ECONOMIC PERSPECTIVES

A research publication by DZ BANK AG

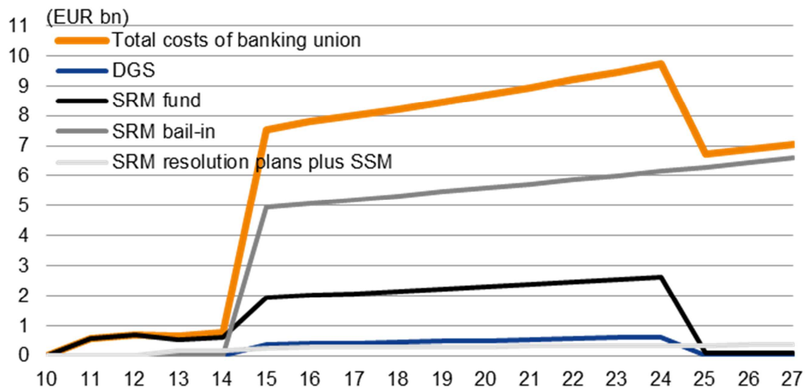
Banking union as cost driver

European banking union will inflict heavy additional costs on banks in Germany

In spring 2012 the EU Commission President, José Manuel Barroso, called for the creation of a European banking union. Since then much of the legal framework for the union has been fleshed out by the politicians. Although final agreement has yet to be reached on a single resolution mechanism, it is already clear that banking union will entail heavy costs for financial institutions. From 2015 onwards the banks will be hit by a tidal wave of costs that will impair their earnings for years to come. At its height this will mean an additional cost burden of around EUR 10 billion for banks in Germany.

This study looks at the costs of banking union for financial institutions in Germany and considers the ways in which the banks and the markets may react to it.

COSTS OF BANKING UNION FOR BANKS IN GERMANY



DGS = deposit guarantee scheme; SRM = single resolution mechanism; SSM = single supervisory mechanism
Source: Federal Agency for Financial Market Stabilisation (FSMA), own calculations

MACROECONOMICS

Special
27.2.2014

CONTENTS

1. INTRODUCTION

Michael Stappel

In order to enhance the stability of the banking sector, in late May 2012 the EU Commission President, José Manuel Barroso, called for the creation of a European banking union consisting of three core components:

- a single European deposit guarantee system,
- a single resolution mechanism (SRM) for banks, and
- a single EU supervisory mechanism.

Work on hammering out the banking union regime is well advanced

Since then a great deal of progress has been made in the consultation and co-ordination process for the new regulatory regime. In mid-September 2013, for instance, the European Parliament approved the establishment of a European bank supervisory system presided over by the ECB. Preparations are well under way and, if all goes to plan, the ECB will begin directly supervising around 130 financial institutions this autumn. In late 2013 the EU member states and the European Parliament also reached agreement on a reform of the deposit guarantee system. Admittedly, there is to be no collective European DGS, nor any interlinking of national schemes. However, it was agreed to introduce uniform standards designed to ensure that all such schemes are suitably endowed. Deposit guarantee schemes will also be obliged to reimburse depositors quickly in the event of a bank failure.

Further talks needed on the new SRM

By contrast, the EU Council and the European Parliament have not yet reached accord on the SRM. There is general consensus on certain aspects, such as the obligation to draw up recovery and resolution plans, the definition of a hierarchy of responsibility (‘liability cascade’) for failing banks, and the target level of funding for a bank resolution fund. On other issues, however, further talks are needed. These issues include the length of time available to the bank resolution fund to build up its resources to the target level, and whether the resolution fund should initially remain divided up into national “compartments”. Another question requiring further clarification is: which institution will decide whether a bank is to be resolved or not?

2. COST ANALYSIS

Bail-in rules will make funding more expensive

Although some work remains to be done, the general contours of the European banking union are settled enough to facilitate a rough estimate of the attendant costs. The direct cost drivers associated with banking union include the mandatory bank contributions to the new resolution fund and deposit guarantee schemes, and the supervisory fees levied by the ECB. Bureaucratic expenses will arise from the resolution plan that every bank will have to draw up and regularly update, and from meeting the requirements of the new supervisory authority. In addition, the banks can expect to see their funding costs rise as a result of the bail-in provisions introduced as part of the new SRM.

BANKING UNION AS COST DRIVER

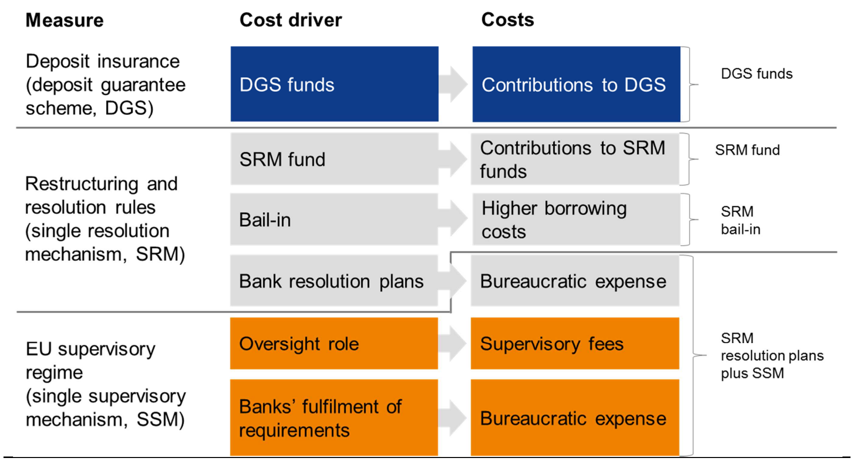


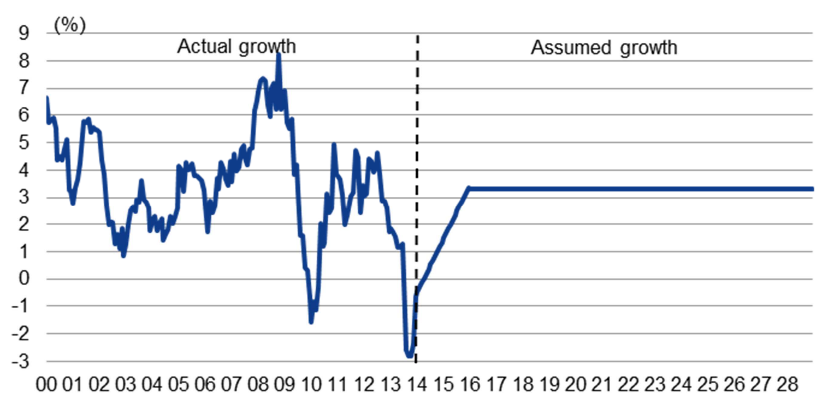
Chart: DZ BANK Research and Economics

2.1 Deposit guarantee

Target EU deposit guarantee funding level likely to exceed EUR 23 billion by end-2024.

Under the terms of the agreement reached last December between the European Parliament and the EU member states, over the next ten years national deposit guarantee funds are to be boosted to a target level of at least 0.8% of the deposits that are covered. Banks will have to pay at least 70% of the amounts owed to such funds in real cash on time, deferring no more than 30% of their deposit guarantee obligations. Assuming that the current negative deposit growth will correct itself and move back in line with the 3.3% long-term average growth trend by the end of 2015, the initial result in Germany will be an increase in required deposit guarantee scheme funding to around EUR 17.2 billion. If we assume that this same average growth trend is sustained throughout the ten-year capital accumulation phase, by end-2024 the deposit scheme funding requirement will reach EUR 23.1 billion.

ASSUMED* DEPOSIT GROWTH IN GERMANY



*+3.3% growth from end-2015 (equal to average growth from 2000 to 2013)
Source: Deutsche Bundesbank, own calculations

Extra costs caused by deposit guarantee reform arising mainly during the initial accumulation period

In order to reach 70% of the required funding level by the end of 2024, each year the German banks will have to pay in 0.034% of the total deposits covered by the scheme. During its ten-year accumulation period the banks' additional annual contributions will rise from EUR 0.7 billion to EUR 1.0 billion. The monies thus set aside will be deemed to earn 3.1% interest – a rate which may seem rather high in today's low interest rate environment, but which corresponds to the average long-term yield on German bearer bonds. If the present low interest rate phase extends well into the deposit guarantee scheme's accumulation period, the rate of interest actually paid on the scheme's assets will probably be lower. In this eventuality the banks will have to make even larger annual contributions if they are to attain the target level by the end of 2024. And all this assumes that, during this time, there are no bank failures giving rise to depositor compensation claims and thereby setting back the process of accumulating the deposit guarantee scheme capital so that, once again, even larger bank contributions are required. Once the scheme has reached its target capitalisation, the annual contributions required of the banks will shrink dramatically. From that point onwards, any further rises in the target level caused by growth in deposit volumes will necessitate only slight increases in bank contributions. In other words, the extra costs to the banks resulting from the reform of the deposit guarantee system will arise principally during the initial accumulation period of the prescribed deposit guarantee reserve.

ACCUMULATION OF THE DEPOSIT GUARANTEE FUND IN GERMANY

	Covered deposits	**Required guarantee scheme funding**	**Annual contributions by the banks**	**Funding level achieved**
	EUR billion	EUR billion	EUR billion	EUR billion
2015	2,155	17.2	0.73	5.7
2016	2,226	17.8	0.75	6.7
2017	2,299	18.4	0.78	7.6
2018	2,375	19.0	0.80	8.7
2019	2,454	19.6	0.83	9.8
2020	2,535	20.3	0.86	10.9
2021	2,618	20.9	0.89	12.1
2022	2,705	21.6	0.92	13.4
2023	2,794	22.4	0.95	14.7
2024	2,886	23.1	0.98	16.2
2025	2,981	23.8	0.05	16.7
2026	3,080	24.6	0.05	17.3
2027	3,181	25.4	0.05	18.4

Provisional agreement reached between European Parliament and EU member states in December 2013: deposit guarantee scheme target funding to reach 0.8% of covered deposits, to be accumulated by means of annual contributions over a ten-year period consisting of 70% cash (plus 30% payment obligations). Assumptions: annual growth of covered deposit volume = 3.3% (average for 2000 to 2013); scheme funds to earn interest at 3.1% from 2015 (average yield on German bearer bonds for 2003 to 2013) and administrative expense of 0.1% p.a.; own calculations

2.2 Single resolution mechanism

Sharp rise in costs due to the new single resolution mechanism

A much greater increase in costs will come from the single resolution mechanism. Whereas there was already a deposit guarantee system before the banking and financial crisis broke out, the idea of a resolution fund financed by contributions from the banks is brand new. In Germany a restructuring fund alimented by the bank levy was introduced in 2011. Having generated annual tax takes ranging from just over EUR 500 million to nearly EUR 700 million since then, the bank levy has so far failed to perform as it had been expected to when introduced (EUR 1.2 billion per annum).

GERMAN BANK LEVY

	2011	2012	2013
Amount raised by the German bank levy (EUR m)	590	692	520

Source: Federal Agency for Financial Market Stabilisation (FSMA)

SRM contributions much higher than bank levy

Future SRM contributions will be considerably greater than the previous bank levy

Once Germany's restructuring fund has been converted into the European resolution fund, however, contributions can be expected to be much higher. The Council proposal of December 2013 envisages endowing the resolution fund to the tune of 1.0% of the volume of covered deposits, to be accumulated over a ten-year period by means of contributions from the banks. Based on the same assumptions made above for the deposit guarantee scheme, the initial figure for the German share of the capitalisation target is EUR 21.5 billion, growing to EUR 28.9 billion by the end of the accumulation period. In order to accrue this level of capital, banks in Germany will have to make annual contributions equivalent to 0.09% of their covered deposits. Over the ten years until the resolution fund is fully endowed, total annual contributions by the banks will climb from EUR 2.0 billion to EUR 2.6 billion. Provided that no capital is drained out of the pot by compensation claims, from 2025 onwards the contribution will then shrink to a bare minimum.

ACCUMULATION OF THE RESOLUTION FUND – GERMAN SHARE OF 10-YEAR BUILD-UP

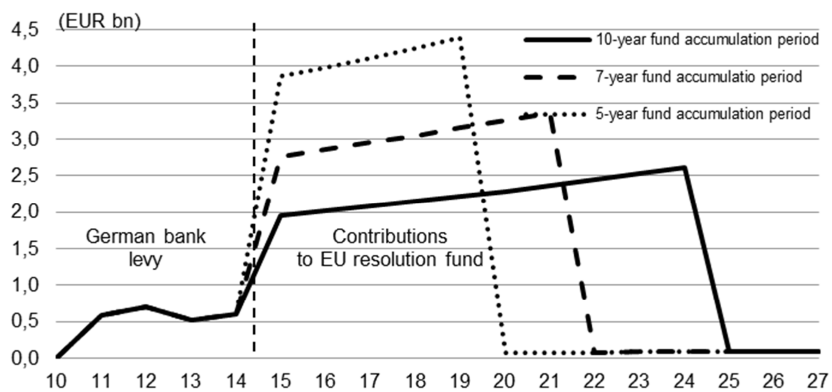
	Covered deposits in Germany	Required SRM funding, German share	Annual contribution, German banks	Funding level achieved, German share
	EUR billion	EUR billion	EUR billion	EUR billion
2015	2,155	21.5	1.95	4.3
2016	2,226	22.3	2.01	6.5
2017	2,299	23.0	2.08	8.8
2018	2,375	23.8	2.15	11.2
2019	2,454	24.5	2.22	13.7
2020	2,535	25.3	2.29	16.4
2021	2,618	26.2	2.37	19.3
2022	2,705	27.0	2.44	22.3
2023	2,794	27.9	2.52	25.5
2024	2,886	28.9	2.61	28.9
2025	2,981	29.8	0.09	29.8
2026	3,080	30.8	0.09	30.8
2027	3,181	31.8	0.09	31.8

Proposal by the Council of the European Union, December 2013: target resolution fund capitalisation to be 1.0% of covered deposits, accumulated by means of annual contributions over a period of ten years to 2024. Assumptions: annual growth of covered deposit volume = 3.3% (average for 2000 to 2013); contributed funds to earn interest at 3.1% from 2016 (average yield on German bearer bonds for 2003 to 2013) and administrative expense of 0.1% p.a.; own calculations

Shortening the resolution fund's accumulation period would mean much larger annual contributions

The issues requiring further negotiation between the European Parliament and the member states include a number of points which will help to determine the size of the banks' contributions to the future EU resolution fund. Foremost among these is the length of time allowed for the resolution fund to attain its envisaged capacity. For instance, the European Parliament is considering proposals to force the pace at which the resolution fund is built up. To do this would, however, require larger annual contributions. By our calculations, if the accumulation period were shortened to seven years, the annual contribution would have to be increased to 0.128% of covered deposits; shortening it to five years would require an annual contribution equivalent to 0.179% of covered deposits. Adopting this course of action would increase total annual contributions by banks in Germany to EUR 3.4 billion or EUR 4.4 billion respectively by the end of the shortened accumulation period.

GERMAN CONTRIBUTION TO THE EU RESOLUTION FUND



Source: Federal Agency for Financial Market Stabilisation (FSMA) (bank levy), own calculations

Bail-in increases funding costs

Bail-in increases investment risks for shareholders, creditors and large-scale savers

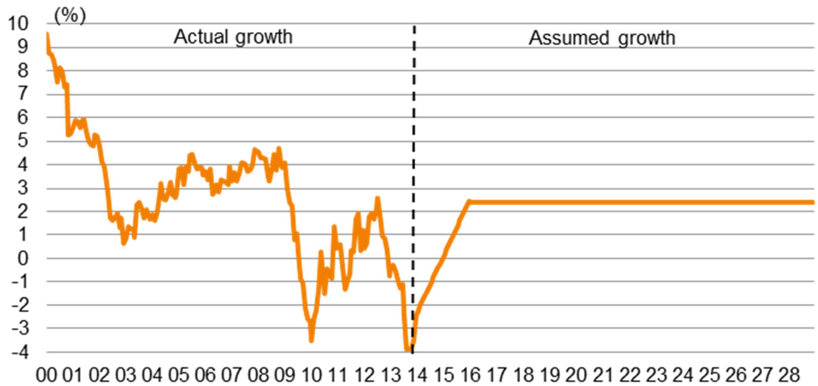
Under the new rescue and resolution rules, a bail-in mechanism will kick in before there is any recourse to the resolution fund. This mechanism involves activating an SRM bank rescue plan under which first shareholders, then creditors and finally savers with deposit balances in excess of EUR 100,000 are bailed in. Monies from the resolution fund may only be tapped for use in bank failures once at least 8% of the bank's debts are covered by investor and saver liability. For shareholders, creditors (holders of bank-issued securities) and large-scale savers, the bail-in mechanism increases the exposure to investment risks. To compensate for this heightened risk, banks will be obliged to pay investors a risk premium if they are to carry on raising the capital they require after the new bail-in rules have been introduced. The European Commission estimates the resultant increase in overall funding costs for banks in Europe at between 4.7 and 15 basis points.

European Commission estimate: bank funding costs in Europe to go up by between 4.7 to 15.0 basis points

Assuming 2.4% growth, volume of funding capital set to reach EUR 6.7 trillion by the end of 2015

In Germany the total volume of bank funding capital was around EUR 4.9 trillion at the end of 2013 (not including interbank deposits), a decrease from the total for 2012. Assuming that the growth rate for bank funding capital will move back in line with its long-term average rate of +2.4% by the end of 2015 and sustain that growth rate thereafter, total funding capital will reach EUR 6.7 trillion by the end of 2027.

ASSUMED GROWTH OF BANK FUNDING CAPITAL* IN GERMANY



*Customer deposits, bank bonds, capital; not including interbank deposits; 2.4% growth from the end of 2015 onwards (in line with average growth for 2000 to 2013)
Source: Deutsche Bundesbank, own calculations

Rise in funding costs is the main cost driver of banking union

If we take a moderate assumption of just under 10 basis points for the increase in funding costs for banks in Germany, this equates to some EUR 5.0 billion of additional interest expenditure for them in 2015. Based on the assumed rates of business growth, over the period to 2027 the extra costs will rise to EUR 6.6 billion. Even on this rather cautious estimate, the higher cost of borrowing is therefore clearly the largest single cost driver of banking union.

Expensive bank resolution plans

It has already been agreed that, in future, European banks will be obliged to draw up recovery and resolution plans. The UK Financial Services Authority conducted a survey on the costs incurred by banks in producing these plans. Depending on the size of the institution concerned, the British survey respondents reported recurring costs of between £8,000 and £7 million per institution, not including the one-off costs of compiling the plans in the first instance. Assuming a similar level of costs for the production of recovery and resolution plans by banks in Germany, the country's banking sector as a whole will have an additional annual cost burden in excess of EUR 100 million.

2.3 European SSM

ECB planning to take on around 1,000 extra employees to cope with its new duties

Banks in Germany account for up to one-quarter of total ECB supervisory fee income

Costs of a similar order of magnitude will be incurred by banks in Germany in the form of the annual supervisory fees levied by the ECB in exchange for performing the role of overseeing the single supervisory mechanism. The ECB is planning to take on some 1,000 or so additional staff to enable it to discharge its new duties. The fee model designed to pass on the relevant personnel and material costs is currently being devised by the ECB and will subsequently be submitted for consideration. Although no details are yet known, we can expect to see banks in Germany pick up as much as one-quarter of the overall costs of ECB supervision, since this is roughly the share (24.7% as at 31.12.2013) of the aggregated total assets of the banks in the eurozone for which they account. To this must be added the internal costs incurred by the banks in meeting the requirements of the new supervisory regime. These will arise, for example, through the need for regular reporting and stress tests and the attendant retooling of IT systems and training of personnel.

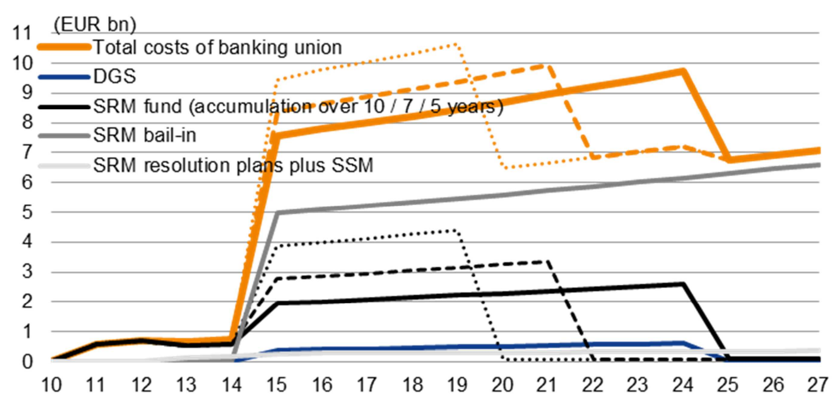
2.4 Total costs

Expressed in euros, the combined annual bill for bank resolution plans, new supervisory fees and the additional internal administrative burden (SRM resolution plans plus SSM) is likely to come in somewhere at the lower end of the nine-figure range. Although these costs will account for a substantial portion of the future increase in administrative costs, they will be relatively insignificant compared with the banks' contributions to the deposit guarantee scheme and the SRM fund and with the higher costs of borrowing caused by the SRM bail-in.

Banks braced for a tidal wave of costs from 2015 onwards

Adding together all the costs caused by banking union reveals that a tidal wave of costs is due to hit the banks in Germany from 2015 onwards. This will subside only after the end of the accumulation periods for the deposit guarantee scheme and the resolution fund – although even this is contingent on there being no major bank collapses requiring large-scale draw-downs of DGS or SRM monies.

COSTS OF BANKING UNION FOR BANKS IN GERMANY

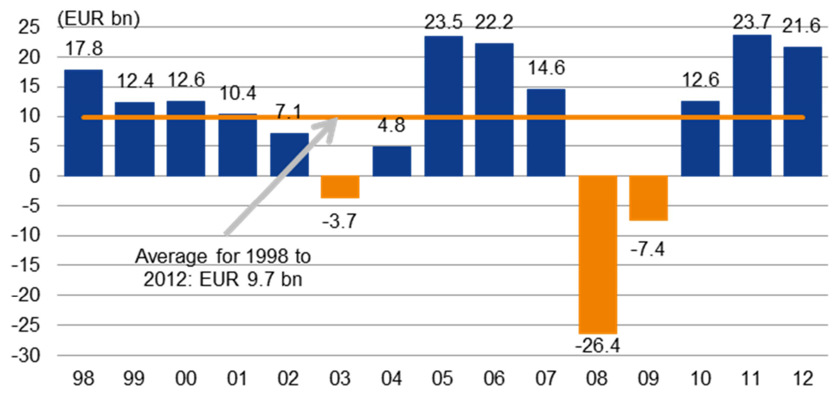


DGS = deposit guarantee schemes; SRM = single resolution mechanism; SSM = single supervisory mechanism
Source: Federal Agency for Financial Market Stabilisation (FSMA), own calculations

At their height, the additional costs imposed by banking union could reach EUR 9.7–10.6 billion

In general we can expect to see bank profits considerably impaired for many years to come. Depending on the exact length of the accumulation period assumed for the build-up of the resolution fund, at their height the additional annual costs imposed by banking union will be somewhere between EUR 9.7 billion and EUR 10.6 billion – in other words, equal to or even more than the long-term average profits of the banks in Germany.

ANNUAL PROFITS* OF BANKS IN GERMANY



*after tax Source: Deutsche Bundesbank, own calculations

3. CONSEQUENCES FOR BANKS AND MARKETS

Banks are also braced for Basel III and the proposed financial transaction tax

Cost pressures in the banking sector are mounting – and not only because of banking union. Financial institutions are also being burdened by other bank regulatory measures, such as Basel III or the proposed introduction of a financial transaction tax. But the main cost drivers are the tighter capital adequacy requirements and the stricter rules on liquidity. To counter these mounting cost pressures banks might conceivably resort to a number of strategies, singly or in combination:

- evasion strategy;
- offset strategy;
- pass-on strategy.

Evasion strategy

(Certain lines of business scaled down, focus shifted to new lines of business)

Competition for customer deposits likely to intensify still further

Since the main cost drivers of banking union – deposit guarantee scheme, resolution fund, bail-in – affect the banks' overall funding activities, an evasion strategy is scarcely possible. That said, the different funding options open to banks will be affected to varying degrees. The largest risk premiums are likely to be applied to bank debt securities that are subject to bail-in, and banks can be expected to explore other avenues for at least some of their refinancing needs. Above all, competition for customer deposits is likely to become even more intense.

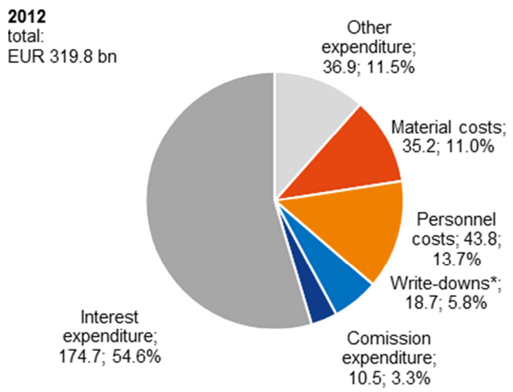
Offset strategy

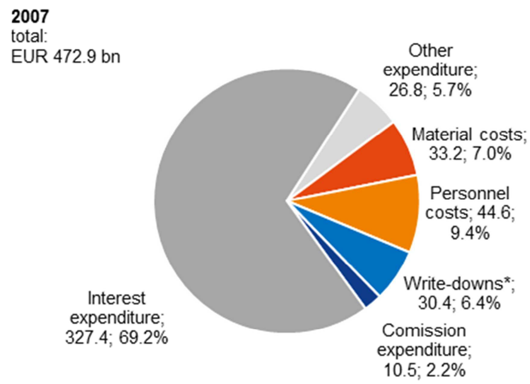
(Cutting costs in other areas / looking for other sources of income)

Banks are most likely to cut their costs by shedding branches

Experience shows that banks find it difficult to open up new sources of income in what is a largely saturated market. Banks will therefore attempt, wherever possible, to further reduce their administrative costs in a bid to offset the higher costs induced by banking regulation. The biggest net cost reductions are likely to come from the ongoing transformation of distribution structures and the associated shrinkage of branch networks.

EXPENDITURE OF BANKS IN GERMANY (EUR bn)





*write-downs on claims and receivables, securities, equity participations
Source: Deutsche Bundesbank, own calculations

Only limited scope for offsetting regulatory costs via personnel and material costs

Compared with interest expenditure, administrative costs are secondary. In 2012 the total figure for personnel and material costs was around EUR 79 billion. Despite today's extremely low interest rates, administrative costs still account for less than one-quarter of the banks' total expenditure. In more normal interest rate environments, administrative costs make up an even smaller proportion (2007: 16.4%). This means there is only limited scope for offsetting regulatory cost increases by reducing administrative outlays. Even so, we will probably see the changes in distribution structures accelerate and more and more bank mergers.

BANK ADMINISTRATIVE COSTS AND BRANCH NETWORK SHRINKAGE IN GERMANY

	No. of banks	Bank offices*	Employees	Administrative costs (EUR bn)
2007	2,012	39,988	662,650	77.8
2008	1,970	39,629	657,850	75.1
2009	1,935	38,862	646,650	78.7
2010	1,920	38,383	642,050	76.8
2011	1,899	37,926	637,700	76.7
2012	1,869	36,440	633,650	79.0

*Head offices plus branch offices
Source: Deutsche Bundesbank

Pass-on strategy

(Higher costs passed on to borrowers, depositors and other customers)

Banking union puts pressure on banking sector profits

For the reasons mentioned above, European banks will probably be unable to do much (if anything) to avoid or offset the increase in costs ushered in by the new regulatory regime. Which means their profits will come under pressure – at a time when financial institutions are more reliant than ever on their earning power, obliged as they are to stock up their loan loss provisions and boost their capital resources in order to satisfy the requirements laid down in Basel III[1]. However, banks can manage to do all of this only if their profits are large enough to bolster their reserves while at the same time attracting new investors.

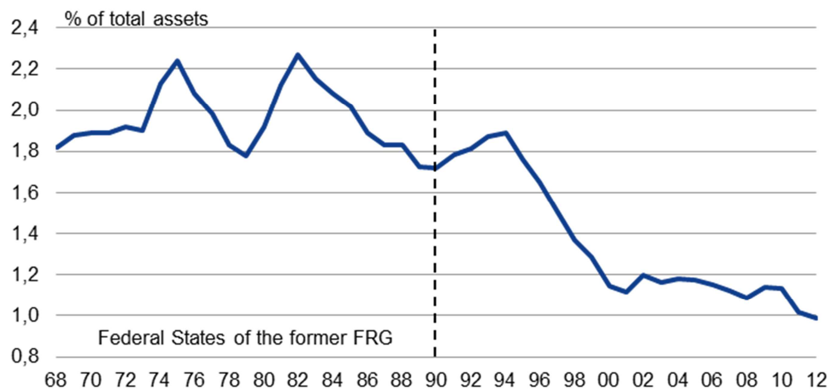
[1]On this subject, cf. our study "Bankenregulierung: Basel III und die Kreditversorgung der Wirtschaft" (available in German only) in our Economic Perspectives Special of 4 March 2013

The ability to pass on costs will depend on earning power and the competitive environment

Thus, notwithstanding all their efforts to make savings, the banks will find themselves obliged to pass on the higher costs they face to their own customers. Their success in doing this will depend first and foremost on the competitive environment. Where there is little competition, terms and conditions can be tightened and prices hiked without fear of losing too many customers to one's rivals. By contrast, in a fiercely contested market a rise in costs squeezes the profit margin. However, if the sector's profit situation is so tight that it is no longer possible to generate a suitable return on equity while setting aside adequate provisions, most providers will factor the cost increase into their pricing considerations.

The banking sector is a highly competitive industry. This is shown by the decline in the net interest income registered by banks from around 2% of total assets in the mid-1990s to barely 1% in more recent years.

NET INTEREST INCOME* OF BANKS IN GERMANY



*Interest income minus interest expenditure as % of average total assets (until 1998: business volume)
Source: Deutsche Bundesbank

Fierce competition in deposit and credit business

The narrower margins are in lendings and deposit business. Credit business with major corporate clients, for example, generates especially meagre margins. Already fierce, competition to attract savers has further intensified now that the banking and financial crisis has highlighted the importance of a bank's own customer deposits for its refinancing and liquidity needs.

Banks can do little to avoid the costs of banking union, and savings in other areas will offset only part of those costs

In spite of the fierce competition, therefore, a substantial portion of the higher costs caused by the new regulatory regime is likely to be passed on to the customer. As already shown, the costs of banking union alone are equal to or greater than the long-term average annual profits of the banks. To these must be added considerable costs in connection with Basel III and other regulatory measures. Since the banks can do little to avoid the costs of banking union or to offset them by making savings in other areas, they will factor the remaining cost pressures into their product pricing considerations. This is the only way to ensure that banks retain enough earning power for the urgently needed build-up of capital resources under Basel III.

Costs likely to be passed on in deposit and credit business

The costs of banking union are most likely to be passed on in deposit and credit business. It seems safe to assume that banks will factor their higher deposit guarantee contributions into their savings account products. That said, factoring in such costs completely would lower the average interest paid on covered deposits over the ten-year DGS accumulation period by only three to four basis points. And loan interest rates would need to rise by only a limited margin to cover the residual costs of banking union.

4. CONCLUSION

Cost pressures triggered by banking union in Germany will reach EUR 10–11 billion at their height

European banking union will trigger a tidal wave of additional costs that the banks will have to meet from 2015 onwards. Depending on the final decision on the length of the SRM fund accumulation period, at its height this wave will involve extra costs in Germany of somewhere between EUR 9.7 billion and EUR 10.6 billion per year – equivalent to or in excess of the sector's long-term average annual profits! There is very little scope for avoiding these costs, and only a small portion of them can be offset by savings made in other areas (chiefly by shedding branch offices as part of the transformation of distribution structures).

Any room for manoeuvre must be exploited to keep overall cost increases in check and to pass them on equitably

Bank profits are being weighed down not only by the extra costs associated with banking union, but also by other regulatory issues such as Basel III and the planned financial transaction tax. This profit squeeze and the need to build up capital resources to meet the Basel III requirements mean that banks will be forced to factor any costs that cannot be offset by their expenditure-cutting efforts into their product pricing calculations. Seen in isolation, banking union should have only limited impact in terms of passing on costs by modifying the terms and conditions of deposit and lending business. However, banks must avoid overburdening their credit operations by factoring in all the other regulatory costs they face. This means they will have to exploit every last bit of any remaining room for manoeuvre in product design and management in order to keep overall cost increases in check and to pass them on equitably. This will apply to the bank supervisory authority, for example: the costs of direct ECB supervision should largely be borne by the institutions supervised by the ECB. At the same time, the increase in capacity at the ECB should lead to a decrease in capacity at the national supervisory authorities.

The shorter the accumulation period, the higher the annual contribution until target funding levels are reached

Risk factor: the costs of banking union will peak at a time when banks are required to build up their capital resources while simultaneously financing steady economic growth

There is also some room for manoeuvre with regard to the resolution fund. Here, an "equitable" distribution of costs would involve recognising thoroughly tried-and-tested institutional guarantee systems for what they are and exempting banks that belong to those systems from the requirement to contribute to the SRM fund, since they will never have recourse to SRM compensation payments on their behalf. And talk of shortening the resolution fund's accumulation period is another red herring: to do so would drive the annual contributions for the next few years even higher than they are. Halving the accumulation period would double the annual contributions. A better idea would be to lengthen the accumulation period, because this would mean spreading the costs over a longer timescale. Otherwise there is a serious risk that the costs of banking union will peak at a time when banks are required to build up their own capital resources while simultaneously lending to finance steady growth in the real economy. If this build-up of additional costs over the next few years poses real problems for banks in Germany, how much more challenging might it prove for the countries of southern Europe with their beleaguered banking sectors and fragile economies.

IMPRINT

Published by: DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Platz der Republik, 60265 Frankfurt am Main
Board of Directors: Wolfgang Kirsch (Chief Executive Officer), Lars Hille, Wolfgang Köhler, Albrecht Merz, Dr. Cornelius Riese (Deputy), Thomas Ullrich, Frank Westhoff, Stefan Zeidler
Responsible: Stefan Bielmeier, Head of Research and Volkswirtschaft
Verantwortlich: Dr. Michael Holstein, Leiter Volkswirtschaft, Tel.: 069 7447 2282, E-Mail: michael.holstein@dzbank.de

RESPONSIBLE SUPERVISORY AUTHORITY

Bundesanstalt für Finanzdienstleistungsaufsicht, Marie-Curie-Straße 24-28, 60439 Frankfurt am Main, Germany

RESPONSIBLE COMPANY

DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Platz der Republik, 60265 Frankfurt am Main, Germany

RESEARCH ANALYST COMPENSATION

Research analysts are not compensated for specific investment banking transactions. The author(s) of this report receive(s) compensation that is based on (among other factors) the overall profitability of DZ BANK, which includes earnings from the firm's investment banking and other businesses. DZ BANK generally prohibits its analysts, persons reporting to analysts, and members of their households from maintaining a financial interest in the securities or futures of any companies that the analysts cover.

CERTIFICATION

Each DZ BANK research analyst who is involved in the preparation of this research report certifies that:

a) the views expressed in the research report accurately reflect such research analyst´s personal views about the subject securities and issuers; and
b) that no part of his or her compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report.

THE NUMERICAL ANNOTATIONS IN THE TEXT REFER TO THE NUMBERING OF THE NOTES BELOW (1-9)

DZ BANK and/or its respective affiliate(s)

1) beneficially owns 1% or more of any class of common equity securities of the subject company,
2) has managed or co-managed a public offering of securities of the subject company within the past 12 months,
3) beneficially makes a market in, or undertakes the designated sponsor responsibilities of, the subject company. As such, the market maker may have an inventory position, either "long" or "short", in the relevant security and may be on the opposite side of orders executed on the relevant exchange,
4) beneficially has received during the past 12 months compensation for investment banking services from the company, its parent, or its wholly owned or majority-owned subsidiary,
5) holds a trading position, as that term is defined by German law, in shares of the company whose securities are subject of the research,
6) entered into an agreement concerning the preparation of financial analysis with issuers of financial instruments, if these or financial instruments issued by them are the subject of the financial analysis,
7) beneficially expects to receive or intends to seek compensation for investment banking services in the next 3 months from the company, its parent, or its wholly owned or majority-owned subsidiary.
8) The author, or an individual who assisted in the preparation, of the report or a member of their respective households serves as an officer, director or advisory board member of the subject company.
9) The author, or an individual who assisted in the preparation, of the report or a member of their respective households has a direct ownership position in securities issued by the subject company or derivatives thereof.

Further information and compulsory data regarding financial analyses can be found under www.dzbank.de.

DISCLAIMER

1.a) This report has been prepared by DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, Germany („DZ BANK") and has been approved by DZ BANK for distribution in Germany and other such locations as noted below. The authoring analysts are employed by DZ BANK or on behalf of DZ BANK.
b) Our recommendations do not constitute any investment advice and consequently, they may not be fully (or not at all) suitable to individual investors, depending on their investment objectives, targeted holding period or the individual financial situation. The recommendations and opinions contained in this report constitute the best judgment of DZ BANK at the date and time or preparation of this document and are subject to change without notice as a result of future events or results. This report is for distribution in all countries only in accordance with the applicable law and rules and persons into whose possession this report comes should inform themselves about and observe such law and rules. This report constitutes an independent appraisal of the relevant issuer or security by DZ BANK; all evaluations, opinions or explanations contained herein are those of the author of the report and do not necessarily correspond with those of the issuer or third parties.
c) This report is being furnished to you solely for your information and may not be reproduced, redistributed or published in whole or in part, to any other person.
d) DZ BANK has obtained the information on which this report is based from sources believed to be reliable, but has not verified all of such information. Consequently, DZ BANK, DZ Financial Markets LLC and/or their respective affiliates do not make or provide any representations or warranties regarding the preciseness, completeness or accuracy of the information or the opinions contained in this report. Further, DZ BANK assumes no liability for damages incurred as a result of distributing and/or using this report and/or which are connected to the utilization of this document. Any decision to effect an investment in securities should be founded on independent investment analysis and processes as well as other reports including, but not limited to, information memoranda, sales prospectuses or offering circulars rather than on the basis of this report. Whilst DZ BANK may provide hyperlinks to web sites of entities mentioned in this report, the inclusion of a link does not imply that DZ BANK endorses, recommends or approves any material on the linked page or accessible from it. DZ BANK accepts no responsibility whatsoever for any such material, nor for any consequences of its use.
e) This report is not to be construed as and does not constitute a public offer or an invitation to any person to buy or sell any security or other financial instrument. The information in this report does not constitute investment advice. In preparing this report, DZ BANK has not and does not act in the capacity of investment adviser to, or asset manager for, any person.
f) DZ BANK may have investment banking and other business relationships with the company or companies that are the subject of this report. DZ BANK's research analysts also provide important input into the investment banking and other business selection processes. Investors should assume that DZ BANK, DZ Financial Markets LLC and/or their respective affiliates are seeking or will seek investment banking or other business from the company or companies that are the subject of this report and that the research analysts who were involved in preparing this material may participate in the solicitation of such business to the extent permitted by applicable law. DZ BANK, DZ Financial Markets LLC and/or one of its affiliates as well as their employees may have positions in the securities or effect transactions in the securities.
g) Research analysts are not compensated for specific investment banking transactions. The author(s) of this report receive(s) compensation that is based on (among other factors) the overall profitability of DZ BANK, which includes earnings

from the firm's investment banking and other businesses. DZ BANK generally prohibits its analysts, persons reporting to analysts, and members of their households from maintaining a financial interest in the securities or futures of any companies that the analysts cover.

2. Specific information for the United States of America and Canada: This research report is being provided by DZ BANK to U.S. investors and, in case of equity research, in partnership with Auerbach Grayson and Company, Inc., a U.S. registered broker-dealer ("Auerbach"). It is either being distributed to U.S. investors by Auerbach in accordance with the rules of the Financial Industry Regulatory Authority or directly by DZ BANK in accordance with Rule 15a-6 under the Securities and Exchange Act of 1934. If distributed directly by DZ BANK, the report is only being distributed to, and is only intended to be read by, major institutional investors as that term is defined by Rule 15a-6. Any order for the purchase or sale of equity-securities covered by this report must be placed with Auerbach. You may reach Auerbach at 25 West 45th Street , New York, NY 10036, 212-557-4444. This research has been prepared outside the United States by analysts who may not have been subject to rules regarding the preparation of reports and the independence of research analysts like those in effect in the United States. The opinions, estimates and projections contained in this report are those of DZ BANK as of the date of this report and are subject to change without notice. The information contained in this report has been compiled by DZ BANK from sources believed to be reliable but no representation or warranty, express or implied, is made by DZ BANK or its affiliated companies or any other person as to the report's accuracy, completeness or correctness. Within the scope of application of the federal laws of the United States or the laws of the individual US states, the above exclusion of representations and warranties takes precedence over the exclusion of liability clause in Section 1, paragraph 4 above. The securities/ADRs discussed in this report are either listed on a US exchange, traded in the US over-the-counter, or traded only on a foreign exchange. Those securities that are not registered in the US may not be offered or sold, directly or indirectly, within the US or to US persons (within the meaning of Regulation S and under the Securities Act of 1933 (the "Securities Act") except pursuant to an exemption under the Securities Act. This report does not constitute an offer with respect to the purchase or sale of any security within the meaning of Section 5 of the Securities Act and neither this report nor anything contained herein shall form the basis of, or be relied upon in connection with, any contract or commitment whatsoever.

In Canada it may only be distributed to persons who are resident in Canada to whom trades of the securities described herein may be made exempt from the prospectus requirements of applicable provincial or territorial securities laws.

3.a) **Specific information for the United Kingdom:** DZ BANK is regulated by the German Financial Services Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*) for the conduct of business. However, to the extent that this report is being distributed in the UK, this report may be distributed only to and is directed only at Eligible Counterparties and Professional Clients within the meaning of the FSA Rules (such persons being referred to as "relevant persons"). This report must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons.

b) DZ BANK, DZ Financial Markets LLC and/or their respective affiliates expressly exclude all conditions, warranties, representations and terms (whether implied by statute, common law or otherwise) of any kind whether regarding the preciseness, completeness or accuracy of the information or the opinions contained in this report, or otherwise. Further, DZ BANK assumes no liability for direct or indirect damages or loss of any kind, whether arising in or for breach of contract, tort (including negligence), breach of statutory duty, indemnity or otherwise, incurred as a result of distributing and/or using this report. Nothing in this Disclaimer is intended to exclude or limit or shall have the effect of, excluding or limiting, any liability for (i) fraud, (ii) death or personal injury caused by negligence, (iii) breach of terms regarding title implied by s.12 Sale of Goods Act 1979 and/or s.2 Supply of Goods and Services Act 1982, or (iv) any liability to the extent the same may not be excluded or limited as a matter of law. Within the scope of application of the laws of England, this Section 3 b) takes precedence over the exclusion of liability provisions in Section 1d) above.

4. **Specific information for Italy:** This report must only be distributed in Italy to persons as defined in Article 2(1) (e) of Directive 2003/71/EC ("Qualified Investors"). No other persons other than Qualified Investors should read, act, or rely on any information contained in this report. Any activity to which this report relates will only be engaged in with Qualified Investors.

5. **Specific information for Singapore:** This report is distributed by DZ PRIVATBANK Singapore Ltd. (PBSG) and DZ BANK Singapore Branch. Recipients of this report are to contact PBSG (Telephone No.: (65)-6513 8000) and DZ BANK Singapore Branch (Telephone No.: (65)-6438-0060) in Singapore in respect of any matters arising from, or in connection with, this report. If the recipient of this research report is not an accredited investor, expert investor or institutional investor (as defined under Section 4A of The Securities and Futures Act), PBSG and DZ BANK Singapore Branch accept legal responsibility for the contents of the report without any disclaimer limiting or otherwise curtailing such legal responsibility.

The views and opinions in this report are our own as of the date hereof and are subject to change. This report is strictly confidential and is being supplied to you strictly on the basis that it will remain confidential. No part of this material may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of PBSG and DZ BANK Singapore Branch.

6**. DZ BANK Research – Recommendation Definitions (Ratings System):**
(Except as otherwise noted, expected performance within the 12 month period from the date of the rating):

Buy:	greater than 5% increase in share price
Hold:	price changes between +5% and -5%
Sell:	more than 5% decrease in share price

7.a) **Note**: - Any fair values / price targets shown for companies discussed in this report may not be achieved due to multiple risk factors, including, without limitation, market volatility, sector volatility, corporate actions, the state of the economy, the failure to achieve earnings and/or revenue projections, the unavailability of complete and accurate information and/or a subsequent occurrence that affects the underlying assumptions made by DZ BANK or by other sources relied upon in the report.

b) DZ BANK may also have published other research about the company during the period covered that did not contain a fair value / price target but that discussed valuation matters. The fair values / price targets shown should be considered in the context of all prior published research as well as developments relating to the company, its industry and financial markets.

c) DZ BANK is not obliged to up-date the research report. Investors must keep themselves informed about on the current course of business and any changes in the current course of business of the issuer.

d) By using this report or by relying on it in any manner whatsoever you agree to be bound by the foregoing limitations. Additional information on the contents of this report is available on request.

e) If any term of this Disclaimer is found to be illegal, invalid or unenforceable under any applicable law, such term shall, insofar as it is severable from the remaining terms, be deemed omitted from this Disclaimer and shall in no way affect the legality, validity or enforceability of the remaining terms.

DZ BANK RESEARCH – ALL COVERED COMPANIES

Buy 71.7%, Hold 4.5%, Sell 23.8%

PERCENTAGE OF COMPANIES WITHIN EACH CATEGORY FOR WHICH DZ BANK, DZ FINANCIAL MARKETS LCC AND/OR RESPECTIVE AFFILIATES HAVE PROVIDED INVESTMENT BANKING SERVICES WITHIN THE PREVIOUS 12 MONTHS

Buy 19.5%, Hold 53.8%, Sell 7.4%

AUTHORS

Michael Stappel	**Senior Economist**	+49 - (0)69 - 74 47 - 26 21	michael.stappel@dzbank.de