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## Fragmentation in the european retail deposit market and implications for loan availability in european member states

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Mark Wahrenburg and Bijan Kaffenberger

# Fragmentation in the European Retail Deposit Market and Implications for Loan Availability in European Member States

White Paper No. 31

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# Fragmentation in the European Retail Deposit Market and Implications for Loan Availability in European Member States

Mark Wahrenburg and Bijan Kaffenberger

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## Abstract

*European households face tremendous obstacles when intending to open a savings account outside their home country. As an immediate consequence, competition for (retail) deposits is severely restrained, offered interest rates vary substantially across Europe and many depositors are precluded from choosing the most attractive market offer. More importantly, the fragmented European market for savings deposits imposes high social costs on those countries that suffer from a shortage of local savings and deposit supply. The shortage of deposits has become a major reason for banks' declining loan supply and ultimately is responsible for a substantial part of the investment weakness and GDP decline in affected European countries.*

*Policy makers have made important efforts to promote European deposit market integration and to stimulate cross border flows of savings within the European Union. Important milestones have been the creation of the "European market for financial services" and the harmonization of depositor protection through the European deposit guarantee scheme. But these efforts will only yield the intended benefits if a number of additional non-tariff trade barriers are removed. Currently, these barriers prevent households in surplus countries to transfer their savings to banks in deficit countries where their deposits are most urgently needed.*

## 1. Households face obstacles upon opening a savings account abroad

Nowadays, technologically advanced banks provide amazingly quick and convenient processes to attract new customers for their savings deposits offerings. It has become commonplace (at least in some European countries) that customers simply enter their personal information on the bank's website and confirm their identity by showing their identity card in a video chat. The whole procedure takes no more than five minutes, does not require the customer to leave his home and most importantly, it fulfils all regulatory requirements (e.g. the "know your customer" identification rules and anti-money laundering laws). It allows the customer to quickly open a bank account and to shift deposits to those banks with the most attractive offerings in a convenient way. Obviously this procedure would be ideally suited to stimulate the flow of household savings across European borders. Banks that face a shortage of local deposit supply could then easily attract savings deposit

from households located in other European countries – and households would be able to choose between numerous bank offerings from a truly integrated European market.

The bad news is: this is not the world we live in. Within their country of residence, customers often find it increasingly easy to choose among many different bank offerings. But at the same time households face almost insurmountable barriers when they intend to open a savings account in another European country. Savings products offered by European banks are routinely restricted to domestic residents only. Non-domestic residents often face dramatic bureaucratic hurdles and (if they surmount these hurdles) are offered unattractively low interest rates.

These realities stand in stark contrast to the principles of an integrated European market. European governments continue to sugarcoat the communication on the achievements regarding the common market for financial services. When governments explain what the common market means for households, they state that European customers have open access to financial services in all EU member states.<sup>1</sup>

At the same time, the European Union (EU) seems to be well aware that reality does not conform to these basic common market principles. The official homepage of the EU states:

*“You may want or need to open a bank account in another EU country. [...] Before opening a bank account, the bank needs to get to know its potential clients. This may require more due diligence in assessing bank account requests from non-residents. Some banks may therefore have a policy not to accept non-resident customers.*

*Banks often refuse to let people open bank accounts if they do not live in the country where the bank is established. But there are banks that offer banking products specially designed for non-residents or expats. Please shop around to find out which bank offers accounts to non-residents. This refusal is only acceptable if there is sound commercial justification. Banks must not discriminate against any EU citizens on the basis of nationality.”<sup>2</sup>*

Back in 1911, Joseph Schumpeter argued that technological innovation and economic development strongly relies on the ability of financial intermediaries to mobilize savings, evaluate projects and manage risks.<sup>3</sup> Schumpeter essentially states that overall welfare will be reduced if banks are unable to mobilize sufficient savings. The key point highlighted in this paper is the fact that the financial crisis has caused significant welfare costs precisely due to this mechanism. Peripheral European countries naturally suffer from a weak domestic savings base. Before the crisis, this did not restrict their lending activity and economic development, because alternative refinancing instruments (in

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<sup>1</sup> See for example the website of the German government:  
<http://www.bundesregierung.de/Content/DE/Lexikon/EUGlossar/B/2005-11-22-binnenmarkt.html>.

<sup>2</sup> [http://europa.eu/youreurope/citizens/shopping/financial-products-and-services/bank-accounts-eu/index\\_en.htm](http://europa.eu/youreurope/citizens/shopping/financial-products-and-services/bank-accounts-eu/index_en.htm).

<sup>3</sup> See the related empirical study by King and Levine (1993).

particular the interbank lending market) stood ready to close the deposit refinancing gap. But banks in peripheral countries are no longer able to receive low cost funds from the interbank market. In addition, banking regulation reforms will increase the costs of alternative funding in the future. The access to low cost deposits from other European countries is an important prerequisite for economic recovery of affected countries. A truly integrated European market for savings deposits is required to achieve this objective.

## **2. Constrained competition in the European market for savings deposits**

The European Central Bank publishes an annual report on financial integration in Europe (ECB 2015). According to the ECB, a financial market is integrated, if all potential market participants with the same relevant characteristics (1) face a single set of rules when they decide to deal with those financial instruments and/or services; (2) have equal access to the above-mentioned set of financial instruments and/or services; and (3) are treated equally when they are active in the market.

The report uses two key summary statistics in order to measure market integration. The first is based on the divergence of prices for similar financial products (price-based FINTEC); the second is based on various quantities of cross border business flows in the financial industry (quantity-based FINTEC). Both measures show that the degree of market integration has taken a severe and lasting hit in 2008. The financial crisis has apparently interrupted the gradual process towards more market integration and today led to a situation where markets are less integrated than before the crisis. According to the ECB report, regulatory reforms in the banking sector aim at increasing the degree of market integration and the goal of restored efficient credit flows to the real economy. Based on both measures, we have to recognise that there remains need for reforms especially in the aftermath of the crisis.

With regard to savings deposits, the financial crisis has led to a strong increase in market fragmentation that can be most easily seen by comparing the average interest rates paid to depositors across different countries. As shown in Table 1 (see columns on the left), pre-crisis interest rates paid to depositors hardly differed in 2006. The figures for 2012 and 2015 show that interest rates strongly drifted apart during the crisis and continue to show little signs of convergence. This is particularly amazing in light of the fact that Deposit Guarantee Schemes have been harmonized across Europe (Directive 94/19/EC). Whereas one might argue that the interest rate differentials reflected different degrees of risk from a bank default in the early phase of the crisis, this argument fails to explain the large discrepancies still prevailing today. As a result, banks in peripheral countries have to pay much higher interest rates for deposits than those in core countries.

**Table 1: Paid interest rates and share of foreign deposits**

	Rates paid on deposits with agreed maturity (in percent)			Share of deposits from other EU countries (in percent)		
	2006	2012	2015	2006	2012	2015
Austria	2.30	2.08	0.52	4.20	3.92	3.01
Belgium	2.12	1.23	0.69	3.26	1.32	1.27
Cyprus	-	4.28	2.68	1.08	14.23	6.58
Estonia	2.18	1.51	0.49	-	2.84	3.42
Finland	2.39	2.06	1.05	0.08	0.14	0.15
France	2.34	2.64	2.30	0.71	0.66	0.80
Germany	2.29	1.73	0.65	0.44	0.57	0.60
Greece	2.42	-	-	0.22	0.35	0.31
Ireland	2.02	2.45	0.48	2.13	0.47	0.32
Italy	1.63	3.58	1.28	0.12	0.09	0.13
Lithuania	2.70	1.39	0.54	-	0.24	0.23
Luxembourg	2.10	0.96	0.35	59.93	43.27	33.95
Latvia	2.25	1.70	0.63	-	0.89	2.46
Malta	-	2.49	1.45	1.00	1.54	2.71
Netherlands	-	3.24	2.00	1.78	1.99	1.98
Portugal	1.99	3.87	1.24	2.60	1.05	1.38
Slovenia	1.78	2.79	0.84	0.62	0.78	0.74
Slovakia	-	2.51	2.06	0.35	0.35	0.35
Spain	2.34	2.78	0.61	1.32	0.81	0.73
<i>Euro area</i>	2.25	3.02	1.14	1.53	1.19	1.06
<i>Standard deviation</i>	0.25	0.89	0.68			

Source: ECB, data as of January of corresponding year. Euro area average consists of a changing composition of countries.

When interest rate differentials increase, one would expect that households take advantage of this by investing a larger share of their savings in countries that offer more attractive rates. Therefore, another common measure of market integration considers the quantities of cross border capital flows. Table 1 (see columns on the right) shows the share of household deposits that was raised from households in other EU countries. The figures show that only a very small fraction (mostly below 1%) of deposits stems from non-residents. Although the interest rate differentials should lead to more cross border flows of deposits, the opposite seems to be true. These figures show that reality is far away from the economic and political goal of achieving an integrated market for savings deposits.

Similar findings are also confirmed by academic research. Rughoo and Sarantis (2014) analyze the convergence process for deposit, consumer credit and mortgage rates to the household sector. They report an almost total lack of convergence in the European Union across all deposit and credit rates for the more recent period.

### **3. The financial crisis severely aggravated costs of maintaining a fragmented market for deposits**

A financial crisis becomes an economic crisis when banks reduce their loan supply and thus cause a credit crunch. A large body of research tries to understand the key determinants that cause banks to reduce lending. In this literature, a number of different factors such as the impact of capital

adequacy regulation, monetary policy, and loan demand effects from a weakening economic outlook are highlighted. Another aspect that did not receive sufficient attention in the literature is the availability of savings deposits. It is an obvious fact that banks need to refinance every single loan that is granted. In the absence of a crisis, banks can choose between a variety of different instruments such as bonds, commercial paper, loans from the interbank market or deposits. If all these markets should cease to refinance banks, they still turn to the central bank as the lender of last resort in order to refinance loans. Before the outbreak of the financial crisis, the availability of deposits was essentially irrelevant for the loan granting policy of banks because any deposit shortage (the amount by which loans exceed available deposits) could be easily closed by obtaining funds in the capital markets or from the interbank loan market.

Before the crisis, the interbank market stood ready to reallocate the savings resources efficiently between surplus banks (that had too many deposits) and deficit banks (with a shortage of deposit funding). The interbank market thus cured the deficiencies from a fragmented deposit market. Banks with a surplus of deposits (located in regions with high savings rates and/or low loan demand) simply lend the excess to deficit banks. However, as soon as the interbank market ceases to operate effectively, banks with excess savings deposits will no longer stand ready to refinance deficit banks. As a result, the lending activity of deficit banks can be severely affected by the unavailability of refinancing funds.

A credit squeeze can be prevented if the central bank in its role as a lender of last resort jumps in and provide sufficient refinancing for deficit banks. Of course, this is how the European Central Bank reacted to the refinancing problems of many affected banks. However, the current ECB rules make it impossible that the ECB is able to fully achieve this goal. First, central bank loans are usually short term in nature and banks are naturally reluctant to use short term funds with highly uncertain future availability and cost to refinance long term loans. Even though the European Central Bank responded to this problem by offering the so called Long Term Refinancing Operations (LTRO), these still had a rather short maturity of no more than 3 years – well below the maturity of many bank loans to customers. Second, the ECB provides refinancing only for banks that are able to provide sufficient collateral. Collateral usually consists of marketable debt securities with high credit quality. This imposes an upper limit to the amount of available funds and still may leave the bank in a position where funds from deposits and central bank funding together are still not sufficient to cover the refinancing needs. In response to this problem, the ECB relaxed its collateral requirements and allowed banks to use loans as collateral. However, eligible loans must still be of high quality (external



rating of BBB or better or internally assessed probability of default of 0.4% or better)<sup>4</sup>. Only a small fraction of the loan book of a typical bank thus qualifies as eligible collateral. On top of this, banks must severely over-collateralize their ECB loans because the currently valid haircut rules deduct roughly 20% of notional for the rating classes A to AAA and even 40% for loans rated BBB.<sup>5</sup> Summing up, we find that even the ECB acting as a lender of last resort may prove to be incapable to close banks refinancing gaps when there is a severe shortage of available deposits. A natural response of affected banks is to aggressively attract more deposits (reflected in the high interest rates offered for savings deposits in some peripheral countries) and at the same time to restrict lending.<sup>6</sup> We conclude that a shortage of deposits is likely to be a cause for a reduction in lending – particularly in situations where alternative sources of refinancing are either not available, or costly and riskier because of their short term maturity.

#### **4. Shortage of deposits causes declining loan supply and lower welfare**

In the last section, we argued that a shortage of deposits may cause a credit crunch. Banks will reduce their lending activity if they do not have sufficient deposits to refinance new loans and, in addition, if they find it difficult to obtain other stable and low cost refinancing as substitutes. Under such circumstances, trade barriers that limit the flow of deposit funds from surplus regions towards deficit regions will impose welfare losses on deficit regions where deposits are scarce. But how economically important is this? Ideally we would like to empirically assess the impact of European savings market fragmentation on loan availability and overall welfare. This is a challenging task since loan availability is driven by many factors which are hard to disentangle and because endogeneity concerns raise difficult questions about causality.

However, the current crisis provides a good opportunity to empirically investigate this issue due to the fact that banks are severely restricted from raising funds in the capital market in some member states as a result of sovereign risk concerns in these countries. We hypothesize that banks are likely to be more constrained in countries with a weak sovereign risk rating. In this case, their lending volume is likely to be driven by the amount of available deposits. In order to analyze this in more detail, we calculate the deposit refinancing gap for each country before the outbreak of the crisis in 2009. This gap is calculated as the difference between all loans to households and corporations on

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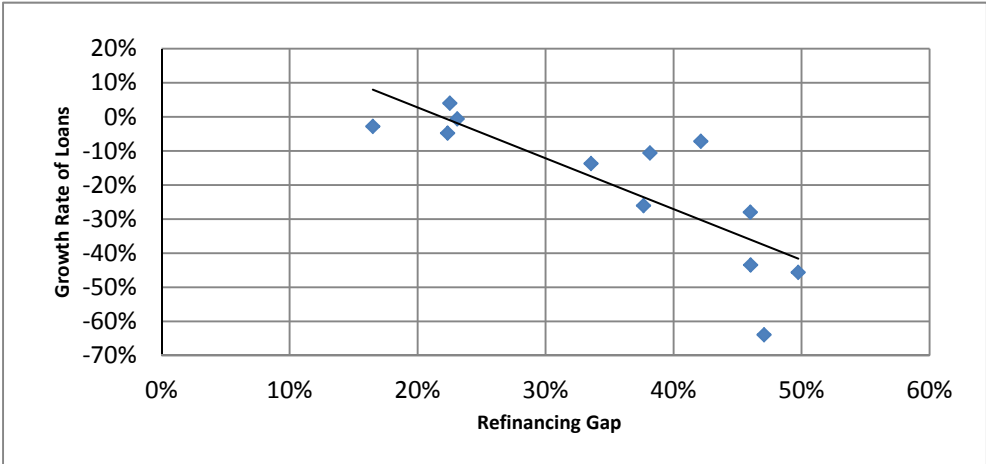
<sup>4</sup> See Tamura and Tabakis (2013) for details.

<sup>5</sup> These haircuts apply to 10 year maturity loans, see Tamura and Tabakis (2013).

<sup>6</sup> Acharya and Mora (2015) show related evidence for US banks.

the one side and the amount of available domestic household deposits on the other side.<sup>7</sup> We expect that countries in which the banking industry had a large refinancing gap found it more difficult to maintain or expand their lending volume during the crisis. In order to measure changes in lending volume, we calculate each country’s overall growth rate of loans to corporations and households between 2009 and 2015. Figure 2 shows the relation between the deposit funding gap and loan growth for all Eurozone countries with a weak credit rating (Rating class A or below).<sup>8</sup> The results show a striking relation between funding gap and loan growth. Countries with a weaker deposit base (a large refinancing gap) reduced their lending volume more severely than countries with a strong deposit base.

**Figure 1: Funding gap and loan growth for Eurozone countries with weak credit rating**



A number of academic papers also explored the relationship between deposit availability and lending behaviour. Overall, these studies support our hypothesis. Ivashina and Scharfstein (2010) study the U.S. segment of the global syndicated loan market during the crisis. The syndicated loan market experienced a large decline in lending volume; in the most dramatic quarter (the fourth quarter of 2008), the new loan volume fell by 47% relative to the prior quarter and by 79% relative to the peak of the credit boom (second quarter of 2007). The authors examine various factors that may explain this decline, including the access to deposits. Their results show that banks cut their lending less if they had better access to deposit financing.

Vitols (1998) argues that Germany’s ability to provide a large amount of long-term financing for manufacturing firms is closely related to the capability of the banking system to attract a large

<sup>7</sup> We do not include deposits from corporations because they are less stable. However, including them does no materially change our results.

<sup>8</sup> In particular, we select those countries that in Nov 2015 had a rating of A or below by at least one of the three leading rating agencies. These countries are Cyprus, Estonia, Greece, Ireland, Italy, Lithuania, Latvia, Malta, Portugal, Slovenia, Slovakia and Spain.

volume of long term deposits from households. He compares the funding base of banks from various countries and finds that the ability to provide long term loans is closely related to the ability to attract deposits with long maturities.

Eller et al. (2010) analyse growth rates in bank lending to the private sector in eleven Central and Eastern European countries. They find that bank deposits and equity growth explains a major part of the variation in credit growth rates. Financial stability reports by institutions such as the IMF routinely examine size and stability of the deposit base as an indicator for financial stability. For example, an IMF paper by Hilbers et al. (2005) highlights the problem of a weak deposit base relative to the size of loans in many Eastern European countries.

An interesting research project on deregulation in the U.S. banking market was conducted by Becker (2007). Due to tight regulation of interstate banking activities, the U.S. banking market used to be highly fragmented for a long period of time until deregulation resulted in a better integrated banking market. Using advanced econometric techniques, Becker estimates the effect of creating an integrated market on per capita income and other welfare measures. The analysis first shows that local savings supply has a strong positive effect on local per capita income as long as local markets are fragmented. The deregulation of interstate banking was able to reduce the effect of local deposit supply by half. Becker concludes that deregulation allowed an improved geographical capital allocation and an increase of overall welfare.

## **5. The need of an integrated deposit market for the post crisis period**

How urgent is the need to create a truly integrated European market for retail deposits? One could argue that the detrimental effects seen today mainly result from the breakdown of alternative funding markets such as the interbank market. Hence, the problems could only be of temporary nature since the interbank market will hopefully recover soon.

This argument is not convincing because it fails to consider two important regulatory changes that will have a lasting effect on the post crisis banking industry: firstly, the bank resolution regime implies that unsecured forms of bank finance such as interbank loans will become more risky in the future because debtors will have to bear the risks from bank failures instead of the taxpayer. The interest rate differential between secured forms of finance, such as deposits, and unsecured forms, such as interbank loans or bonds, will continue to stay on a high level and imply that banks need access to household deposits in order to be able to offer competitive loan rates. Secondly, the new Basel 3 regulations require banks to maintain a strong and stable refinancing base. The Net Stable

Funding Ratio (NSFR) requires banks to raise either large amounts of retail deposits, or alternatively (and considerably more expensive), long term loans and bonds from the market.

According to the assessment of the European Banking Authority (EBA 2015), these regulatory reforms have increased the importance of a strong deposit base for the supply of loans to the local economy. Since savings rates differ considerably across Europe, banks located in countries with low savings rates will find it consistently more expensive to finance the local industry. An integrated European market for savings products is required in order to allow these banks to finance their local industries at competitive interest rates.

## **6. The need for action: a reform agenda proposal**

In order to create a truly integrated European market for household deposits, policy makers should focus on the following four issues:

### **1. Harmonization of the customer identification process when new accounts are opened**

Policy makers should define a common process that conveniently enables customers to open an account both domestically and cross-border. Banks should be enabled to open a new account based on a common set of information (name, address etc.) for all customers across Europe. Banks should be prohibited from discriminating new customers based on geography (e.g. by raising additional procedural barriers such as requiring more information or documentation). Ideally, the common process does not require the customer to be physically present in a bank's branch because the "Know Your Customer" requirements can be fulfilled by an internet based video session (see first section above).

### **2. Harmonize money transfer controls (AML)**

Saving usually starts with a transfer of money from the customer's current account to his savings account. This transfer principally is subject to checks and controls stemming from anti-money laundering laws. Policy makers should exempt these transfers from unnecessary additional money laundering controls. If the bank that received the money in the first place (the bank where the money is deposited on a current account) has already done the necessary measures to ensure compliance with the law, additional checks unnecessarily hamper the free flow of capital. As a general principle, flows of funds from current accounts to savings accounts should not be burdened with additional checks and controls if they are cross-border as compared to domestic transfers.

### **3. Simplify and harmonize tax related issues**

Households are often plagued with substantial administrative burdens when they deposit their savings on a savings account in another country. Both domestic tax authorities and the tax authorities of the target country often stipulate additional administrative requirements that cause substantial efforts for the household (and for the involved banks). On the national level and only applicable to domestic savings accounts, many countries have developed procedures in order to ensure effective taxation of interest income on the one hand and to prevent bureaucratic burdens for the households on the other hand. For example, national tax authorities usually accept standardized documents issued by banks which confirm the amount of interest income obtained. Sometimes the depositor does not even need to declare his interest income to the tax authorities because banks pay the tax themselves (in the case of withholding taxes) or because banks report the interest income directly to the tax authorities.

In order to foster cross-border deposits, policy makers should ensure that households face no additional obstacles and burdens when they deposit their savings in a cross-border bank account. In a similar vein, banks should not be required to issue additional and country-specific documentation when they serve households from other European countries.

Industry experts claim that not even the relevant European directive 2003/48/EC has been consistently implemented into national tax law. Policy makers should ensure that tax-related administrative processes do not create trade barriers for cross-border deposits.

### **4. Prevent other bureaucratic burdens for households**

Policy makers should ensure that no other potential barriers hinder the free flow of household deposits across Europe, e.g. requirements to regarding notifications on cross-border transactions for the attention of public statistical offices. For example, German households are required to report cross border money transfers to the Bundesbank. This additional burden for households with cross-border deposits constitutes an undesirable barrier to free trade. It could easily be abolished by requiring banks to provide the relevant notifications to the statistical offices across Europe. Of course, there should be a common pan-European notification process that should be used by all banks across Europe.

## Literature

- Acharya, V. V. and Mora, N. (2015), "*A Crisis of Banks as Liquidity Providers*", *The Journal of Finance*, Vol. 70, 1–43.
- Becker, B., (2007), "*Geographical Segmentation of US Capital Markets*", *Journal of Financial Economics*, Elsevier, Vol. 85(1), 151-178.
- Eller, M. and Frömmel, M. and Srzentic, N., (2010), "*Private Sector Credit in CESEE: Long-Run Relationships and Short-Run Dynamics*", *Focus on European Economic Integration*, Oesterreichische Nationalbank (Austrian Central Bank), 2, 50-78.
- European Central Bank (ECB), (2015), "*Financial Integration in Europe*", ECB, Frankfurt.
- European Banking Authority (EBA) (2015), "*Overview of the Potential Implications of Regulatory Measures for Banks' Business Models*", EBA, London.
- Hilbers, P. and Otter-Robe, I. and Pazarbasioglu, C. and Johnsen, G., (2005), "*Assessing and Managing Rapid Credit Growth and the Role of Supervisory and Prudential Policies*", IMF Working Paper.
- Ivashina, V. and Scharfstein, D., (2010), "*Bank Lending During the Financial Crisis of 2008*", *Journal of Financial Economics*, Vol. 97(3), 319-338,.
- Tamura, K. and Tabakis, E., (2013), "*The Use of Credit Claims as Collateral for Eurosystem Credit Operations*", ECB Occasional Paper No. 148.
- King, R. G. and Levine, R., (1993), "*Finance and Growth: Schumpeter Might be Right*", *The Quarterly Journal of Economics*, Vol. 108, No. 3, 717-737.
- Rughoo, A. & Sarantis, N. (2014), "*The Global Financial Crisis and Integration in European Retail Banking*", *Journal of Banking & Finance*, Elsevier, Vol. 40(C), 28-41.
- Vitols, S., (1998), "*Are German Banks Different?*", *Small Business Economics*, Vol. 10, No. 2, 79-91.