. In some of the member states, the increased single DIS limit appeared as an important step towards greater protection of depositors and an incentive which may reduce the outflows from credit institutions. It should be noted that the analysis highlighted a significant surplus of the limit of EUR 100,000 beyond the allocation capabilities of the euro area households. The deposits classified to the remaining categories occurred more frequently only in selected countries. In turn, the share of high value deposits in all deposits declared drew attention to their possible significance as funding of selected sectors of credit institutions. These deposits mostly consisted of saving deposits, implying the conclusion based on the EBA stance about the possible vulnerability of these funds.

According to the results obtained from the second part of the study, it can be concluded that certain financial as well as socio-demographic characteristics of households significantly affected the propensity to hold guaranteed, high value and very high value deposits. The analysis led to different profiles of households who possessed guaranteed and unguaranteed deposits. This heterogeneity did not support the regulatory decision about the elimination of the deposits with values ranging from EUR 100,000 to EUR 500,000 from the post-crisis regulations. The results disclosed their similarity to the deposits exceeding EUR 500,000, which are announced by the EC as less stable.

On the basis of the results obtained, certain recommendations can be given to credit institutions and supervisory authorities regarding the assessment of available stable funding. It should be noted that the current regulations do not indicate precisely the nature of non-guaranteed deposits of values up to EUR 500,000, which occur more often in selected countries. Thus, when reporting on funding stability, there may be a tendency to ignore them, despite the EBA opinion about their volatility, leading to the risk of outflows being hidden. In such cases, the adopted rules would not meet their primary aim, which is to strengthen the resilience of banks to future shocks. Moreover, a recommendation regarding the adopted threshold, which distinguishes stable retail deposits from those sensitive to withdrawals, can be formed. The amount of EUR 500,000 appears as questionable in the group of countries, whose banking sectors, as well as household wealth, significantly differ. It should be remembered that the analysed group includes post-communist countries, beneficiaries of bailout programmes, and developed members. Due to this heterogeneity, the scale of adoption of the principle "one suits all" should be carefully revised. Apart from the single (EU) solutions, there should be adequate space for local rules tailored to the specificity of domestic banks and populations. Regarding the guaranteed deposits, which are assumed to be stable, it is important to realise that there is an apparent excess of the limit over the values of most of the deposits under coverage. Thus, the ability to further influence the behaviour of these depositors through the changes in insurance schemes appears impossible.

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