EUROPEAN CENTRAL BANK

DIFFERENCES IN MFI INTEREST RATES ACROSS EURO AREA COUNTRIES

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CONTENTS

EXECUTIVE SUMMARY

Harmonised statistics on interest rates on loans and deposits of monetary financial institutions vis-à-vis households and non-financial corporations resident in the euro area ("MFI interest rates") have been made available by the Eurosystem since January 2003. These statistics were designed primarily to enable interest rate developments in the euro area to be better monitored and are essential for monetary policy decision-making and analysis. A first investigation has indicated that the MFI interest rates still vary considerably across countries, despite the remarkable convergence that has taken place in the euro area in recent years. The purpose of this report is to expand on this first assessment by providing a detailed review of the factors – particularly institutional and statistical – that are likely to explain the differences in the main instrument categories.

The report highlights the fact that the dispersion across countries in the level of MFI interest rates, measured by the coefficient of variation, is generally higher for deposits than for loans, and among the former it tends to be the highest for overnight deposits and deposits redeemable at notice. The dispersion of MFI interest rates on deposits from households and from non-financial corporations with an agreed maturity of over two years is also among the highest. For loans, the highest cross-country differences have been found for loans to households for consumption, followed by loans to non-financial corporations. The dispersion of interest rates on housing loans is relatively low.

A large number of factors potentially explain these cross-country differences. Some of these differences may result from classification or other methodological issues, while a number of other factors may also play an important role. These include, in addition to institutional factors (e.g. regulation and taxation), differences in credit risk and market structure.

To assess the importance of these various factors, a detailed review of individual instrument categories has been carried out by experts from Eurosystem central banks. In presenting the results of this analysis a first attempt has been made to rank the main factors that explain the differences across countries in decreasing order of importance, although it must be emphasised at the outset that this ranking is of a qualitative nature. Also, the degree of competition within the banking sector is not explicitly dealt with as a factor, given that the evidence so far is mixed.

- The most plausible explanation for cross-country differences in MFI interest rates on *deposits from households* relates to differences in product characteristics and business practices, and specifically to sizeable differences in the degree of liquidity and the return structure of deposits. The next most important factor, which exerts a direct impact on average interest rate levels in some countries, relates to market regulation or market practices with similar effects. Differences in the fiscal framework are likely to constitute the third most important factor. In particular, this applies to long-term time deposits, although it is difficult to establish a direct causal link. Finally, some effect may also be expected from differences in the prevailing maturity within a given maturity band, but this feature seems to play a less important role for deposits than for loans.

- Differences in collateral practices are likely to explain a significant portion of the cross-country dispersion for MFI interest rates on *bank overdrafts and other loans to households for consumption purposes*. There are numerous examples of differences in collateral practices, not only for consumer credit but also for bank overdrafts, which indicate that interest rates tend to be lower when loans are secured to a greater extent and vice versa. Probably of similar importance is the impact of the current differences in the statistical treatment of credit card credit, as the interest rates on these loans are typically significantly higher

than those for other consumer loans. The next most important reason for the cross-country dispersion of these rates is likely to be the market environment. In particular, specialised lenders exert a significant influence on the consumer credit market in some countries. Finally, other factors such as the aggregation method, coupled with differences in the periods of initial rate fixation, or differences in market practices may exert some influence.

- Possibly the most important factor explaining differences in MFI interest rates on *loans to households for house purchase* is related to the differences in the period of initial rate fixation. In addition, the existence of dedicated housing finance schemes in some countries may be relevant. The next most important factor is the fiscal and regulatory framework in a Member State, which is likely to matter more for these types of loan due to the public importance usually attached to home ownership. Finally, as most loans to households for house purchase are secured by real estate, some influence may also be expected from differences in house price developments through their impact on the value of the collateral.

- Among the reasons for cross-country differences in MFI interest rates on *loans to non-financial corporations*, the differences in the average period of initial rate fixation and in collateral practices stand out. There may also be a potential impact of the aggregation method for interest rates on new business, as loans with shorter maturities tend to be renewed more frequently than loans with longer maturities. If there are different interest rate levels for different maturities, this would lead to a bias in the aggregated interest rate towards the interest rates on loans with shorter maturities, which may undermine the comparability of interest rates for particular countries. At the same time, this effect is mitigated if loans are rolled over automatically, as they are then counted only once in the new business volume. The next most important factors are likely to be some specific features of the market environment for loans to non-financial corporations, in particular firm size and market finance access.

Thus, a large number of national factors, in many cases operating simultaneously, influence the cross-country differences in levels and possibly also changes in interest rates. This may include a remaining degree of product heterogeneity within some of the current MFI interest rate categories. The identification of a limited set of factors explaining cross-country differences is not straightforward because the relevance of the factors varies across countries. It is important to take this into account when making cross-country comparisons, in particular when comparing MFI interest rates on overnight deposits, deposits from households redeemable at notice, on bank overdrafts and on loans to households for consumption purposes with a short period of initial rate fixation. This also applies, albeit to a lesser extent, to MFI interest rates on deposits from households with agreed maturity of up to one year, on loans to households for house purchase and on loans to non-financial corporations (other than bank overdrafts).

I INTRODUCTION

Harmonised statistics on interest rates on MFI loans and deposits (MFI interest rates or MIR statistics) have been produced and disseminated by the Eurosystem since January 2003.[1] These new statistics cover the euro-denominated lending and deposit business of domestic credit institutions (and certain other MFIs) vis-à-vis households and non-financial corporations resident in the euro area. They have been designed primarily to enable interest rate developments in the euro area to be better monitored and are essential for monetary policy decision-making and analysis (ECB (2002)).

The availability of reliable and timely information on the interest rates charged or offered by MFIs to their customers is essential for monetary policy decision-making and analysis in four key areas. First, MFI interest rates are an important element in the transmission of monetary policy to the economy. Second, the interest rates on the various types of deposits and loans help to explain the development of monetary aggregates. Third, MFI interest rates, together with the corresponding business volumes for loans and deposits, help to monitor structural developments in the banking system and to analyse financial stability issues. Finally, the harmonised statistics provide information on any convergence of interest rates across countries and shed light on the degree of integration of the retail banking markets in the euro area. Cross-country differences are thus analysed not only to better understand the development of the euro area weighted averages, but also to assess convergence in retail banking markets.

The MFI interest rate statistics constitute a significant improvement in comparison with the previously collected "retail interest rate statistics", not only because they are more detailed but also because the statistical concepts and methodology have been harmonised, so that they are more comparable and their (weighted) averages can be used for euro area analyses. The higher level of detail, such as, for example, the separate collection of interest rates on new business, an explicit distinction between the non-financial corporations sector and the household sector, and the collection of lending rates according to their period of initial rate fixation, enables interest rate changes to be interpreted much more accurately and reliably. The harmonisation of the MFI interest rate statistics thus allows a better comparison of interest rates across countries. A first analysis (ECB (2005)), however, has indicated that the MFI interest rates still vary considerably across countries, despite the remarkable convergence that has taken place in the euro area in recent years.[2] Several factors contribute to this cross-country dispersion. Notably, remaining product heterogeneity may make it methodologically difficult to classify products in categories that are homogenous at the euro area level. This product heterogeneity may in part be influenced by differences in national conventions and practices, regulatory and fiscal arrangements. In addition, economic factors such as differences in credit risk (including differences in collateral practices) and market structure may contribute to cross-country differences, although for the reasons mentioned above, their impact needs to be assessed with caution.[3]

The purpose of this report is to expand on this first assessment by providing a detailed review of the factors – particularly institutional and statistical – that are likely to explain the

1 MFI interest rate statistics are collected on the basis of Regulation ECB/2001/18 of 20 December 2001 concerning statistics on interest rates applied by monetary financial institutions to deposits and loans vis-à-vis households and non-financial corporations, Official Journal of the European Union, L 10, 12.1.2002, p. 24. Further information is also contained in ECB (2003).

2 Price differentials across the euro area remain relatively high in the markets for retail banking products, in contrast to the price convergence experienced in the money markets and government bond markets since the introduction of the euro (Cabral et al. (2002) and Baele et al. (2004)). The European Commission (2002) and Dermine (2003), for example, review the process of integration in the European banking sector.

3 This report focuses on differences in interest rates across euro area countries, but it should be remembered that such differences also exist between credit institutions within each country. These differences are likely to be related to the different degree of credit risk faced by the credit institutions, competition in local markets and specialisation of credit institutions.

differences in the main instrument categories. Its principal contribution stems from the qualitative information provided by the experts in the field of MFI interest rates within the Eurosystem,[4] aimed at ensuring that comparisons across countries are made from a well-informed starting point, particularly in the light of the product heterogeneity and other national differences that still remain in the euro area. Such information is also important for drawing meaningful conclusions from empirical analyses of the cross-country differences as more data become available over time.

The report is structured as follows. Section 2 provides an overview of the cross-country dispersions for both lending and deposit rates and for loan-deposit spreads. Section 3 sets out the main factors that may influence MFI interest rates and affect cross-country differences. Section 4 then focuses on the main MFI interest rate instrument categories and offers a number of explanations for the observed cross-country differences. This analysis focuses on interest rates on new business, as these interest rates are contracted during the same business periods in all countries. The final section concludes.

2 OVERVIEW OF THE DIFFERENCES ACROSS COUNTRIES

This section briefly reviews the cross-country differences in MFI interest rates in terms of levels, changes and a comparison between aggregate loan and deposit rates. A direct comparison of interest rate levels in the various instrument categories provides the most comprehensive basis on which to understand why cross-country differences arise. The effect of the various potential explanations for cross-country differences is most directly observable in the levels. Going one step further, it is also important, in particular from the perspective of the analysis of the monetary policy transmission mechanism, to assess the degree to which changes in MFI interest rates differ across countries. Most factors that exert an influence on interest rate levels are also likely to affect changes in interest rates, although the latter may be expected to be somewhat less sensitive to country-specific factors. Finally, it may also be useful to carry out cross-country comparisons on the basis of the spread between aggregate loan and deposit rates. Before understanding differences between various loans and deposit rates, however, it is necessary to understand the differences for individual interest rates; these spreads are only illustrative and are mentioned for completeness.

2.1 DIFFERENCES IN THE LEVELS OF MFI INTEREST RATES ON NEW LOANS AND DEPOSITS

The dispersion in the level of MFI interest rates is measured in this section by the coefficient of variation. As this measure is independent of the level, it allows comparisons to be made between instrument categories. Moreover, it is weighted by new business volumes across countries in order to prevent very small market segments in some countries (with atypical interest rates) from affecting the measure of dispersion. The comparison of the coefficient of variation across instrument categories is supported by two simple pair-wise Student t-tests of mean equality: one focuses on the cross-country dispersion in the level of the interest rates within an instrument category, and the other on the variation coefficients across instrument categories.[5] The outcome of the first test of mean equality appears to be consistent with the observed variation coefficients themselves, and the second test indicates that the differences in the variation coefficients across instrument categories are significant in a statistical sense.[6]

4 This report was prepared by a group of experts in the field of MFI interest rate statistics at the European Central Bank and national central banks under the joint mandate of the Monetary Policy Committee and Statistics Committee. The list of experts is contained in Annex 1.

5 See Annex 2 for details of both tests.

6 The results of the first test are summarised in Table 1 below. The results of the second test indicate that the differences in the average level of the variation coefficient are statistically significant in more than 90% of the 378 bilateral combinations possible (with 28 instrument categories). In only 30 bilateral combinations can the null hypothesis of mean equality not be rejected at the 5% significance level.

Table 1 illustrates how the dispersion of MFI interest rates across countries varies considerably by instrument. The relative country dispersion of MFI interest rates on deposits is generally higher than that on loans.[7] In particular, the MFI interest rates on overnight deposits exhibit the highest dispersion, with a coefficient of variation that is as high as 0.51 for households and 0.44 for non-financial corporations, followed by deposits redeemable at notice of up to three months with a coefficient of variation of 0.30. The country dispersion of MFI interest rates on deposits from households with an agreed maturity of over two years is also one of the highest, higher than for time deposits agreed for shorter periods. MFI interest rates on time deposits, in particular those with

7 This comparison is limited by the fact that it does not consider bank-issued bonds, which are an important form of fund raising in some countries.

Table 1 MFI interest rates on new business and business volumes

(averages between January 2003 and May 2006, unless otherwise indicated)

Instrument category			MFI interest rate	
			Average level (percent per annum)	Mean test[4] (% of total)
Deposits				
Households	overnight		0.73	92
	with an agreed	up to one year	2.04	76
	maturity of	over one and up to two years	2.29	80
		over two years	2.45	85
	redeemable	up to three months	2.01	89
	at notice of	over three months	2.61	87
Non-financial	overnight		0.97	98
corporations	with an agreed	up to one year	2.13	30
	maturity of	over one and up to two years	2.39	64
		over two years	3.43	55
Loans				
Households	bank overdrafts		9.85	98
	for consumption	floating rate and up to one year initial rate fixation	6.83	89
		over one and up to five years' initial rate fixation	6.75	97
		over five years' initial rate fixation	8.18	98
	for house	floating rate and up to one year initial rate fixation	3.59	77
	purchase	over one and up to five years' initial rate fixation	4.05	89
		over five and up to ten years' initial rate fixation	4.59	83
		over ten years' initial rate fixation	4.51	74
	for other	floating rate and up to one year initial rate fixation	4.10	91
	purposes	over one and up to five years' initial rate fixation	4.89	82
		over five years' initial rate fixation	4.84	80
Non-financial	bank overdrafts		5.43	94
corporations	other loans of	floating rate and up to one year initial rate fixation	4.10	86
	up to €1 million	over one and up to five years' initial rate fixation	4.71	92
		over five years' initial rate fixation	4.54	82
	other loans of	floating rate and up to one year initial rate fixation	3.14	82
	over €1 million	over one and up to five years' initial rate fixation	3.51	74
		over five years' initial rate fixation	4.17	59

Sources: ECB and ECB calculations.
1) The weighted cross-country coefficient of variation is calculated as the weighted standard deviation of interest rates across countries divided by the euro area average interest rate.
2) The unweighted coefficient of variation (for the entire reference period January 2003-May 2006) takes into account only those interest rates that are important at the national level and account for 90% of the euro area aggregate. For further information on the countries excluded in each case, see the tables in Section 4 of this report (for the main MFI interest rates) and the table in Annex 5 (for the remaining MFI interest rates).

an agreed maturity of up to one year, are typically less dispersed for non-financial corporations than for households.

In the case of loans, the country dispersion of MFI interest rates on bank overdrafts is high, and even more so for non-financial corporations than for households. A striking feature is the high dispersion of the MFI interest rates on loans to households for consumption with a floating rate and up to one year initial rate fixation. With a coefficient of variation of 0.27, it is higher than for bank overdrafts and indeed the highest of all types of loans. The dispersion of the MFI interest rates on loans to households for consumption with longer periods of initial rate fixation is somewhat lower but still higher than that for most other types of loans other than bank overdrafts. Some of the lowest country dispersions can be observed for MFI

Table 1 MFI interest rates on new business and business volumes (cont'd)

(averages between January 2003 and May 2006, unless otherwise indicated)

MFI interest rate						Business volumes (EUR billions)[3]
Cross-country variation coefficient						
weighted[1]					not weighted[2]	
2003	2004	2005	2006			
0.47	0.51	0.53	0.52	0.51	0.57	1,407.3
0.08	0.09	0.08	0.07	0.08	0.10	103.0
0.15	0.14	0.15	0.11	0.14	0.15	3.2
0.31	0.26	0.24	0.18	0.26	0.17	7.9
0.36	0.36	0.25	0.18	0.30	0.52	1,417.9
0.09	0.08	0.08	0.08	0.08	0.19	89.5
0.49	0.45	0.42	0.38	0.44	0.43	622.8
0.03	0.03	0.03	0.04	0.03	0.03	170.5
0.12	0.13	0.11	0.11	0.12	0.09	0.6
0.20	0.20	0.20	0.18	0.20	0.19	2.2
0.15	0.16	0.18	0.18	0.17	0.20	174.6
0.26	0.28	0.27	0.25	0.27	0.30	5.7
0.13	0.14	0.14	0.16	0.14	0.19	10.7
0.10	0.12	0.13	0.13	0.12	0.17	5.8
0.11	0.11	0.10	0.08	0.10	0.09	27.9
0.09	0.10	0.08	0.09	0.09	0.08	7.4
0.05	0.08	0.08	0.08	0.07	0.08	9.8
0.06	0.07	0.07	0.09	0.07	0.13	10.1
0.14	0.17	0.15	0.14	0.15	0.27	20.3
0.07	0.07	0.07	0.09	0.07	0.04	3.2
0.08	0.12	0.14	0.12	0.12	0.09	3.6
0.19	0.20	0.21	0.19	0.20	0.20	468.4
0.11	0.12	0.12	0.11	0.12	0.17	62.7
0.10	0.08	0.07	0.05	0.08	0.08	5.6
0.06	0.07	0.07	0.09	0.07	0.05	4.2
0.08	0.09	0.09	0.07	0.08	0.13	140.6
0.13	0.14	0.10	0.10	0.12	0.11	11.6
0.08	0.11	0.08	0.08	0.09	0.07	10.8

3) For the instrument categories "overnight deposits", "deposits redeemable at notice of up to three months" and "bank overdrafts" the volume of new business and amounts outstanding are the same. Therefore the new business volumes of these categories are not directly comparable with those of other interest rate categories.
4) This column summarises the results of the pair-wise Student t-tests of mean equality across two countries within an instrument category. The figures are calculated as significant pair-wise t-values (at the 5% significance level) – i.e. rejecting the null hypothesis of mean equality – as a proportion of the total number of combinations. The latter figure is given by [N x (N-1)/2] where N is the number of countries. A higher percentage indicates more cross-country variation.

interest rates on loans to households for house purchase. The cross-country dispersion is lower than for consumer loans and often also lower than for loans to non-financial corporations.

Although defined as a residual category, the new business volume of loans to households for other purposes is not small. Total new lending to households in the euro area (for all periods of initial rate fixation combined), excluding bank overdrafts, can be broken down into 53% house purchase loans, 26% other purpose loans and 21% consumer loans. Cross-country dispersion in MFI interest rates for loans to households for other purposes is between that of the other two categories.

Table 2 Business volumes within countries by instrument categories

(percentages of total; averages between January 2003 and May 2006)

	Loans to households								Loans to non-financial corporations						
	for house purchase				for consumption					loans up to €1 million			loans over €1 million		
	Floating rate and up to one year	Over one and up to five years	Over five and up to ten years	Over ten years	Bank over-drafts	Floating rate and up to one year	Over one and up to five years	Over five years	Bank over-drafts	Floating rate and up to one year	Over one and up to five years	Over five years	Floating rate and up to one year	Over one and up to five years	Over five years
Euro area	51	13	18	18	15	26	48	26	16	27	2	2	60	5	5
Belgium	33	14	15	38	11	8	63	28	7	17	2	1	77	3	1
Germany	17	19	39	25	11	16	49	35	11	12	2	3	65	7	10
Greece	84	7	2	7	53	40	42	18	34	35	2	0	56	4	2
Spain	89	10	1	1	0	50	29	21	0	43	2	0	46	6	3
France	29	11	11	49	19	10	70	20	15	15	7	8	63	2	5
Ireland	84	15	0	0	11	51	41	8	6	20	3	3	57	10	7
Italy	82	5	2	11	25	22	53	25	32	39	1	1	53	4	3
Luxembourg	83	1	1	16	8	12	72	16	4	18	0	0	79	1	1
Netherlands	30	19	40	11	22	79	8	13	17	11	6	2	71	3	7
Austria	54	41	1	4	34	84	12	4	25	19	1	1	75	2	2
Portugal	98	2	1	0	16	62	19	19	27	52	1	0	46	1	1
Finland	94	5	0	0	10	74	26	1	4	28	3	0	64	2	2

	Deposits from households					
		redeemable at notice of		with an agreed maturity of		
	over-night	up to three months	over three months	up to one year	over one and up to two years	over two years
Euro area	35	35	2	12	0	15
Belgium	16	77	0	5	0	1
Germany	32	38	7	9	0	14
Greece	76	1	1	20	0	2
Spain	31	24	0	30	1	14
France	23	42	0	2	0	32
Ireland	46	15	0	26	0	13
Italy	79	15	0	6	0	0
Luxembourg	42	5	0	50	0	2
Netherlands	17	75	0	2	0	6
Austria	25	0	0	41	5	30
Portugal	31	0	0	63	2	4
Finland	61	17	0	18	1	3

Sources: ECB and ECB calculations.
Note: For loans (excluding bank overdrafts), the shares are calculated as a percentage of total new business. The share of bank overdrafts is calculated as a percentage of outstanding loans. For deposits, the shares are calculated as a percentage of outstanding deposits; the split between the share of deposits with an agreed maturity of up to one year and over one and up to two years is estimated on the basis of new business volumes.

The dispersion of MFI interest rates on loans to non-financial corporations (other than bank overdrafts) are among the lowest across the loan segments but in some cases higher than for housing loans. A notable feature is that in the case of loans to non-financial corporations with a floating rate and up to one year initial rate fixation, interest rates on loans up to €1 million are more dispersed across countries than those on loans over €1 million. In contrast, for the longer periods of initial rate fixation, the cross-country dispersion of interest rates on loans up to €1 million is lower than that for loans over €1 million.

Finally, in most cases the differences in MFI interest rates across countries remained broadly unchanged between January 2003 and May 2006.[8]

When assessing the cross-country dispersion of MFI interest rates it should also be kept in mind that business volumes differ widely across countries and that in some countries certain markets are very small or virtually non-existent. In such a case the underlying new business volume may be very volatile and the interest rate may reflect occasional transactions granted at atypical conditions. Table 2 provides an overview of the importance of the various instrument categories by country. It may be noted, for example, that loans to households for house purchase with a period of initial rate fixation of over ten years is a relevant category in only a few countries. The importance of bank overdrafts also varies considerably from country to country.

While the non-existence or "thinness" of a particular market segment in one or more countries does not significantly affect the weighted average at the euro area level, this feature calls for some care when assessing interest rate convergence in the context of financial market integration or when assessing interest rate pass-through and interest rate-setting behaviour in a panel regression framework. The non-existence of particular market segments in certain countries is therefore taken into account when in the comparisons across countries in Section 4.

2.2 DIFFERENCES IN THE CHANGES IN MFI INTEREST RATES ON NEW LOANS AND DEPOSITS

Going beyond the levels of MFI interest rates, it is of particular importance for the analysis of the monetary policy transmission mechanism to assess the degree to which changes in market interest rates are passed on to MFI interest rates.[9] In fact, most of the factors – whether statistical, institutional or economic – that exert an influence on the level of MFI interest rates may also affect their changes over time. Differences in the period of initial rate fixation, for example, lead to differences in the average level of the lending rate (through the yield curve) and to differences in the changes in that rate when the market interest rates for maturities comparable to the periods of initial rate fixation follow different developments. Similarly, when a deposit is not remunerated, this will obviously lead to a low average interest rate level and to fewer or no changes in the interest rate category concerned. Moreover, factors such a cap on the variability of interest rates may exert a stronger and more direct influence on changes than on the average level of the interest rate.

Table 3 reports the changes between the three-month averages for the periods January-March 2003 and March-May 2006 for the main MFI interest rate categories, both for the euro area as a whole and for individual countries. It indicates that the cross-country dispersion is also high for changes in MFI interest rates and that the dispersion for different instrument categories is broadly the same as the level

8 Table 1 also reports the unweighted coefficient of variation, taking into account only those interest rates that are important at the national level (accounting for 90% of the euro area aggregate). This dispersion is in most cases somewhat higher than that according to the weighted measure due to the fact that the interest rates in smaller countries are given equal weight to those in larger countries. Overall, the unweighted measures provide qualitatively the same results as the weighted coefficient of variation for the period under consideration.

9 For a recent analysis, see, for example, Kok-Sørensen and Werner (2006) and references therein.

Table 3 Changes in MFI interest rates

(basis points; averages between March and May 2006 minus averages between January and March 2003)

	Loans to households for house purchase				Loans to non-financial corporations			
	Floating rate and up to one year	Over one and up to five years	Over five and up to ten years	Over ten years	Bank overdraft	Floating rate and up to one year	Over one and up to five years	Over five years
Market rate	37	73	-3	-22	-9	37	73	-3
Euro area	-45	-47	-89	-93	-66	-20	-3	-50
Belgium	-36	-83	-132	-151	-152	-28	-1	-27
Germany	-57	-24	-74	-72	-67	-25	-45	-52
Greece	-61	-150	-165	-33	1	-3	84	53
Spain	-27	3	40	-62	-192	-28	13	-4
France	-93	-116	-118	-120	-13	37	-77	-93
Ireland	-43	-36	-80	18	-53	-34	-76	-33
Italy	-28	-87	-88	-7	-93	-31	33	-35
Luxembourg	-41	-	-87	-72	-104	-4	-6	-131
Netherlands	-22	-27	-95	-109	-51	-9	-26	-10
Austria	-110	-134	-56	-41	-108	-59	-67	-61
Portugal	-42	263	-415	-	-29	-23	-57	-293
Finland	-28	-7	4	-31	-13	-13	-47	64

	Loans to households for consumption				Deposits from households			
	Bank overdrafts	Floating rate and up to one year	Over one and up to five years	Over five years	Overnight	redeemable at notice of up to three months	with an agreed maturity of up to one year	with an agreed maturity of over two years
Market rate	-9	37	73	-3	-9	12	37	73
Euro area	-55	24	-100	-52	-11	-30	-5	-48
Belgium	-17	-35	-35	56	-15	-74	-8	-31
Germany	-6	-51	-112	-18	7	-36	-14	-68
Greece	-146	-289	-118	36	-10	-	-12	9
Spain	-40	-19	23	-12	-44	-	3	4
France	-84	-81	-119	-134	9	-75	-23	-112
Ireland	38	2	-6	64	-7	13	-7	-50
Italy	-62	58	-153	-50	-16	10	-28	-23
Luxembourg	-82	-42	-41	-15	-21	-23	-7	-79
Netherlands	-46	-31	129	-53	-12	-61	-10	-146
Austria	-152	-46	-113	-90	7	-94	8	-9
Portugal	27	-169	-10	-160	-12	47	-7	-14
Finland	-4	-126	-110	-41	-15	-13	9	25

Sources: ECB and ECB calculations.
1) The shaded cells, highlighting the countries for which the interest rate category is of relevance, are determined as follows: Countries are first ranked in decreasing order of importance in an instrument category on the basis of the proportions in Table 2. Then, only those countries are highlighted that together account for at least the first 90% of the euro area aggregate.
2) The market rates used are the following: one-month money market rate for overdrafts and overnight deposits; three-month money market rate for deposits redeemable at notice of up to three months; six-month money market rate for loans with a floating rate and a period of initial rate fixation of up to one year and deposits with an agreed maturity of up to one year; three-year government bond yields for loans with a period of initial rate fixation of over one and up to five years and deposits with an agreed maturity of over two years; seven-year government bond yields for loans with a period of initial rate fixation of over five years, or over five and up to ten years; and ten-year government bond yields for loans with an period of initial rate fixation of over ten years.

dispersion. The categories "overnight deposits" and "deposits redeemable at notice of up to three months" also exhibit some of the highest dispersions in terms of changes. While the MFI interest rate on overnight deposits from households, for example, decreased by 11 basis points for the euro area as a whole, it decreased by twice this amount or more in some countries

and even increased in others. A striking feature, in the case of changes as with levels, is the high dispersion for the MFI interest rates on loans to households for consumption purposes with a floating rate and up to one year initial rate fixation. While the latter interest rate increased by 24 basis points between January-March 2003 and March-May 2006 for the euro area as a whole, it actually decreased in all countries but two.[10] The dispersion of changes in MFI interest rates is somewhat lower for loans to households for house purchase and loans to non-financial corporations. For the category "deposits with an agreed maturity of up to one year" the low dispersion already observed by comparing the levels is confirmed.

2.3 COMPARISON OF AGGREGATE LOAN AND DEPOSIT RATES

Another assessment relates to the comparison of aggregate MFI deposit and lending rates. For instance, it has been investigated whether a relationship exists between high loan rates and high deposit rates (and between low loan and low deposit rates). Aggregate loan and deposit rates have been calculated for this purpose. Caution is warranted, however, because, for example, differences in the aggregate deposit rate may also reflect differences in the liquidity of deposits across countries: countries where the bulk of deposits are of the overnight variety are expected to have a lower rate than countries where deposits with long maturities have a larger share.

The results presented below apply only to banks' loan and deposit business and are not applicable to banking activity as a whole. One notable point in this respect is that bank bonds are an important source of financing for banks in certain countries. As bonds are normally more costly than deposits, this introduces a systematic factor in cross-country comparisons of loan and deposit rates. The data presented in this paragraph, therefore, cannot be taken as indicative of the cost of banking intermediation.

With these caveats in mind, two aspects have been reviewed: i) a comparison of aggregated MFI loan rates with aggregated MFI deposit rates for new business and outstanding amounts, and ii) a comparison of aggregated loan and deposit MIR for new business with the corresponding financial market interest rates. The calculations were based on the averages over the reference period January 2003-May 2006.

To compare aggregated deposit and lending rates, volume-weighted average interest rates need to be calculated for the deposit and loan categories for new business and outstanding amounts. While the calculation is straightforward for the outstanding amount categories, the calculation for aggregated MIR for new business needs to take account of the "hybrid" nature of overnight deposits, deposits redeemable at notice and bank overdrafts. For these instrument categories the concept of new business is extended to the whole stock, with the result that new business is the same as the outstanding amounts. To avoid a combination of new business volumes with outstanding amounts in the calculations applied to the new business categories, the relative weights of these three specific instrument categories in the total outstanding amounts have also been applied to the new business categories.[11]

The results of the calculations are provided in Table 4 and Table 5. It can be observed that the highest interest rates for loans do not necessarily coincide with the highest interest rates for deposits (the Spearman rank correlation coefficient amounts to -0.24 for new business and 0.34 for outstanding amounts). Looking at the three countries with highest rates on new

10 The extraordinary effect was partly due to a substantial reduction in the weight of the largest euro area country, in which the average rate is very low. For an early analysis of this MFI interest rate category, see ECB (2004). Furthermore, the change in interest rates on loans to households for consumption purposes with a floating rate or an initial rate fixation of up to one year, is strongly influenced by seasonal factors in one large euro area country.

11 The relatively high turnover rate of repo contracts within one month in some countries may lead to an over-representation of this category in the calculation of an aggregated new business deposit rate.

Table 4 Aggregate loan and deposit rates for new business

(January 2003-May 2006; percentages per annum)

	Average lending rate	Average deposit rate
Belgium	3.51	1.50
Germany	4.51	1.82
Greece	5.96	1.26
Spain	3.69	1.22
France	4.09	1.68
Ireland	4.32	1.20
Italy	4.47	0.95
Luxembourg	3.49	1.87
Netherlands	3.78	2.11
Austria	3.89	1.86
Portugal	5.00	1.44
Finland	3.54	0.99
Euro area	4.15	1.57

Sources: ECB and ECB calculations.
Note: Averages across time and MIR categories. See Annex 3 for further details on the methodology.

Table 5 Aggregate loan and deposit rates for outstanding amounts

(January 2003-May 2006; percentages per annum)

	Average lending rate	Average deposit rate
Belgium	5.00	1.55
Germany	5.63	1.96
Greece	6.39	1.27
Spain	3.91	1.23
France	5.04	2.10
Ireland	4.38	1.31
Italy	4.92	0.94
Luxembourg	3.72	1.89
Netherlands	5.00	2.22
Austria	4.46	1.97
Portugal	4.60	1.48
Finland	3.78	1.02
Euro area	5.00	1.73

Sources: ECB and ECB calculations.
Note: Averages across time and MIR categories. See Annex 3 for further details on the methodology.

lending business, it is noteworthy that their respective deposit rates are only among the three highest in one case. Concerning the countries with the lowest rates on new lending business, only one country is also among those with the lowest deposit rates. Similar observations can be made with respect to average lending rates on outstanding amounts.

When the average MIR for new business and outstanding amounts are compared, the country rankings are quite similar for deposit rates and, to a lesser extent, for lending rates.[12] However, in the latter case the ranking is substantially different for some countries.

A complementary cross-country analysis of MFI interest rate-setting behaviour concerns the spreads for the retail deposit and lending business with respect to financial market rates. An important assumption in this type of analysis is that banks have price-setting power in the retail market but act as price takers in the inter-bank money and long-term debt market. Consequently, these spreads could reveal differences in the interest rate-setting behaviour of MFIs. In particular, if an inverse correlation exists between the deposit and lending spreads, this could point to a cross-subsidisation between deposits and loans.

After monthly spreads had been calculated for each instrument category (i.e. the difference between the MFI new business rate and the corresponding market rate), an average over the reference period January 2003-May 2006 was calculated, weighted by the respective MFI new business volumes for each euro area country. To obtain the average spread for lending and deposit business for each country, the weighting method described above for the various instrument categories was applied.

The results are shown in Table 6. It appears that the range of the aggregate lending spreads across the euro area (1.14-3.65) is about twice as wide as the range of the aggregate deposit spreads (0.09-1.25). The latter are limited by

12 The rank correlation coefficient between deposit rates on new business and deposit rates on outstanding amounts is 0.92; for lending rates this coefficient is smaller (0.62).

Table 6 Spread between MFI interest rates on new business and financial market rates

(January 2003-May 2006; percentage points)

	Lending spread	Deposit spread
Belgium	1.28	0.69
Germany	1.84	0.39
Greece	3.65	0.94
Spain	1.37	0.96
France	1.36	0.53
Ireland	1.89	0.99
Italy	2.17	1.25
Luxembourg	1.26	0.32
Netherlands	1.14	0.09
Austria	1.60	0.41
Portugal	2.76	0.76
Finland	1.25	1.21
Euro area	1.68	0.63

Sources: ECB and ECB calculations.
Note: Comparison of MIR categories with the corresponding market interest rate (swap rates), averaged over time and across MIR categories. See Annex 3 for further details on the methodology.

the current low market interest rates, which also places some limits on a possible cross-subsidisation.

An explanation of the differences among countries cannot be based on a comparison of aggregate interest rates. It requires a more in-depth analysis of the components of that aggregate, which must take into account both statistical factors and economic factors, most notably differences in risk and market structure. Such an analysis is carried out in Sections 3 and 4.

3 FACTORS THAT MAY EXPLAIN DIFFERENCES ACROSS COUNTRIES

This section reviews the most important factors that may explain the observed differences in MFI interest rates across countries. Such differences can arise for a large number of reasons (see, for example, ECB (2005)). There may be statistical reasons, i.e. national peculiarities relating to the statistical classification and other types of methodological issue. Dispersion may also stem from differences in the prevailing duration of the initial interest rate fixation and in the risk profile of loans, including the degree of collateralisation. In addition, the specific regulatory and fiscal frameworks in the euro area countries may give rise to differences in MFI interest rates. More generally, standard economic theory suggests that the interest rate-setting behaviour of banks can be influenced by a large number of other factors, such as the degree of competition between banks, market contestability, competition from market-based financing and investment possibilities, perceived credit and interest rate risk, the cost of refinancing, the cost of switching banks, the existence of information asymmetries between MFIs and their customers and the strength of the bank-customer relationship.[13] Significant differences across countries in these factors may give rise to differences in national MFI interest rates, just as they may also explain differences within countries. Finally, some influence may also be expected from differences in the economic cycle. For example, better economic conditions increase the number of projects becoming profitable in terms of expected net present value and hence increase the demand for credit.[14]

3.1 INFLUENCES RELATED TO THE STATISTICAL DESIGN AND PRODUCTION PROCESS

An initial question is whether influences related to the statistical production process may distort MIR data and explain cross-country differences in the interest rate level. Two possible statistical influences can be mentioned in particular: the sampling error when applying sampling methods and, the possible misclassification of items. In addition, in a wider sense, influences may also stem from the

13 For a review of relationship banking, see, for example, Boot (2000) and references therein.
14 Using the harmonised MFI interest rates over the period January 2003 to March 2005, Affinito and Farabullini (2006) find that much of the observed cross-country heterogeneity disappears after controlling for country-specific demand and supply-side factors affecting the characteristics of bank customers, bank products and the banking system.

definition of the statistical reporting categories and other methodological issues, such as the method of aggregation of each transaction into national averages and, at a subsequent stage, into euro area averages.

3.1.1 SAMPLING METHOD

In each country, the reporting agents for the MIR statistics are selected by the respective national central bank (NCB). Each NCB has the choice of either applying a sampling approach or a census. Sampling errors can be reduced by an appropriate sampling design, for instance by stratification of the potential reporting population into homogeneous sub-groups. For the collection of MIR statistics, stratification is required when sampling is applied.

An important factor influencing the quality of the estimates is the sample size. Regulation ECB/2001/18 specifies that the minimum national sample size should be chosen in such a way that the maximum random error for interest rates on new business does not exceed 10 basis points on average over all instrument categories, at a confidence interval of 90%. Consequently, in view of the size of the cross-country differences reported above, the effect of the statistical collection method should be very limited.

3.1.2 POSSIBLE MISCLASSIFICATION

A second potential statistical influence might occur in the event of diverging classifications or misclassification of instruments, which may happen in the early years of a new statistic. So far, two straightforward cases have been identified and resolved.[15] Nevertheless, since in one of the two cases the retrospective correction was only possible up to a certain point, some of the variation shown in Table 1 may still be in part due to a misclassification.

3.1.3 AGGREGATION METHOD

Assuming that loans with a longer maturity are contracted less frequently than loans with a shorter maturity, this may, depending on the slope of the yield curve, lead to an upward or downward bias towards the interest rates on loans with shorter original maturities, simply because these are rolled over more frequently.[16] However, the potential influence of this effect is mitigated if loans are rolled over automatically, because they are then counted only once in the new business volume. Moreover, as will be explained more in detail in Section 4, the effect of such a rollover may be more pronounced for loans to non-financial corporations and, to a lesser extent, for loans to households for consumption purposes. By contrast, mortgage loans with a short-term original maturity are rarely extended.

Although the possible aggregation bias could be expected to be larger for the shorter maturity bands, no significant effect was detected at the euro area level when comparing rates on outstanding amounts and new business for short-term deposits and repos. At the same time, the available information does not enable a complete assessment to be made of the extent of a possible distortion of MFI interest rate data due to this factor alone, although information at the country level does suggest that the aggregation bias can be significant in particular categories, periods and countries.

3.1.4 OTHER METHODOLOGICAL ISSUES

Five other methodological issues potentially exert some influence on the cross-country differences in MIR. First, the category *"loans to households for other purposes"* shows a very high heterogeneity across euro area countries, for the following reasons. This category comprises loans for many different purposes, such as educational, household (unincorporated) business, financial investment and debt restructuring and consolidation. In some countries loans to (unincorporated) sole proprietorships

15 This resulted in (i) a reclassification of savings accounts in one country from "deposits redeemable at notice" to "overnight deposits", and (ii) a reclassification of credit card credit in one country from "loans for consumption" to "bank overdrafts to households".

16 To derive euro area aggregates for MFI interest rates on new loans (other than bank overdrafts), three stages of aggregation are necessary: the first at the level of the reporting MFI, the second at the level of the reporting country and the third at the level of the euro area. At each level interest rates on new loans are aggregated on the basis of the new business volume reported by the MFIs.

account for a large part of the loans to households for other purposes. These sole proprietorships are very heterogeneous, including, for example, lawyers, dentists, taxi drivers and shop owners. In addition, in some cases the delineation between the household sector and the non-financial corporations sector is blurred. For example, in some countries loans to farmers are classified as loans to households while in other countries they are considered as loans to non-financial corporations. In this respect, the European System of Accounts (ESA95) is interpreted and applied in different ways.[17] In those countries, where loans to sole proprietorships are classified as loans to non-financial corporations, they are generally considered as bank overdrafts.

Second, the MFI interest rates statistics also include *loans to non-profit institutions serving households* (NPISHs). NPISHs include, for example, political parties and churches, which may obtain loans at non-market conditions. In some countries, NPISHs may cover a relatively large segment of loans to households for other purposes.

Third, the *treatment of credit card credit* in the MFI balance sheet is not yet fully harmonised; it may be included as a bank overdraft or as consumer credit. After a possible interest-free period, the interest rate on credit card credit is usually very high, so that the inclusion or exclusion of such products strongly influences the average interest rate levels in the various categories.

Fourth, *bank overdrafts*, which are defined as debit balances on current or checking accounts may or may not entail a penalty if, for example, a credit limit agreed between the credit institution and its customer is exceeded. Depending on the country, a penalty may be charged as an interest rate component, a component of other charges, or a combination of both.

Fifth, while Regulation ECB/2001/18 and ECB (2003) provide guidelines for the uniform statistical treatment of certain *special products,* such as deposits for which the interest rate rises over time (growth accounts), there are still some differences across countries in the calculation of the reported interest rates on deposits with a basic interest rate plus a fidelity and/or growth premium.

3.2 NON-INTEREST EXPENSES

Differences in non-interest expenses across countries may also exert a knock-on effect on MFI interest rates. The total cost of a loan comprises an interest rate component and a component of related charges such as those for the cost of inquiries, preparation of documents, guarantees and credit insurance. In principle, the MFI interest rates cover the interest rate component, while the total costs, including the other related charges, are covered by the "annual percentage rate of charge (APRC)". Differences in market practices, for example, with respect to valuation methods or mortgage procedures, could give rise to cross-country differences in the relative importance of interest rate and non-interest rate charges.

The MFI interest rate dataset provides two series on the APRC for loans to households: one for consumption and one for house purchase. However, the national implementation of the APRC is not yet fully harmonised.

In the case of deposit rates, interest rates paid on deposits and the fees charged to customers may be interdependent.

17 According to the ESA95, the household sector includes (Paragraph 2.76 d) "sole proprietorships and partnerships without independent legal status – other than those treated as quasi-corporations – which are market producers", while "non-financial quasi-corporations" (Paragraph 2.24) includes "all bodies without independent legal status which are market producers principally engaged in the production of goods and non-financial services and meet the conditions qualifying them as quasi-corporations. Quasi-corporations must keep a complete set of accounts and are operated as if they were corporations (see Paragraph 2.13 f)".

3.3 INFLUENCES STEMMING FROM DIFFERENCES IN FIXATION PERIOD/MATURITY

The exact initial fixation period of interest rates (for loans) and maturity (for deposits) within the currently distinguished bands may play a role in explaining differences across countries. If the yield curve has a positive slope, the longer the initial period of the interest rate fixation and maturity of the financial instrument, the higher the interest rate should be. Given that MIR data are reported in accordance with relatively wide bands in respect of the initial rate fixation period and maturity, the average period of initial rate fixation/maturity and the distribution of loans and deposits within the bands may differ substantially across countries. This may result in spurious differences in the average interest rates for certain fixation/maturity bands.

While the new business lending categories are broken down by period of initial interest rate fixation only, the outstanding amount categories consist of original maturity intervals. Consequently, in the case of new business it is possible that within an initial rate fixation period band a wide range of contracts exist with different original maturities, whereas in the case of outstanding amounts a long-term original maturity bracket may cover various periods of initial rate fixation intervals, ranging from a floating rate to several years of initial rate fixation.

While the length of the initial fixation period is probably the most relevant factor determining the new business lending rate, different maturities for the same interest rate fixation period may still have an impact on the lending rate, possibly reflecting credit risk. As a consequence, this effect may also contribute to cross-country differentials. It is not yet possible to assess whether this impact is significant.

In principle, measuring the impact of the period of interest rate fixation/maturity on the reported average interest rates would necessitate a more detailed reporting scheme or further information on the distribution of business within each fixation period/maturity band. The average fixation period/maturity is currently not a reporting requirement in Regulation ECB/2001/18. As a consequence this information is generally not available at present.

An approach to measuring the possible impact of the interest rate fixation period is to look at the euro area yield curve. By calculating the differences in the yield curve for the extreme points of MIR reporting bands and assuming that MFI rates follow the same pattern as the euro area yield curve, an indication can be obtained as to the proportion of the cross-country differences for the MIR on new business that can be explained by diverging average fixation periods.

It was found that the period of fixation/maturity may be a relevant factor, in particular for loans to households for house purchase. It also plays a (limited) role in the MIR categories for consumer loans with a floating rate and up to one year initial rate fixation, and loans (other than bank overdrafts) up to €1 million to non-financial corporations with a floating rate and up to one year initial rate fixation. This factor may also be relevant for the new business rates on deposits from households with agreed maturity of over two years, consumer loans with an initial rate fixation of over one and up to five years and over five years, and loans to non-financial corporations (other than bank overdrafts) over €1 million with an initial rate fixation of over one and up to five years and with initial rate fixation of over five years.

3.4 THE REGULATORY AND FISCAL FRAMEWORK

The fiscal and regulatory arrangements affecting banking business in the euro area are to a large extent determined and/or implemented at the national level. Differences in these arrangements across countries may affect MFI interest rate statistics in several ways.

Table 7 Selected features of the regulatory framework

(a) Deposits

Instrument category	Regulatory feature
Overnight deposits	Up to last year (March 2005), banks in France were not allowed to remunerate euro-denominated overnight deposits held by French residents, with a few minor exceptions. In certain other countries, overnight deposits are remunerated at (or close to) 0% in return for a lower fee charged to the depositor on other bank services.
Deposits redeemable at notice of up to three months	Interest rates on various non-taxable saving accounts in France are calculated twice a year (on 15 January and 15 July) according to a specific rule. Since August 2003, the rates have been calculated on the basis of the simple average of the 12-month change in the consumer price indices published by INSEE and the monthly average of the three-month EURIBOR. Although steadily decreasing over the past few years, non-taxable saving accounts still represent around 75% of total outstanding savings deposits in France.
Deposits from households with an agreed maturity of over two years	The bulk of the MFI interest rates on deposits from households with agreed maturity of over two years in Greece consist of a special type of deposit at the Deposits and Loans Fund, which by law pays 0% interest.

(b) Consumer credit and mortgage loans

Country	Consumer credit	Mortgage loans		
	Usury legislation	Early repayment fees	"Usual" time to enforce collateral (months)	Restrictions on lenders' discretion in setting interest rates[1)]
Belgium	Statute	Capped at three months' interest	18	Yes
Germany	Case law	Cover costs incurred by lender (for fixed-rate loans)	three to six	No
Greece	None	Usually three months' interest	More than 24	Yes
Spain	Statute	Capped at 0.5% to 1.0% of the capital lent for variable-rate loans	seven to nine	Yes
France	Statute	Capped at the lesser of six months' interest or 3% of the capital repaid	15-25	No
Ireland	None	Cover costs incurred by lender (for fixed-rate loans)	11-14	No
Italy	Statute	Capped at around 5%	60-84	
Luxembourg				
Netherlands	Statute	Cover costs incurred by lender (for fixed-rate loans)	six	No
Austria	Statute	Cover costs incurred by lender (for fixed-rate loans)	six	
Portugal	None	Not capped	18-30	Yes
Finland		Cover costs incurred by lender (for fixed-rate loans)	two to three	No

Sources: National central banks, European Mortgage Federation (2002, 2003), London Economics (2005).
1) In some countries the variability of interest rates on loans to households for house purchase is limited by law. In Belgium, Spain and Portugal, changes in the interest rates on variable-rate mortgage loans must be linked to changes in a predefined index, usually a government bond yield or a market-specific index. For example, in Spain, lenders use official indices for adjustment and apply fixed lifetime spreads over those indices. In Greece, lenders can use their discretion in setting-up the terms and conditions for adjusting interest rates on variable-rate mortgages, but these terms and conditions must be clearly spelled out in the loan contract and lenders can only adjust the interest rates in accordance with the provisions of that loan contract. By contrast, other countries (Germany, France, Ireland, the Netherlands and Finland) allow lenders to use their discretion in adjusting interest rates, although in some cases subject to a cap. Moreover, variable rates may only be allowed to change periodically (e.g. only one adjustment per year is allowed in Belgium).

First, there are clear indications that the regulatory framework has a direct impact on certain MFI interest rates for deposits: the prohibition against remunerating accounts has affected the category of overnight deposits and certain deposits with agreed maturity of over two years.[18] The administration of interest rates affects the category of deposits redeemable at notice of up to three months (see Table 7(a)).

18 Some of the very few remaining rules prohibiting the remuneration of accounts in the euro area were abolished in 2005.

Second, for some other features of the regulatory framework the evidence is mixed (see Table 7 (b)). Yet it cannot be excluded that differences in the level of MFI interest rates stem in part from the presence or absence of a cap on usury rates for consumer credit and of limits on lenders charging the full cost of early repayment to mortgage borrowers, and from the cost of mortgage collateral enforcement. Restrictions on the variability of variable-rate mortgage loans do not seem to have a strong influence, at least in the period considered. As far as a cap on usury rates is concerned, it may be noted that consumer credit interest rates in one country tend to be higher than in the others, possibly reflecting the fact that this country has a considerably higher cap than the others. Moreover recent discussions in this country to reduce the cap have led certain commentators to claim that this will lead to the exclusion of high-risk borrowers, which suggests that, even at its present high level, the cap may already be effective (binding).

Third, a number of fiscal factors exert a potential influence on MFI interest rates in various ways,

Table 8 Selected features of the fiscal framework

Country	Deductibility of mortgage interest payments	Subsidies for mortgage loans (M) and corporate loans (C)	Taxation of life insurance and pension products
Belgium	For owner-occupied dwellings (capped)	M	Insurance products with a capitalisation formula are not subject to withholding tax if the contract includes a protection clause or if they are issued with a maturity of over 8 years and one month.
Germany	For rented dwellings	M and C	The tax exemption for interest income from life insurance and certain pension products (provided the funds were maintained in the scheme for a certain number of years) was cancelled in 2005. Premiums on certain pension products (e.g. the "Riester Rente") are tax-deductible.
Greece	For owner-occupied dwellings (capped)	M	Premiums on life insurance (capped) and pension products are tax-deductible.
Spain	For owner-occupied dwellings (capped)	M	Payments made over a period of more than two years are subject to a tax rebate of 40%. In the case of life insurance this rebate increases to 75% for investments exceeding five years.
France	For rented dwellings	M	In general, there are tax incentives that favour long-term savings instruments, such as life insurance policies, the Plan Epargne-Logement (PEL), the Plan d'Epargne en Actions (PEA), the Plan d'Epargne Populaire (PEP) and the Plan d'Epargne Retraite (PERP). All these products qualify for favourable tax treatment if maintained for a long minimum period, usually between four and eight years.
Ireland	For owner-occupied dwellings (capped)		
Italy	For owner-occupied dwellings (capped)	C	
Luxembourg	For owner-occupied dwellings (capped)	M	
Netherlands	For owner-occupied (not capped)	M	Insurance products with a capitalisation formula are not subject to withholding tax if they are issued with a maturity of over eight years and one month.
Austria	For owner-occupied dwellings (capped)	C	
Portugal	For owner-occupied dwellings (capped)		
Finland	For owner-occupied dwellings (capped)		

Sources: National central banks, International Bureau of Fiscal Documentation.

although, again, the evidence from the data is rather mixed (see Table 8). Some influence may be expected from the tax treatment of income from deposits in comparison with substitute products, in particular certain life insurance and pension schemes; the extent to which mortgage interest payments can be deducted from the personal income tax base;[19] and, albeit to a lesser extent, specific direct or indirect loan subsidy programmes.[20]

3.5 DIFFERENCES IN RISK AND MARKET STRUCTURE

Since the pricing of MFI loans should also reflect the perceived credit risk of borrowers, cross-country differences in this risk should be a cause of MIR differences. If credit is not rationed, there should be a positive relationship between the level of interest rates and the perceived credit default risk of the borrowers. The highest correlation between credit risk and MFI interest rates may be expected for loans to households for consumption and small loans (of up to €1 million) to non-financial corporations, since these types of loan are typically more risky (since they carry less collateral and the borrowers are more opaque).

A breakdown of the loans by collateral amount is not required in the current reporting framework for MFI interest rate statistics. Yet the presence of security in one form or another may affect the level of MFI interest rates. For example, the use of collateral ("real security") tends to lower the interest rate on loans, while the effect of guarantees ("personal security") tends to be ambiguous.[21] Therefore, the extent to which the use of collateral differs from one country to another (including different levels of loan-to-value ratios) may give rise to differences in the level of MFI lending rates across countries.

In addition, in a perfectly competitive, contestable and integrated euro area banking market, significant price differences would not be sustainable and bank interest rates would tend to converge, after controlling for the influence of product heterogeneity and other differences such as in regulation and taxation, credit risk, etc. In a situation of less than perfect competition and differences in the degree of market contestability in one or more national banking markets, higher cross-country differences in MFI interest rates may be expected. However, unambiguous evidence is not available so far.

4 CROSS-COUNTRY DIFFERENCES IN THE MAIN MARKET SEGMENTS

This section provides a detailed review, often based on qualitative or partial evidence, of the main MFI interest rate categories and offers a number of explanations for the observed cross-country differences. It focuses on new business rates, as these are contracted at the same time in the various countries.[22] For ease of reference, Table 9 provides an overview of the qualitative ranking of the factors that are most likely to explain the cross-country differences by market segment, as a guide for the more detailed explanation that follows. It should be pointed out that the degree of competition within the banking sector is not explicitly dealt with as a factor, given that the evidence so far is not unambiguous.

19 Deductibility may also affect the new business volume and therefore the weight of a particular country in the euro area average because it contributes to higher house prices and therefore higher loan volumes.

20 In most cases, subsidies are granted directly through the provision of credit at lower interest rates or sometimes even at no interest, or indirectly through a government-owned fund that guarantees loans for the purchase and/or refurbishment of a dwelling up to a certain amount. As these are not direct subsidies in the original meaning of Regulation ECB/2001/18, where the borrower pays a subsidised rate and the MFI reports a higher rate, the presence of such subsidies may explain why reported interest rates are lower in a given country.

21 The finding that the provision of guarantees often does not reduce (but rather raises) the loan rate demanded seems to be due to the fact that personal security is requested when information is highly asymmetric (i.e. the borrower is more risky) and the presence of a guarantee is insufficient to offset the higher credit risk.

22 For further information on national MFI interest rates, see Annex 4.

Table 9 Overview of the qualitative ranking of explanatory factors by market segment

(in decreasing order of importance)

	Loans to households		Loans to non-financial corporations	Deposits from households
	Bank overdrafts and other loans for consumption	For house purchase		
1.	Collateral practices[1)]	Period of initial rate fixation[4)] (and dedicated housing finance schemes)	Period of initial rate fixation[4)] and aggregation method[5)]	Product characteristics[7)]
2.	Classification[2)]	Tax and regulatory features	Collateral practices[1)] and use of bank overdrafts	Regulation (or comparable market practice)
3.	Market environment[3)]	House price developments	Market environment[6)]	Tax features
4.	Period of initial rate fixation[4)] (and aggregation method)[5)]	-	-	Maturity[4)]

1) Secured loans typically have lower interest rates;
2) In particular the treatment of credit card credit either as a bank overdraft or as consumer credit;
3) Presence of specialised lenders in some countries;
4) If the yield curve has a positive slope, a longer average period (within the reported band) implies a higher interest rate;
5) If loans with a short-term original maturity are renewed more frequently, weighting by new business volumes implies a larger weight for those products;
6) Firm sizes, access to market finance, types of lender and relationship banking;
7) In particular, degree of liquidity.

4.1 BANK OVERDRAFTS AND OTHER LOANS TO HOUSEHOLDS FOR CONSUMPTION

A striking feature of the bank overdrafts and consumer loans category is the high dispersion of the MFI interest rates on loans with a floating rate and up to one year initial rate fixation. It is higher than for bank overdrafts and indeed the highest across all types of loan (see Table 10). The dispersion of the MFI interest rates on loans in this category with longer periods of initial rate fixation is somewhat lower but still higher than for other types of loans (other than bank overdrafts).

Lannoo et al. (2005) provide a recent review of the current state of the consumer credit business across euro area countries and a number of other European markets. They emphasise that there are large differences not only in the size of the consumer credit market but also in the range of products offered (including collateral practices),[23] the use of credit card credit and the market environment, in particular regarding the influence of specialised lenders. In general terms, such factors may also be reflected, at least in part, in the cross-country differences in MFI interest rates.

4.1.1 COLLATERAL PRACTICES

The most important reason for the cross-country dispersion of MFI interest rates on bank overdrafts and loans to households for consumption purposes may be the pronounced differences in collateral practices. This influence is found to be relevant on the basis of anecdotal evidence, although in general the link between collateral and risk (and therefore interest rates) is not unambiguous in the empirical literature.[24] At the same time, there are a number of examples, not only for consumer credit but also for bank overdrafts, which indicate that interest rates are lower when loans are predominantly secured and higher when loans are predominantly unsecured.

In the category "floating rate and up to one year initial rate fixation", lower interest rates may reflect the role played by special conditions for

23 This range of products may include, for example, general-purpose loans (personal loans), revolving credit (with or without plastic card), or loans linked to specific purchases (such as point-of-sale finance for cars and consumer durables).

24 For example, Berger and Udell (1990), in a sample of loans from the US credit market, find that the use of collateral is positively associated with a higher risk premium in the interest rate of the loan operation, while Degryse and van Cayseele (2000) find a negative association between these two variables in a sample of credit loans to small business by a Belgian bank.

larger volumes (sometimes secured). Differences in interest rates are also likely to reflect differences in the importance of collateralisation. These latter differences are also likely to influence the category "over one and up to five years' initial rate fixation". Moreover, in the category "over five years' initial rate fixation", higher interest rates could be caused by the inclusion of "quick and easy" consumer credit, where banks usually use scoring models and do not request collateral. Lower interest rates may reflect that new loans in this category are in some countries often secured by collateral, or that loans to students are included here. The latter interest rates may be lower because they are often guaranteed by family members, and also because banks may choose to offer favourable interest rates to attract the students as new consumers. Finally, bank overdrafts may also be secured, for example, on a house or on next month's salary.

4.1.2 TREATMENT OF CREDIT CARD CREDIT

The next most important influence on the cross-country dispersion for consumer credit rates is probably the statistical treatment of credit card credit, which is not yet fully harmonised. In some countries, credit card credit is classified as a bank overdraft, while in other countries it is considered – after an interest-free period – as consumer credit. The interest rate on credit card credit is usually very high, so that the inclusion or exclusion of such products may strongly influence the average interest rate levels in the two categories. Furthermore, in some countries credit card credit is granted by MFIs (i.e. included in MFI interest rate statistics), while in others this type of product is granted by non-MFIs (and hence excluded from MFI interest rates).

4.1.3 MARKET ENVIRONMENT

The third most important reason for the dispersion in this category is likely to be the specific features of the market environment in which banks operate, in particular the presence of specialised lenders in the consumer credit market of some countries. A higher interest rate in some countries may be the result of a few specialised intermediaries (branches of banking groups) that have easier access to the consumer credit market,

Table 10 Bank overdrafts and other loans to households for consumption

(average between January 2003 and May 2006)

	Bank overdrafts		Other loans to households for consumption (by period of initial rate fixation)					
			floating rate and up to one year		over one year and up to five years		over five years	
	weight	levels	weight	levels	weight	levels	weight	levels
Euro area	174,614	9.85	5,695	6.83	10,658	6.75	5,822	8.18
Belgium	1.6	10.43	0.5	6.45	1.9	7.32	1.6	9.18
Germany	31.5	10.45	27.6	5.27	46.2	6.21	59.5	8.78
Greece	5.1	13.78	2.6	9.33	1.5	9.82	1.1	9.82
Spain	0.4	12.56	31.1	8.08	9.7	7.42	12.5	7.15
France	22.4	10.80	7.0	5.25	26.5	6.50	13.8	6.74
Ireland	1.2	13.02	4.3	5.36	1.8	7.94	0.7	6.45
Italy	23.1	8.54	7.7	10.67	9.8	8.65	8.5	7.49
Luxembourg	0.3	5.63	0.1	3.72	0.3	5.48	0.1	5.65
Netherlands	5.5	6.58	3.3	7.71	0.2	7.84	0.5	8.35
Austria	6.0	7.32	7.4	5.25	0.6	4.53	0.3	4.74
Portugal	1.8	10.13	4.2	8.09	0.7	10.21	1.3	10.32
Finland	1.1	9.29	4.2	4.59	0.8	4.98	0.0	4.91

Sources: ECB and ECB calculations.

Note: The shaded cells, highlighting the countries for which the interest rate category is of relevance, are determined as follows: Countries are first ranked in decreasing order of importance in an instrument category on the basis of the proportions in Table 2. Then, only those countries are highlighted that together account for at least the first 90% of the euro area aggregate (on the basis of the "weight" column). The "weight" column reports the country weights in terms of new business volumes, except for the euro area, for which it shows the average new business volume in EUR millions. The "levels" column shows the average level of MFI interest rates in percentages per annum.

mainly through shop chains, but possess less information about their clients than "ordinary" commercial banks. This perceived higher risk also affects the interest rates charged.

4.1.4 OTHER FACTORS

Finally, some further influence on cross-country differences may be expected from other factors such as market practices, the interest rate fixation period and the aggregation method. For example, while in some countries bank overdrafts are generally considered as unauthorised lending with a high penalty rate, in other countries they may be a cheaper source of funds than a consumer loan. A low national interest rate in the category "over one and up to five years" can be caused by relatively low interest rates with a fixation period of just above one year. Finally, the aggregation method may exert some influence because the reporting framework covers new loans with a floating rate and up to one year initial interest rate fixation irrespective of the original maturity of the loan.

4.2 LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE

Although some of the lowest country dispersions can be observed for MFI interest rates on loans to households for house purchase (see Table 11), there are still some observable differences across the euro area.[25] Recent reviews of the European mortgage markets (e.g. Low et al. (2003) and London Economics (2005)) emphasise the large differences in the product ranges and in the fiscal and regulatory frameworks, factors that are likely to explain much of the observed differences in MFI interest rates.[26] In addition, some effect may be expected from differences in house price developments within the euro area.[27]

4.2.1 PRODUCT HETEROGENEITY

Differences in product characteristics are likely to be the most important reason why average interest rates on loans to households for house purchase differ across countries. This concerns, in particular, differences in the period of initial rate fixation and the availability of dedicated housing finance schemes. With a yield curve that typically slopes upwards, relatively high average interest rates may simply reflect most loans being situated at the long end of the interest rate fixation interval, while relatively low average interest rates reflect most loans being situated at the short end of the interest rate fixation interval. Dedicated housing finance schemes, which exist in certain countries, involve regular payments into a deposit account and, usually after several years, entitle the deposit holder to a housing loan at favourable conditions. A feature of these schemes is that the interest rate of the housing loan is agreed at the time the contract is concluded, which may be up to several years before the loan is provided. In turn, this may influence the average level of interest rates in several instrument categories with a long-term initial fixation period.

There are also other aspects of product heterogeneity that can give rise to differences in interest rates, in particular in the category "floating rate and up to one year initial rate fixation". Differences in collateral practices for interim finance or for house repair loans are

25 On the basis of US data from Freddie Mac's Primary Mortgage Market Survey, the dispersion of mortgage rates across US regions could be even lower than between euro area countries (ECB (2006a)). However, the US and euro area data are not strictly comparable, notably because the US data consider only five large regions (Northeast, Southeast, North Central, Southwest and West); some of the dispersion within those regions (i.e. across the states) may thus not be captured.

26 Within the framework of the European Commission's financial services policy priorities up to 2010 – set out in its White Paper on Financial Services Policy 2005-2010 – the Commission adopted a Green Paper on mortgage credit in the EU in 2005 in order to launch an examination of a potential case for it taking action to make mortgage credit markets "more efficient and competitive, leading to more choice and better value for EU consumers". The Eurosystem's contribution to this consultation is available online at http://www.ecb.eu/pub/pdf/other/eumortgagecreditconsultationen.pdf

27 The Forum Group on Mortgage Credit (2004) highlights the segmentation of loan markets involving mortgages caused by the existence of different jurisdictions in Europe. Also, the funding practices in the euro area are more fragmented, varying from deposit funding to covered bonds (including Pfandbriefe) and mortgage-backed securities (see, for example, Lichtenberger (2001)), in comparison with the more standardised US mortgage market, which is centred around the government-sponsored mortgage agencies.

one example. Besides, in some countries, banks have recently started to grant loans at 0% interest for the first few months, while in other countries such introductory offers to attract customers may be less widespread.

4.2.2 FISCAL AND REGULATORY FRAMEWORK

The next most important factor is the regulatory and fiscal framework in euro area countries, which is likely to matter more in this area than for other types of loans, due to the public importance usually attached to home ownership. An important feature of the regulatory environment is the early repayment regimes for fixed-rate mortgage loans. These regimes vary widely across countries. Indeed, while in some countries the early repayment fee compensates the lender for funding and operational losses arising from the early reimbursement of the loan, in other countries this fee does not exist or is capped. These differences may have an effect on lending rates through the incorporation or not of a prepayment risk premium.

Moreover, the expected cost of anticipated losses depends not only on the probability of the default but also on the cost of the event itself. While the probability of default is influenced by many factors (position in the business cycle, income prospects, etc.), the cost of the event itself is also determined by the national legal framework and, in particular, by the cost and duration of the procedure to enforce the collateral (see Table 7 above). When some of these costs (time and resources spent) are borne by the creditor, banks may include them ex ante into their lending rates. As the cost and duration of collateral enforcement varies considerably across countries, it cannot be excluded that these differences also exert an influence on MFI interest rates.

Finally, regulation can directly influence interest rates when it restricts the ability of specific types of lender to compete with other lenders operating in the mortgage market or prescribes a specific rule to calculate the lending rate that banks can offer.

MFI interest rates are collected on a pre-tax basis and do not include direct subsidies granted by the government on loans to households. Nevertheless, by influencing the relative prices of various banking products and, thereby, demand and supply, taxes and subsidies may also indirectly affect the weight of subsidised

Table 11 Loans to households for house purchase

(average between January 2003 and May 2006)

	Period of initial rate fixation							
	floating rate and up to one year		over one year and up to five years		over five years and up to ten years		over ten years	
	weight	levels	weight	levels	weight	levels	weight	levels
Euro area	27,903	3.59	7,417	4.05	9,785	4.59	10,050	4.51
Belgium	2.1	3.48	3.3	4.17	2.7	4.36	6.6	4.53
Germany	8.5	4.56	36.2	4.36	57.4	4.70	36.3	4.75
Greece	2.5	4.25	0.8	5.39	0.2	6.08	0.6	4.84
Spain	35.2	3.36	14.2	3.65	0.6	6.46	1.0	3.71
France	8.8	3.69	13.4	3.93	9.2	3.93	42.0	4.22
Ireland	9.1	3.50	6.8	3.77	0.1	4.75	0.0	4.32
Italy	13.3	3.67	2.7	3.78	1.1	4.72	4.9	5.04
Luxembourg	0.4	3.59	0.0	3.57	0.0	3.71	0.2	3.54
Netherlands	7.6	3.45	17.4	4.13	28.5	4.56	8.0	4.89
Austria	1.3	4.24	3.6	3.41	0.1	4.84	0.3	4.87
Portugal	4.8	3.55	0.3	6.49	0.1	9.50	0.0	4.75
Finland	6.5	3.22	1.3	3.75	0.1	4.07	0.1	3.63

Sources: ECB and ECB calculations.
Note: See Table 10.

Table 12 Residential property prices in euro area countries

(annual percentage changes in nominal terms)

	1999-2005	2001	2002	2003	2004	2005
Belgium[1]	9.1	6.7	7.6	6.2	10.7	17.1
Germany[2]	-0.6	0.2	-1.2	-1.3	-1.5	-1.6
Greece[2]	9.1	14.5	13.0	5.7	2.6	8.9[5]
Spain[2]	15.2	15.6	16.7	17.6	17.3	13.9
France[3]	10.5	7.9	8.3	11.7	15.2	15.2
Ireland[2]	13.5	8.1	10.1	15.2	11.4	10.8[5]
Italy[2]	7.7	8.0	13.0	9.9	9.1	9.9
Luxembourg[1]	11.0	13.8	11.9	13.3	-	-
Netherlands[3]	9.4	11.2	8.5	5.0	4.3	4.8
Austria[2, 4]	0.3	2.1	0.2	0.3	-2.1	5.2
Portugal[2]	3.5	3.6	1.1	1.6	0.4	1.9[5]
Finland[2]	5.9	-0.5	7.4	6.2	7.1	6.1
Euro area	6.4	5.8	6.8	6.8	7.2	7.6

Sources: National sources and ECB calculations.
1) New and existing houses; whole country.
2) All dwellings (new and existing houses and flats); whole country.
3) Existing dwellings (houses and flats); whole country.
4) Up to 2000 data for Vienna only.
5) Data refer to the first half of 2005.

or taxed products within the national MFI interest rates reported. Consequently the different policies of national governments may contribute to the observed differences in MFI interest rates across countries (see Table 8 above). Moreover, subsidies can also be granted indirectly by the government – for example, in the form of a government guarantee on loans to certain households for house purchase, resulting in borrowers being charged lower interest rates.

4.2.3 HOUSE PRICE DEVELOPMENTS

As most loans to households for house purchase are secured by real estate, interest rate differences may partly be related to differences in the expected development of the real estate market. Euro area residential property prices have been relatively dynamic over the last few years, although the pattern has differed substantially across countries (ECB (2006b, 2006d)). These differences in the evolution of residential property prices (see Table 12) may have affected the value of the collateral for loans with a long-term duration.

4.3 BANK OVERDRAFTS AND OTHER LOANS TO NON-FINANCIAL CORPORATIONS

The country dispersion of MFI interest rates on loans to non-financial corporations is highly polarised. The dispersion for bank overdrafts to non-financial corporations is one of the highest (and higher than for bank overdrafts to households). The dispersion for other corporate loans is considerably lower and is indeed among the lowest of all types of loans, although in some cases it is somewhat higher than for housing loans (see Table 13). The most important reasons for these cross-country differences are product heterogeneity and differences in the specific business environments in which the non-financial corporations operate. In some cases, differences in market practices and classification issues also play a role.

4.3.1 PRODUCT HETEROGENEITY

Among the reasons for cross-country differences, product heterogeneity stands out. A notable example of this heterogeneity concerns the cross-country differences in the average period of initial rate fixation, which is not taken account of in the aggregation method. This may

affect, for instance, the loan category "over one and up to five years (up to €1 million)", as average interest rates may be lower in countries where revolving credit facilities are predominant and the effective repayment term (and thus the initial rate fixation) is closer to one year than to five years. In general, the interest rate may be higher in countries with a relatively long average interest rate fixation period (irrespective of the loan size).

A related issue is that the reporting framework combines new loans with floating rates and up to 1 year initial rate fixation irrespective of the original maturity of the loan. Consequently, the aggregation method may introduce a level bias in the MFI interest rates on new business if loans with a short-term original maturity are renewed more frequently and if there is a notable difference between floating interest rates on new loans with an original maturity up to 1 year and those on new loans with a longer original maturity. On the other hand, this effect is mitigated if loans are rolled over automatically, as they are then counted only once in the new business volume.

Some influence may also be expected from differences in collateral practices, not only for loans but also for bank overdrafts. In some countries bank overdrafts are usually unsecured, while in others they are often secured (e.g. with invoices or part of the firm's portfolio).

Finally, a very high interest rate on bank overdrafts may reflect bank overdrafts being unauthorised and the inclusion of a penalty in the interest rate. Also, banks may perceive recourse to this type of credit to be a sign of weak cash management on the part of the firm, and charge a higher rate to compensate for the perceived higher risk.

4.3.2 MARKET ENVIRONMENT

The next most important factors explaining cross-country differences are likely to be specific features of the market environment for loans to non-financial corporations, in particular firm sizes and market finance access. The structure of firm sizes differs significantly across countries (see Chart 1).[28] Large firms may have stronger negotiating power (and a better risk profile) when agreeing on a loan.[29]

28 For further data on firm sizes, see, for example, European Commission (2001).

29 The Observatory for European SMEs (2003a) highlights, for example, that SMEs usually pay higher interest rates and bank charges than large enterprises.

Table 13 Loans to non-financial corporations

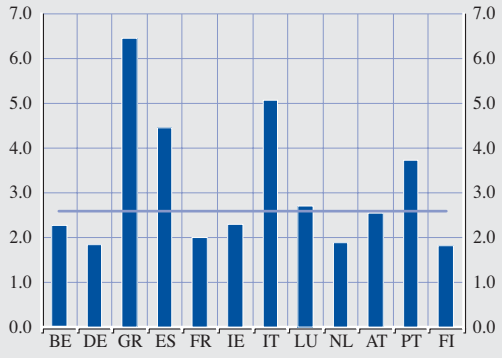
(average between January 2003 and May 2006)

	Bank overdrafts		floating rate and up to one year initial rate fixation				over one and up to five year's initial rate fixation				over five year's initial rate fixation			
			up to €1 million		over €1 million		up to €1 million		over €1 million		up to €1 million		over €1 million	
	weight	levels	weight	levels	weight	levels	weight	levels	weight	levels	weight	levels	weight	levels
Euro area	468,430	5.43	62,670	4.10	140,556	3.14	5,594	4.71	11,585	3.51	4,228	4.54	10,788	4.17
Belgium	1.3	7.44	6.7	3.85	13.6	2.92	7.9	4.16	5.9	3.41	4.0	4.81	1.2	4.45
Germany	17.1	6.21	11.3	4.57	26.4	3.37	23.2	4.89	35.9	3.93	36.7	4.81	52.3	4.46
Greece	4.1	6.94	1.4	5.16	1.0	3.78	1.1	5.34	1.0	3.51	0.1	5.82	0.4	4.42
Spain	0.3	17.08	42.5	3.91	20.1	2.98	18.9	4.43	33.1	3.09	4.7	4.17	17.8	3.61
France	17.1	4.09	5.1	3.45	9.7	2.88	25.0	5.01	4.4	3.27	40.7	4.31	9.0	3.95
Ireland	0.9	6.65	1.1	4.55	1.3	4.24	2.1	5.13	2.9	3.94	2.0	4.39	2.2	3.99
Italy	40.3	5.70	21.1	4.16	12.9	3.12	7.0	4.78	11.8	3.33	5.5	4.72	8.5	3.85
Luxembourg	0.2	4.66	2.0	3.85	4.0	3.26	0.6	3.88	0.7	3.69	0.7	3.97	0.4	3.93
Netherlands	8.0	4.82	1.8	3.59	5.2	2.99	11.4	4.54	2.7	4.19	3.9	4.72	6.8	4.19
Austria	5.6	4.56	1.8	3.77	3.0	3.05	0.9	4.07	0.9	3.54	1.3	4.43	1.0	4.26
Portugal	4.8	4.40	4.1	5.89	1.6	3.75	0.5	6.35	0.2	4.06	0.1	6.59	0.4	3.85
Finland	0.3	4.36	1.1	3.68	1.1	3.12	1.2	4.62	0.5	3.72	0.3	4.25	0.5	3.92

Sources: ECB and ECB calculations.
Note: See Table 10.

Chart 1 Small and medium-sized enterprises in euro area countries in 2003

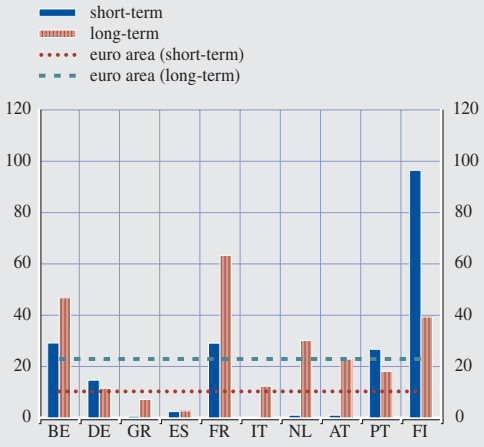
(ratio of persons occupied in small and medium-sized enterprises to persons occupied in large enterprises)



Source: Observatory of European SMEs (2003b), ECB calculations.
Note: The horizontal line indicates the average for the euro area.

Chart 2 Amount outstanding of debt securities issued by non-financial corporations[1) 2)]

(percentage of outstanding MFI loans to non-financial corporations; average over the period from January 2003 to May 2006)



Source: ECB.
1) Data on outstanding debt securities issued by non-financial corporations are not available for Ireland and Luxembourg.
2) "Short-term" means securities with an original maturity of one year or less (in exceptional cases two years or less). Securities with a longer original maturity, or with optional maturity dates, the latest of which is more than one year away, or with indefinite maturity dates, are classified as "long-term".

In this connection, the interest rates on loans of up to €1 million may also be influenced by the share of loans granted to large firms.

The extent to which firms have access to non-bank forms of financing also differs considerably. As Chart 2 illustrates, the corporate bond market is particularly well developed in some countries, while it is of relatively minor importance in others. Easier access to market-based finance may be linked to lower interest rates on bank financing.

Moreover, the category "over one and up to five years (up to €1 million)" includes a large share of business carried out by leasing and factoring companies that are classified as MFIs in certain countries. These types of lender grant loans to riskier customers such as small and medium-sized enterprises, and may require higher margins.

The widespread practice of relationship lending to non-financial corporations in some countries may also affect the level of the average interest rate and give rise to cross-country differences.

4.4 DEPOSITS FROM HOUSEHOLDS

The cross-country dispersion of MFI interest rates on deposits from households is among the most pronounced and is much higher than the dispersion for loans (see Table 14). The notable exception concerns MFI interest rates on deposits with an agreed maturity of up to one year, which show more homogenous levels across countries. The main reasons for these differences are likely to include product heterogeneity, market regulation or market practice with comparable effects, differences in the fiscal framework and differences in maturity. Differences in deposit insurance schemes may also play a role. Ehrmann et al. (2003), for example, show that the degree of effective

deposit insurance differed considerably across European countries at the end of the 1990s.

4.4.1 PRODUCT HETEROGENEITY AND BUSINESS PRACTICES

Product heterogeneity may be the most important reason for cross-country differences in all categories of MFI interest rates on deposits from households, possibly linked to a diverging pace of financial innovation. For example, the increasing popularity in some countries of both internet accounts and other high-yielding deposits (ECB (2006c)) – which enable cash to be withdrawn within one day but cannot be used for payment purposes – may have a tendency to raise interest rates in the category "overnight deposits". Furthermore, the category "redeemable at notice of up to three months" also includes a variety of special savings products that affect the reported interest rate.[30] If a growth savings account pays, say, 2.0%, 2.5%, 3.0%, 4.0% and 5.0% over a specified period (which can extend over several years) the interest rate reported by the MFI increases each time (reflecting the actual rate paid on the outstanding amounts). In times of decreasing market interest rates this phenomenon can explain relatively high average MFI interest rates. Besides, the treatment of interest rates on deposits with a basic interest rate plus a fidelity and/or growth premium may differ across countries. In some countries, the fidelity bonus obtained at the end of the holding period (usually up to one year) is reported. For example, if after three and six months an interest rate of 1.5% is paid, but 3.0% is applied retrospectively after 12 months, then the bank reports the 3.0%. In some other countries, by contrast, the relatively low initial interest rate is reported for deposits with a fidelity bonus after one or two years. Finally, in the category "with an agreed maturity of over one and up to two years", higher interest rates may reflect the effect of "combined products" consisting of a time deposit and an investment in mutual fund shares or in shares.

Of course, average deposit rates may be very low if some interest rates in an instrument category are reported as being equal to 0%. This is the case, for example, for deposits with

30 In the category "redeemable at notice of up to three months", the very low interest rate offered in one country (less than half a percentage point) was due to a misclassification.

Table 14 Deposits from households

(average between January 2003 and May 2006)

	Overnight		Redeemable at notice of up to three months		With an agreed maturity ot					
					up to one year		over one and up to two years		over two years	
	weight	levels	weight	levels	weight	levels	weight	levels	weight	levels
Euro area	1,407,268	0.73	1,417,886	2.01	102,954	2.04	3,150	2.29	7,946	2.45
Belgium	2.2	0.93	10.5	1.60	6.0	1.98	1.1	2.65	0.4	3.10
Germany	30.1	1.17	35.6	2.11	26.7	2.03	36.4	2.61	35.3	2.74
Greece	5.1	0.92	0.0	-	7.1	2.36	1.2	2.48	5.0	0.10
Spain	9.5	0.60	7.3	0.27	18.8	2.09	26.0	2.06	31.1	2.20
France	14.5	0.13	26.0	2.42	6.1	2.21	2.2	2.72	12.5	2.90
Ireland	1.9	0.52	0.6	1.58	10.2	1.86	1.6	2.50	0.5	1.89
Italy	25.3	0.64	4.6	1.01	3.1	1.57	7.0	1.72	0.3	2.29
Luxembourg	1.2	1.27	0.1	1.57	7.2	1.97	0.7	2.06	0.1	2.52
Netherlands	3.3	0.51	14.6	2.62	1.8	2.44	0.5	2.48	3.0	3.01
Austria	2.7	0.95	0.0	1.72	3.3	2.03	11.9	2.29	8.8	2.81
Portugal	1.9	0.19	0.0	1.09	7.4	1.92	7.9	1.90	2.4	2.07
Finland	2.2	0.45	0.6	1.29	2.2	2.12	3.6	2.27	0.7	2.32

Sources: ECB and ECB calculations.
Note: See Table 10.

a return that is not known at the time of reporting. In some countries, the category "with an agreed maturity of over two years" includes either a large share of structured deposits with returns indexed to stock indices and a guaranteed principal remunerated at 0%, or tracker bonds whose investment return is unknown until the time of maturity (so that these are reported at a rate of 0%).

Finally, in the category "with agreed maturity of up to one year", a somewhat lower interest rate may reflect the inclusion of savings accounts that share some of the features of a time deposit.

4.4.2 MARKET REGULATION AND MARKET PRACTICE

Market regulation or market practice with comparable effects also has a direct impact on average deposit interest rate levels in some countries. A legal prohibition against remunerating overnight deposits (which was abolished in 2005) or the inclusion of special deposits in the category "with an agreed maturity of over two years" (see Table 7(a) above) provides an obvious explanation for low interest rates. There is a similar effect from a market practice where banks remunerate overnight deposits at low interest rates and in return charge low fees for transaction services (money transfer, credit card, internet banking, etc). Similarly, but with an opposite effect, the rate of interest paid on overnight deposits can be somewhat higher to attract customers, which is then compensated by charging higher fees on related services.

The direct regulation of interest rates on certain types of deposits affects the categories "redeemable at notice of up to three months" and "with an agreed maturity of over two years" (see also Table 7(a) above). Moreover, regulated interest rates are also likely to have a spillover effect on unregulated interest rates. Banks may offer a higher unregulated interest rate in order to compete with deposits that offer higher regulated interest rates.

4.4.3 FISCAL FRAMEWORK

Differences in the fiscal framework are also important factors explaining interest rate differentials, in particular for long-term time deposits. In a number of countries the interest rates on certain life insurance and pension products with a capitalisation formula are tax-exempt if they are held for a sufficiently long period. This, in turn, may induce MFIs to increase the gross return on deposits if they wish to offer competitive alternatives to these products.

Fiscal effects may also play a role for short-term deposits. The category "deposits redeemable at notice of up to three months" may be affected by fiscal arrangements that provide for an exemption from withholding tax on the condition that the interest rate does not exceed a certain ceiling. Such a tax regime may affect MFI interest rates even when the interest rate ceiling is too high to affect the depositor. In the category "with agreed maturity of over one and up to two years", lower interest rates may reflect a fiscal incentive in favour of other types of deposits or financial assets, so that banks are less interested in this category.

4.4.4 MATURITY

Finally, some effect may also be expected from differences in the prevailing maturity. For instance, in the category "with an agreed maturity of up to one year", a relatively high interest rate may stem from certain types of deposits that are related to housing loans for properties that are still under construction. These deposits have a short maturity but typically offer an interest rate that corresponds to a longer interest rate fixation period. Furthermore, in some countries they generally have a very short agreed maturity (1 to 30 days), and the interest rate is repeatedly renegotiated, which may explain why the interest rate in those countries is somewhat below the euro area level. Conversely, the category "with an agreed maturity of over two years" may include a sizeable share of deposits contracted with a relatively long agreed maturity (four to six years and sometimes up to ten years), which is

likely to raise the MFI interest rate in comparison with other countries.

5 CONCLUSION

Harmonised statistics on interest rates on MFI loans and deposits have been compiled by the ECB, on the basis of data collected from MFIs by the NCBs, since the beginning of 2003. This dataset allows better monitoring of the interest rate transmission mechanism, of developments in monetary aggregates and of structural developments in the banking system, and it also allows a better comparison of interest rates across countries.

As expected, the data reveal divergences in the level of interest rates across countries. This report suggests that the statistical production process (e.g. sampling methods or classifications) causes at most a small part of these differences. Several factors contribute to the cross-country dispersion. Notably, remaining product heterogeneity may make it methodologically difficult to classify products into instrument categories that are homogenous at the euro area level. This product heterogeneity may in part be influenced by differences in national conventions and practices, and regulatory and fiscal arrangements. Moreover, in some instrument categories, the aggregation method may affect the comparability of interest rates for particular countries. These factors, alongside differences in credit risk and market structure, and in many cases operating simultaneously, contribute to the differences in the levels and possibly also the changes in the interest rates.

It is important to take these factors into account when making cross-country comparisons of MFI interest rates particularly for overnight deposits, deposits from households redeemable at notice, bank overdrafts and loans to households for consumption purposes, most notably those with a short-term initial rate fixation. This also applies, albeit to a lesser extent, to MFI interest rates on deposits from households with an agreed maturity of up to one year, loans to households for house purchase and loans to non-financial corporations (other than bank overdrafts).

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European Central Bank	Mr Francesco Drudi (Chairman) Mr Michel Stubbe (Chairman)
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ANNEX 2 MEAN EQUALITY TESTS

The t-value to test the equality between two means, say M_1 and M_2, is given by the following formula:

$$t = \frac{M_1 - M_2}{S_{DM}}$$

where S_{DM}, the standard error of the difference between means, is given by:

$$S_{DM} = \sqrt{\left[\frac{(N_1 - 1)(s_1^2) + (N_2 - 1)(s_2^2)}{N_1 + N_2 - 2}\right]\left[\frac{1}{N_1} + \frac{1}{N_2}\right]}$$

with N_1 and N_2 denoting the number of observations for each of the two series and s_1 and s_2 being the standard deviations given by:

$$s = \sqrt{\frac{\sum x^2}{N}}$$

The t-values are converted into p-values with N_1+N_2-2 degrees of freedom. These formulae can be used to compute the pair-wise Student t-tests of mean equality for both (i) the variation coefficients across two instrument categories, and (ii) for the interest rates across two countries within an instrument category.

ANNEX 3 CALCULATION OF SPREADS

Going beyond the level of MFI interest rates in a further respect, it is also important to assess the differences between various instrument categories in the spread between deposit and lending rates. The question has been raised as to whether there may be a certain relationship between high (low) loan rates and high (low) deposit rates for households and non-financial corporations. For this purpose, aggregate loan and deposit rates have been calculated and compared across countries, both in terms of levels of loan and deposit rates and as a difference between the two (spreads). It should be noted that since the retail banking business is only one of various banking activities, the conclusions drawn below only apply to this specific market segment and are not necessarily applicable to banking activity in general.

In particular, two issues are reviewed: i) a comparison of aggregate MFI loan rates with aggregate MFI deposit rates for new business and outstanding amounts, and ii) a comparison of aggregate loan and deposit MIR for new business with the corresponding financial market interest rates. The calculations are based on the averages over the reference period January 2003-May 2006.

1 SPREAD BETWEEN LENDING AND DEPOSIT MIR ON NEW BUSINESS

To compare the aggregated deposit and lending rates, volume-weighted average interest rates need to be calculated over the deposit and loan categories for new business and outstanding amounts.[31] While the calculation is straightforward for the outstanding amount categories, the calculation for composite MIR for new business needs to take account of the "hybrid" nature of the instrument categories "overnight deposits", "deposits redeemable at notice" and "bank overdrafts", for which the concept of new business is extended to the whole stock, with the result that new business is the same as the outstanding amounts. To avoid a combination of new business volumes with outstanding amounts in the calculation applied to the new business categories, the relative weight that these three specific instrument categories have with respect to the other outstanding amount categories is also applied to the new business categories.

The results of the calculations for the aggregated total deposit and lending rates are presented in the main text in Table 4 for new business and Table 5 for outstanding amounts.

2 AVERAGE DEPOSIT AND LENDING SPREADS FOR MIR ON NEW BUSINESS

Another way to analyse interest rate-setting behaviour across countries is to study the spreads of retail deposit and lending business with respect to financial market rates.[32] An important assumption for this type of analysis is that the banks have price-setting power in the retail market but act as price-takers in the interbank money market and long-term debt market. Consequently, these spreads can reveal differences in the interest rate-setting behaviour of MFIs across countries.

For the analysis, the following financial market instruments were chosen as having rates

31 Yearly average rate per instrument category: $\bar{i}_c = \frac{\sum_t (i_{ct} * v_{ct})}{\sum_t v_{ct}}$

Yearly average volume per instrument category: $\bar{v}_c = \frac{\sum_t v_{ct}}{n}$

Yearly average rate over all deposit or lending categories: $\bar{i}_Y = \sum_c \bar{i}_c * \frac{\bar{v}_c}{\sum_c \bar{v}_c} = \frac{\sum_c \sum_t (i_{ct} * v_{ct})}{\sum_c \sum_t v_{ct}}$

Yearly margin: $\bar{i}_{YM} = \bar{i}_{YL} - \bar{i}_{YD}$, with i: interest rate; v: volume; c: instrument category; t: month; n: number of months with business; Y: year; D: deposit categories; L: loan categories.

32 The calculation of spreads with respect to financial markets draws on ECB (2000), which also provides additional analytical background. However, the current analysis diverges in particular in the selected financial market rates. In the present study a simplification is performed, and it is assumed that the corresponding financial market rate is the same for all countries. It is also noted that, even though swap rates are used in this study and in the above publication, the precise rate selected for the comparison of each category may not necessarily coincide.

comparable with the new business MIR in the various instrument categories: the monthly averages of the one, three and twelve-month euro swap rate and the two, three, five, seven and ten-year euro swap rate. The selection of the financial market instruments was determined by the maturity or fixation period interval of the MIR categories, i.e. financial market rates were chosen that corresponded closely to the criteria, and, where there were several options, taking into account the correlation between MIR and market rates. An overview of the selection for each instrument is provided in the table below.

After calculating monthly spreads for each new business instrument category (e.g. the differential between the MFI new business rate and the corresponding swap rates in the case of loans), an average over the reference period January 2003-May 2006 was calculated for each category, weighted by the respective MFI new business volumes for each euro area country. To obtain the yearly spread for lending and deposit business for each country, the weighting method described above for the various new business instrument categories was applied.

The results of the calculations for the aggregated total deposit and lending spreads are presented in the main text in Table 6.

Corresponding financial market rates and correlation coefficients

(January 2003-May 2006)

New business categories			No	Swap rates	Correlation coefficient[1)]
Deposits					
Households	Overnight		NB1	overnight	0.90
	With an agreed maturity of	up to 12 months	NB2	one-month	0.99
		over one and up to two years	NB3	12-month	0.79
		over two years	NB4	three-year	0.32
	Redeemable at notice of	up to three months	NB5	overnight	0.75
		over three months	NB6	one-month	0.41
Non-financial corporations	Overnight		NB7	overnight	0.95
	With an agreed maturity of	up to 12 months	NB8	one-month	1.00
		over one and up to two years	NB9	12-month	0.75
		over two years	NB10	three-year	0.36
Repos			NB11	one-month	0.99
Loans					
Households	Bank overdrafts		NB12	overnight	0.58
	Loans for consumption with	a floating rate and up to 12 months' initial rate fixation	NB13	three-month	0.24
		over one and up to five years' initial rate fixation	NB14	five-year	0.10
		over five years' initial rate fixation	NB15	seven-year	0.33
	Loans for house purchase with	a floating rate and up to 12 months' initial rate fixation	NB16	three-month	0.72
		over one and up to five years' initial rate fixation	NB17	five-year	0.56
		over five and up to ten years' initial rate fixation	NB18	seven-year	0.75
		over ten years' initial rate fixation	NB19	ten-year	0.86
	Loans for other purposes with	a floating rate and up to 12 months' initial rate fixation	NB20	three-month	0.76
		over one and up to five years' initial rate fixation	NB21	five-year	0.54
		over five years' initial rate fixation	NB22	seven-year	0.74
Non-financial corporations	Bank overdrafts		NB23	overnight	0.57
	Other loans of up to €1 million with	a floating rate and up to 12 months' initial rate fixation	NB24	three-month	0.73
		over one and up to five years' initial rate fixation	NB25	five-year	0.65
		over five years' initial rate fixation	NB26	seven-year	0.65
	Other loans of over €1 million with	a floating rate and up to 12 months' initial rate fixation	NB27	three-month	0.92
		over one and up to five years' initial rate fixation	NB28	12-month	0.72
		over five years' initial rate fixation	NB29	seven-year	0.76

1) Correlation coefficient: $\rho_{c,fm} = \frac{\frac{1}{t}\sum_t (i_{c,t} - \mu_c)(i_{fm,t} - \mu_{fm})}{\sigma_c * \sigma_{fm}}$, where μt is the simple average per instrument category: $\mu = \frac{1}{n}\sum_t i_t$ and σ_t is the simple standard deviation per instrument category: $\sigma = \sqrt{\frac{n\sum_t i_t^2 - (\sum_t i_t)^2}{n(n-1)}}$ with i: interest rate; c: MIR instrument category; fm: financial market category; t: month; n: number of months with business.

ANNEX 4 REFERENCES TO DESCRIPTIONS OF NATIONAL MFI INTEREST RATES BY NCBs

Country	Reference
Belgium	Baugnet and Hradisky (2004)
Germany	Deutsche Bundesbank (2004a, 2004b)
Spain	Banco de España (2003), Maza and Sanchis (2004)
Ireland	McNeill (2003)
Italy	Battipaglia and Bolognesi (2003), Banca d'Italia (2003, 2005), Affinito and Farabullini (2006)
Netherlands	De Nederlandsche Bank (2003, 2004)
Austria	Klein, Schubert and Swoboda (2003), Swoboda (2004)
Portugal	Banco de Portugal (2003)
Finland	Suomen Pankki (2003)

ANNEX 5 SUPPLEMENTARY STATISTICAL TABLES

MFI interest rates on new business

(average between January 2003 and May 2006)

(a) Loans to households for other purposes

	Period of initial rate fixation								
	Floating rate and up to one year			Over one year and up to five years			Over five years		
	weight (across)	weight (within)	levels	weight (across)	weight (within)	levels	weight (across)	weight (within)	levels
Euro area	20,284	74.9	4.10	3,161	11.7	4.89	3,629	13.4	4.84
Belgium	2.4	76.9	3.94	2.7	13.6	4.56	1.6	9.5	4.92
Germany	43.3	66.7	3.84	56.4	13.5	4.92	71.8	19.8	4.89
Greece	0.2	99.3	6.69	0.0	0.7	8.48	-	-	-
Spain	18.7	85.0	4.33	15.1	10.7	4.83	5.3	4.3	5.42
France	2.7	40.2	4.48	11.7	26.9	5.05	12.5	32.9	4.09
Ireland	1.3	81.5	4.80	1.3	13.0	5.16	0.5	5.5	4.44
Italy	13.0	86.4	4.69	7.9	8.2	4.95	4.6	5.5	4.98
Luxembourg	7.6	97.7	3.62	0.9	1.8	3.53	0.2	0.5	4.19
Netherlands	5.4	87.5	3.23	2.4	6.1	4.17	2.2	6.5	4.37
Austria	1.5	92.2	4.07	0.4	3.8	4.26	0.4	4.0	4.51
Portugal	2.2	91.5	6.98	0.5	3.4	7.76	0.7	5.1	9.84
Finland	1.7	92.7	3.66	0.7	5.7	4.19	0.2	1.6	4.17

(b) Deposits from non-financial corporations

	Overnight deposits			Deposits with an agreed maturity of								
				up to one year			over one and up to two years			over two years		
	weight (across)	weight (within)	levels	weight (across)	weight (within)	levels	weight (across)	weight (within)	levels	weight (across)	weight (within)	levels
Euro area	622,826	67	0.97	170,525	26.8	2.13	608	0.1	2.39	2,182	6.5	3.43
Belgium	4.2	60	0.99	19.4	39.1	2.14	1.2	0.0	2.90	0.3	0.4	2.98
Germany	22.2	57	1.23	22.9	31.0	2.10	38.1	0.2	2.59	60.6	11.4	3.89
Greece	1.4	74	0.61	2.3	23.9	2.28	0.3	0.0	2.68	0.7	2.3	0.59
Spain	13.5	71	0.73	6.3	22.4	2.12	30.2	0.4	2.11	18.7	6.3	2.50
France	17.7	72	0.32	5.4	19.4	2.15	7.7	0.1	2.48	5.2	8.3	2.81
Ireland	2.6	51	0.38	7.7	44.6	2.00	3.4	0.1	2.39	0.9	4.8	2.53
Italy	18.1	94	1.08	1.5	4.8	2.12	5.1	0.1	2.04	1.7	0.7	2.24
Luxembourg	1.1	21	1.69	13.4	73.1	2.18	3.1	0.1	2.09	5.1	6.0	2.71
Netherlands	12.4	71	1.63	11.9	24.4	2.21	3.4	0.0	2.48	2.0	4.2	3.15
Austria	3.0	55	1.34	1.9	37.2	2.12	3.8	0.3	2.32	3.7	7.5	3.05
Portugal	2.1	47	0.50	4.4	47.9	2.19	4.4	0.2	2.41	0.2	4.6	2.20
Finland	1.7	78	0.84	2.9	20.5	2.09	0.6	0.0	2.27	0.2	1.9	2.50

Sources: NCBs, ECB and ECB calculations.
Note: The column "weight (across)" shows the country weights in terms of new business volumes, except for in the case of the euro area, for which it shows the average new business volume in EUR millions. The column "levels" refers to the average level of MFI interest rates expressed in percentages per annum. The shaded cells highlight those countries, ranked in descending order by the column "weight (within)", that together account for at least the first 90% of the euro area aggregate. The column "weight (within)" gives the weights for the given MFI interest rate category within a country (see note to Table 2 in the main text).

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