



# FUNCTIONS OF BANK CAPITAL

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Generally speaking, bank capital consists of own sources of asset financing. That bring us straight to the essence of capital, if we think of it as of something allowing a bank to support its liabilities by its assets. Hence, the volume of capital is an equivalent of the net assets worth, representing the margin by which assets outweigh liabilities. Assets equalling capital is what would be left for bank owners to split up after all depositors and creditors have been satisfied. On a bank's books, own funds (shareholders' equity, own capital) break down into the following items:

- share capital;
- capital funds;
- profit-generated funds (with the legal reserve fund as a typical example);
- profits/losses from previous periods (retained earnings; unsettled losses are reported as a negative item);
- current year's results (profit; loss reported as a negative item);
- loan loss reserves (in most cases cannot be recognised as a full-fledged capital component, the issue discussed below).

Capital is supposed to protect a bank from all sorts of uninsured and unsecured risks apt to turn into losses. This is where we get to the two principal functions of capital – to absorb losses and to build and maintain confidence in a bank.

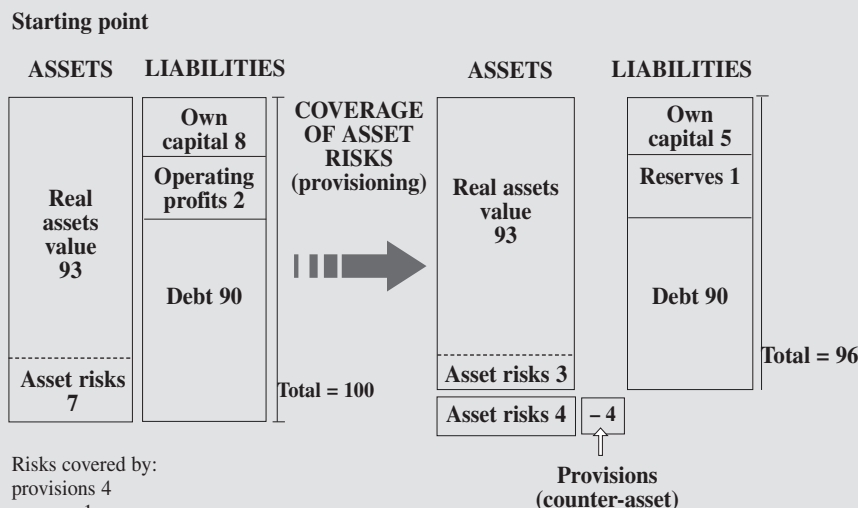
## The loss-absorbing function

Capital is needed to allow a bank to cover any losses with its own funds. A bank can keep its liabilities fully covered by assets as long as its aggregate losses do not deplete its capital. Any losses sustained reduce a bank's capital, set off against its equity items (share capital, capital funds, profit-generated funds, retained earnings), depending on how its general assembly decides.

Operating losses (a business result which, as far as income and expenses are concerned, does not include the generation and disposal of provisions and reserves) is not an all too common phenomenon in banks. Banks usually

take good care to set their interest margins and other spreads between the income derived from and the cost of borrowed funds to cover their ordinary expenses. That is why operating losses are unlikely to wear off capital on a long-term basis. This can be said especially of banks with a long and sound track record who, owing to their past efficiency, have managed to generate a sufficient amount of own funds to easily cope with any operating losses. In a new bank without much success history, however, operating losses may end up driving capital below the minimum level set by law.

Banks run a considerably greater risk of losses resulting from borrower defaults, rendering some of their assets partly or entirely irrecoverable. The figure below depicts the process of how these risks are covered. Risks are perceived as real frozen financial flows, in contrast to the classic definition of potential bank exposure. It also shows how to derive real capital from the shareholders' equity reported in the balance sheet.



Risks covered by:  
provisions 4  
reserves 1  
unsecured 2

Operating profit = operating profit before provisions and reserve allocations

Real capital = reported shareholders' equity less reserves – uncovered loss = 5 – 2 = 3

For better clarity, operating profits and reserves are shown as separate items in the figure. The bank has assessed its risky assets at 7 units (it is good to think in the billions). In other words, that is the amount of assets it expects may not perform. To address the risk, it sets up provisions and reserves. In practice, provisions are made for



classified assets and specific reserves are put aside for standard assets with caution. In addition to that, banks form general reserves for a cluster of loans where it is not possible to assess the risk associated with each specific loan, but the bank can assign risks to certain loan categories.

The expenses accounting for provisions of 4 units and reserves of 1 unit have consumed the entire operating profit of 2 units and led to a negative business result. As a result, the bank suffered a total loss of 3 units, scaling down its own capital to 5 units. The total of assets/liabilities has dropped to 96 units after risky assets covered by provisions were taken away from the balance sheet. To illustrate the counter-active effect of provisions, we can take an example of a 1 billion loan assigned to the non-standard grade with a 20% risk charge. Although on its account, the loan will still be recorded at its original gross amount, in the balance sheet it will only be reported at the reduced net amount of 800 million (less the 200 million provision). That means the provisioned asset risks disappear from the balance sheet. If the bank is right in estimating the risk of the loan and makes provisions for it accordingly, the balance sheet value of the loan will correspond to its real value, as the bank will only be able to recover the 800 million of loan principal.

Risks covered by reserves are still included in the bottom line due to the fact that reserves appear on the liabilities side of the balance sheet. However, reserves cover assets with a fictional value, i.e. the bank won't have any financial income from this part of assets. Assuming that capital is a measure of the bank's ability to meet its liabilities with its realisable assets, reserves must be excluded.

The figure presents a situation where a bank falls short of covering all of its identified risks, which leads to an unsecured loss. In this case, that loss amounts to 2 units, with 5 units worth of provisions and reserves standing up against 7 units of risky assets. After risk deduction, the real asset value comes in at 93 units, as opposed to 90 units worth of liabilities. As a result, the bank's capital, measured in terms of net asset worth, works out to 3 units. We would arrive at the same result by taking the unsecured loss off the own capital, exclusive reserves, reported in the balance sheet. This more realistic measure of capital tells us how high a loss the bank can take and still have sufficient real assets to meet all its liabilities.

The value of real capital as calculated above may be increased by the bank's surplus reserves, if any. That is what happens when existing reserves outstrip the risks they are supposed to cover. This is mostly the case with surpluses in banks' general reserves, which can occur for several reasons. In Slovakia, overkill reserves may be due to the law on reserves and provisions in income tax base calculation, which recognises a certain amount of general reserves as deductible expenses. Banks can take advantage of this tax-cutting option regardless of whether there are any real risks that need to be secured by such reserves.

As regards specific reserves and provisions, which are assigned to specific assets, reflections on their redundancy are largely theoretical. As long as a bank does a good job estimating the risks associated with certain assets and sets aside a just adequate provision or specific reserve, an over-provisioning tendency is not an issue. Speaking of that, we may want to point at a particular situation at Slovakia's restructured banks which, following a series of transfers of bad loans and risks to special consolidation institutions, were left with seemingly excessive provisions and reserves.

If redundancy is not limited to general reserves only, then, in deriving real capital from the balance sheet figures, we need to add the excess of all existing provisions and reserves over actual risks. For the provisioning expenses have led, accounting-wise, to losses which are higher than the real frozen financial flows from assets. Under these circumstances, there is no unsecured loss, so it would be wrong to think of its deduction.

The volume of a bank's real capital is further inflated by latent reserves which occur when the real value of certain assets surpasses their book value. This can be the result of applicable accounting rules, e.g. if purchased securities are valued at their purchasing price while their fair market value is higher. In another case, a bank may hold already depreciated fixed assets which can still be sold at a certain price. Such property will no longer be featured in the balance sheet, even though it still has some real value. Latent reserves add to the bank's ability to cover its liabilities by assets, and as such need to be counted into capital.

In our search for the real amount of capital a bank can fall back upon to absorb losses, it is necessary to take into account all of the factors mentioned above. The general path to real capital is this: take the own capital shown in the balance sheet, exclusive of reserves, add any latent reserves, subtract any unsecured loss, and add any excess reserves. The real capital formula would look like this:

**real capital = share capital + capital funds + profit-generated funds + retained earnings (– unsettled loss) from previous periods + profit (– loss) of the current year + latent reserves + (– unsecured loss or + excess reserves)**

In the examples given above, we have only considered a bank's risks related to balance sheet assets. Needless to say, we also need to account for its exposure in off-balance sheet operations as one of the factors determining the overall need for provisions and reserves.

### **The confidence function**

Depositors and bank creditors have to be convinced that their bank deposits and assets are safe. Thanks to its loss-absorbing capability, bank capital indicates a bank's ability to cover its liabilities with assets, thus building and sus-



taining its credibility. If capital falls below the law-required level and the bank fails to do something about the situation, there is a good reason to revoke its license.

Adequate capital power, apart from simply indicating that a bank has enough assets to back its liabilities, also brings out the fact that deposits and other liabilities are balanced by assets which either yield a financial flow in the ordinary course of banking business (loans, debt securities) or can be sold should the need arise (securities in general). Here, it is a crucial requirement that a bank's capital cover its fixed investments (fixed assets, participating interests in subsidiaries) used in its business operation, which usually produce no financial flow. The situation is illustrated in the figure below.

ASSETS	LIABILITIES
Fixed assets	Capital
(performing, readily sellable)	Debt

If the cash flow produced by assets just falls short of meeting deposit calls or other due liabilities, a bank with adequate capital backing and credibility will not find it hard to get its missing liquidity on the interbank market. Other banks will not feel uncomfortable lending to it, as they will know it has the

capacity to settle its liabilities with its assets. Such a bank could endure a major deposit flight and refinance it with interbank market borrowings. It would be able to meet its liabilities to other banks when due even if it failed to win back its runaway depositors. In banks with an adequate capital base, however, there is no reason to fear a mass-scale depositor exodus. The reason is that the problems which might trigger a bank raid in the first place are not making headlines. It is more likely to expect an alternating pattern of liquidity lows and highs, with the latter occurring at times of asset financial inflow outstripping outflow, where the bank is likely to lend its excess liquidity.

However, banks must not count on the interbank market to solve all their problems. In their own interest and as required by bank regulators, they need to match their assets and liability maturities, something that allows them to sail through stressful market situations. For, due to central bank interventions (e.g. in case of monetary crises) or other factors, market rates can soar dramatically or the market can collapse, with trading stopped altogether.

A bank known for having capital problems is bound to see its interbank market confidence go sooner or later. Depending on how grave its predicament is, other banks are likely to cut back or shut down their credit lines. A bank locked out of the interbank market has no way of refinancing its liquidity needs, which puts it under some heavy pressure. In an attempt to replenish its liquidity it will approach depositors, trying to attract them with higher interest rates. In such a situation, however, deposits don't make up just for a temporary lack of liquidity, as its

liquidity problems turn chronic. A low capital level gives away missing financial flows caused by losses stemming from bad loans or inefficient bank operation. The bank is forced to use deposits as a permanent substitute. In the process, their interest costs put an additional strain on its business results and erode its capital.

High deposit rates often attract customers to such a degree that new deposits, apart from covering deposit calls, end up inflating the bank's total assets/liabilities. The bank appears to be doing just fine until the news of its problems, which earlier prompted the better informed banking sector to drive it out of the interbank market, becomes common knowledge. And the kind of depositor onslaught this will set off is just too massive for the bank to handle without outside help.

As the restructuring of Slovak banks revealed, they somehow managed to carry on their business even with a negative real capital. In this case it was their position and national significance that nourished the interbank market confidence. The general expectation was that if any of them fell into illiquidity the central bank would most likely come to its rescue. And in one case, that is indeed what happened. The situation, though, was insupportable in the long run. The need to fuel liquidity needs with customer deposits and loans from other banks has run up interest expenses, which failed to be compensated by interest income as asset flows were paralysed. Such additional losses have further impaired the already non-existent capital. As there was no point in perpetuating this dead-end strategy, there was no option but to resort to a costly restructuring project.

While discussing the market confidence function, we need to mention the possible inclusion of subordinated debt in the capital base. Reported as part of a bank's debt in its balance sheet, subordinated debt ranks after all other creditors' claims in case of bankruptcy, composition or winding-up. In case a bank faces the problems discussed above, subordinated creditors are the last in line for satisfaction. Losses cannot be set off against subordinated debt, as it does not qualify as own funds. So, if we underscore the loss-absorbing function of capital, it cannot be included in capital. Subordinate debt says nothing about the bank's ability to meet its creditors claims in general.

Nevertheless, subordinated debt can have a confidence-boosting effect on depositors and bank creditors, as it gives them protection from losses. Any losses uncovered by own funds primarily impact subordinated creditors. Thus, by including subordinated debt in capital, we can tell what losses a bank can take without any effect on regular creditors. Bank confidence can be further supported by the fact that subordinated creditors, despite being aware of their subordinated ranking, are not afraid of losing their money, which implies a positive view of the bank's situation.

Given its usually long maturities, subordinated debt has a financing quality to it as well, providing funds suited to



finance fixed assets. Due to the controversy about its recognition as a part of capital base, there are certain restrictions applied in its inclusion.

Bank capital has a financing and restrictive function as well. However, in light of the key importance of the functions discussed above, these functions are somewhat secondary.

### The financing function

As deposits are unfit for the purpose, it is up to capital to provide funds to finance fixed investments (fixed assets and interests in subsidiaries). This particular function is apparent when a bank starts up, when money raised from subscribing shareholders is used to buy buildings, land and equipment. It is desirable to have permanent capital coverage for fixed assets. That means any additional investments in fixed assets should coincide with a capital rise.

During a bank's life, it generates new capital from its profits. Profits not distributed to shareholders are allocated to other components of shareholders' equity, resulting in a permanent increase. Capital growth is a source of additional funds used to finance new assets. It can buy new fixed assets, loans or other transactions. It is good for a bank to place some of its capital in productive assets, as any income earned on self-financed assets is free from the cost of borrowed funds.

If a bank happens to need more new capital than it can produce itself, its options are either to issue new shares or take a subordinated debt, both an outside source of capital.

### The restrictive function

Capital is a widely used reference for limits on various types of assets and banking transactions. The objective is to prevent banks from taking too many chances. The capital adequacy ratio, as the main limit, measures capital against risk-weighted assets. Depending on their respective relative risk, the value of assets is multiplied by weights ranging from 0 to 20, 50 and 100%. We use the net book value here, reflecting any adjustments, reserves and provisions. As a result, the total of assets is adjusted for any devaluation caused by loan defaults, fixed asset depreciation and market price declines, as the amount of capital has already fallen due to expenses incurred in providing for identified risks. That exposes capital to potential risks, which can lead to future losses if a bank fails to recover its assets. The minimum required ratio of capital to risk-weighted assets is 8 percent. Under the applicable capital adequacy decree, capital is adjusted for uncovered losses and excess reserves, less specific deductible items. To a limited extent, subordinated debt is also included in capital. The decree also reflects the risks contained in off-balance sheet liabilities.

In the restrictive function context, it is the key importance of capital and the precise determination of its amount in capital adequacy calculations that make it a good base for limitations on credit exposure and unsecured foreign exchange positions in banks. The most important credit exposure limits restrict a bank's net credit exposure (adjusted for recognisable types of security) against a single customer or a group of related customers at 25% of the reporting bank's capital, or at 125% if against a bank based in Slovakia or an OECD country. This should ensure an appropriate loan portfolio diversification.

The decree on unsecured foreign exchange positions seeks to limit the risks caused by exchange rate fluctuations in transactions involving foreign currencies, capping unsecured foreign exchange positions (the absolute difference between foreign exchange assets and liabilities) in EUR at 15% of a bank's capital, or 10% if in any other currency. The total unsecured foreign exchange position (the sum of unsecured foreign exchange positions in individual currencies) must not exceed 25% of a bank's capital.

The decree dealing with liquidity rules incorporates the already discussed principle that assets, which are usually not paid in banking activities, need to be covered by capital. It requires that the ratio of the sum of fixed investments (fixed assets, interests in subsidiaries and other equity securities held over a long period) and illiquid assets (less readily marketable equity securities and non-performing assets) to a bank's own funds and reserves not exceed 1.

Owing to its importance, capital has become a central point in the world of banking. In leading world banks, its share in total assets/liabilities moves between 2.5 and 8 %. This seemingly low level is generally considered sufficient for a sound banking operation. Able to operate at the lower end of the range are large banks with a quality and well-diversified asset portfolio.

Capital adequacy deserves constant attention. Asset growth needs to respect the amount of capital. Eventually, any problems a bank may be facing will show on its capital. In commercial banking, capital is the king.

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