1. Organisation & Compliance

1.1. Asset Liability Management/Total Bank Management within a Bank's Business Model

Learning Outcome …

Bank's tasks and product lines

Core functions within a bank's business model

A model explanation about "how a modern bank is functioning"

The crucial impact of Transfer Prices on bank management

The process of Total Bank Management

The impact of Regulation on a bank's business model

A handbook on Asset Liability Management (ALM) and Total Bank Management (TBM) is expected to fulfil the following challenges:

- To give an overview on organization, tasks, processes, interfaces and regulation
- To offer Know How on ALM/TBM Instruments and techniques of application

To do so we will describe the relevant parts of bank's **business model** first. The business model defines the room of action for ALM and TBM.

Even with different business models (from Regional Banks to Private Banks up to Investment Banks and Online Banks) ALM/TBM should have similar organisation, tasks and processes and are subject to the same regulation. And the ALM/TBM will remain similar, even when markets, techniques and regulations are constantly changing.

Since the Financial Crises in 2008 business of banks are heavily discussed, especially Regulators have taken serious steps to reduce systemic and macroeconomic risk coming from the banking sector. In doing so the Regulators are severely limiting the capability of bank management and bank owners to define their business models. Examples for these limitations are the increase of capital requirements, liquidity regulation, restrictions in trading activities, remuneration (cap on bonuses) or the rulings on restructuring and bank resolution.

Core of any bank activity is the bundling up of deposits and to grant loans out of these funds. Thereby a bank fulfils a **Transformation Task**: different amounts, terms of funds and loans are bridged. This is the core function of a modern bank, otherwise it is not a bank but a broker. In doing so banks can enable credit financed

corporate and private investments as well as consumer expenditures through which an economy may grow.

Prior to the "Transformation Bank" bankers were frequently rich merchants who granted their own money in giving loans. You may think of the birth of banking in Medici's Florence or of the German Fugger family. This business model did not last. Bankers who offer their balance sheet for lending as core of their business model do not exist anymore. Alternatives to the "Transformation Bank" that came up recently are Crowd Financing or Peer to Peer lending. But they still have to show their sustainability.

In a "Transformation Bank" the funds for lending mostly do not primarily come from their owners but from savings accounts and bond holders. Modern Banking has its roots in the Savings Banks and Cooperative Banks sector. These "grassroot banks" collected excess money of a region to lend it to undertakings in need for money to invest. And they did so not only in their region but they also borrowed to similar institutions in other regions. This grassroot function in banking has its revival in today's microfinancing.

The most important skill of a bank is the **assessment of potential debtors** and the management of debtors in order to secure repayment of the principal and the payment of the agreed interest. We would call it core know how of a bank.

The Transformation Function creates Liabilities as well as Assets and, in between, interest income. Net Interest income traditionally is the anchor of bank revenues. Mismanagement in the loan business damages this revenue base and may put a bank's existence at stake.

Starting with transformation of funds to loans and the subsequent revenue base banks have included the following services in their business models:

Payment Services: Funds and Loans are attached to accounts where money is deposited, from where credits are paid out. Therefore transferring money from one account to another is closely related to the Transformation function. Payments will mostly always finish in one or another banking account. And it is of high importance to banks to know the transactions and accounts of their debtors in order to assess and manage well their ability to repay credits. Since Payment Services are more and more becoming a commodity (because of standardisation (like SEPA) or digitalisation (like block-chain technology)) the revenue aspect is getting weaker. More and more important is the information you can get out of payment systems data – banks have to fight (or to pay) important non-bank service providers.

FOREX Transactions: Whenever a foreign currency is involved a bank is needed to handle the transaction. In this field banks are wholesalers, they collect many smaller transactions, and keep the risk resulting out of the many little positions under control before hedging them in the market. In order to add value to this wholesale function banks with important customer volumes and transactions will set up a proprie-

tory trading and market making. Recent regulation has increased the capital and administration involved in trading – it will make it more difficult for small and medium sized banks to operate proprietory trading (see world 5.2.).

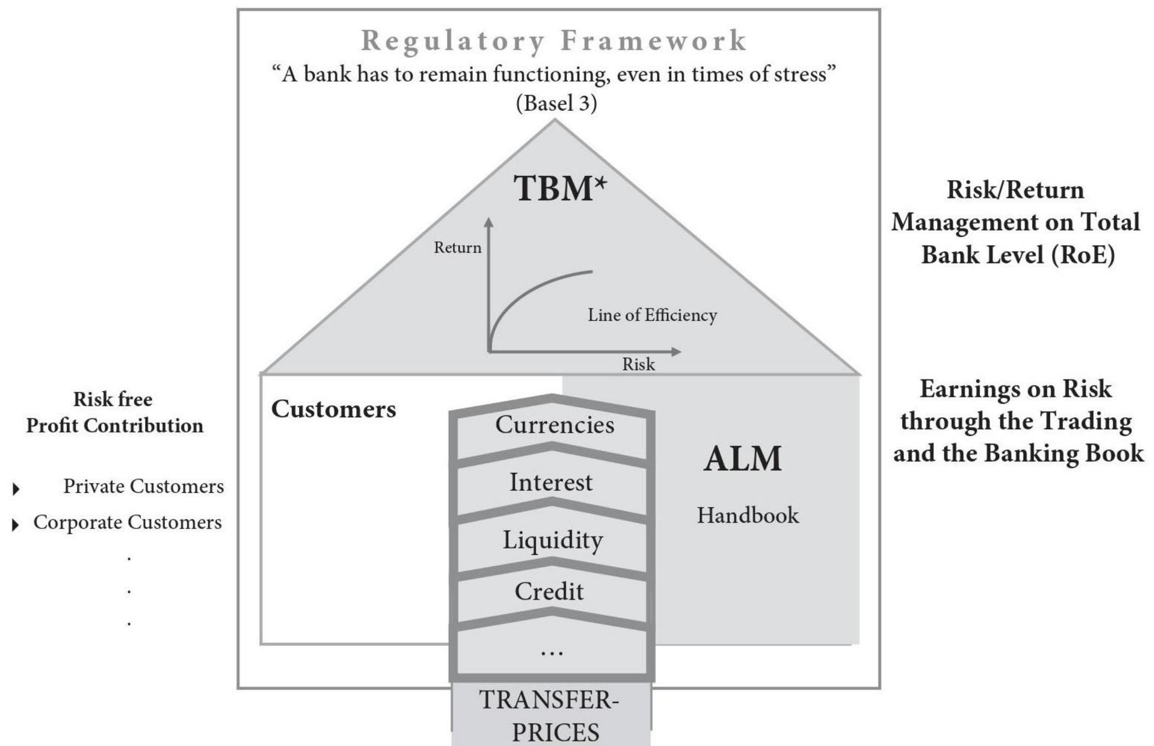
Buy and Sell Credits: Building on the loan assessment skills of a bank it may generate profits by buying from or selling fungible credits to the market (syndicated loans, credit substitutes, Corporate Bonds, Asset Backed Securities). This business creates interest income and valuation gains/losses.

Forwards and Options: with Credits and different kinds of funding a bank is confronted with a high amount of interest- and market risks. These risks may be hedged with Forward and Option Transactions (Derivatives). These instruments are not only used for a bank's ALM but also to corporates and investors for risk management or for structured assets. Since regulatory effort on risk monitoring, compliance and capital requirements has significantly increased this kind of products and services is in decline.

Investment Management Function: To structure risk, especially credit risk, in order to make it transparent and accessible for investors is an important part of banks business models, especially for international banks. From bond structuring and placement to the lead management for equity transactions to capital market advisory and the structuring of single credits into credit funds. Structuring know how, market access and placement power are the drivers for success in this function.

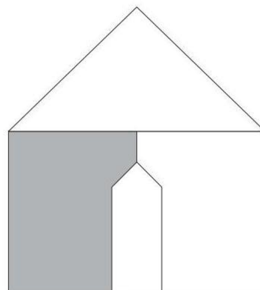
Which kind of a business model a bank is able to shape depends on its resources (Know How, IT Systems, Risk Management Capacities, Client base). Alternatively resources have to built up or acquired to follow a defined business model. In any case the ability of assessing the future capacity of a client to be successful (credit assessment, rating, research) will remain the core of bank management, independently how much services a bank is offering.

All tasks and services of a bank will make part of ALM/TBM. Every single deal creates liquidity and risk. These risk positions have to be bundeld, have to be made transparent, the risk has to be quantified and managed. In order to be able to reframe all the variety of products, transactions in order to manage the bank's risks we developed the following concept of explaining the functioning of a bank:



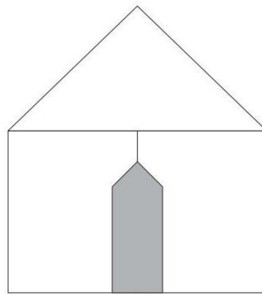
* Total Bank Management

The goal of any enterprise and of any bank is to sell products and services that contribute to the company's profitability goal. Given a bank the return from (risk free) customer business should outweigh income created from risk (in the banking and trading book).



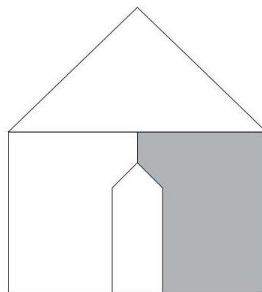
Base **income from customers** usually comes from interest income, the part of net interest income created by each single deal. In addition to interest income the following services contribute to the customer result:

- Income from Transactions Services
- Interest and Valuation result from fungible credit business
- Margins from FX and currency business
- Margins from Derivative Sales
- Income from capital market transactions
- Advisory fees, especially in the fund business



Transfer Prices are crucial in bank management. Transfer Prices express the cost/income from hedging a specific risk from a (customer) deal. They are "opportunity costs" which means that they express the alternative for customer risk in the financial markets, whether they are executed or not. They serve as "benchmark" at which risk is transferred to ALM/TBM. So they define the Risk Position resulting from each single risk inherent in a deal, they also serve as market price at which ALM/TBM enters into this position.

So ALM is as closely attached to Transfer Prices as are customer deals. ALM has the task to manage the risk resulting from customer and balance sheet business – Transfer Prices define the position and the price of the position. Risk on this position is measured by the Risk function of the bank, ALM limits risk within given limits and has the task to earn money on its position. Otherwise the capital attached to ALM risk will not pay off.



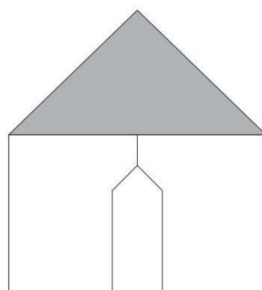
Income from the managing sector is composed of:

GAP Contribution of the ALM: Income resulting from the interest difference on Assets and Liabilities at Transfer Prices. Total GAP contribution will be reported and managed separately for interest-, liquidity cost- and credit spread risk.

Income from the GAP Contribution will either be calculated on an accrual or mark to market (MTM) basis. An important task of ALM/TBM is to manage revenue and its volatility in different views: economically (which is MTM plus accrual YtD), and a mixed view of accrual and MTM as it is required in (IFRS) accounting. (see chapter 1.5.1.)

The managing sector has exclusive access to the Financial Markets within the organisation of a bank. It is granted via the Trading Book, where purchases and sales of financial instruments are made on the bank's own account.

The financial crisis has led to the conclusion that revenue from ALM and Trading should be substantially lower than income from customer business. So recent regulation is imposing more capital on risk allocation with Financial Markets as well as more reporting and compliance requirements.



The "roof" of our model bank is where **Total Bank Management (TBM)** takes place. TBM defines the Risk Return which is expected from the business model and the strategy of the bank. For Risk Return Harry Markowitz' theory is still valid:[1] The theory states that there is no reason for holding unsystematic risks. The perfect portfolio consists of risk free assets and a perfectly diversified market portfolio. The higher the return expectations the higher the risk. If risk is close to zero, return will come down to the risk free rate. And as crises fighting measures demonstrate today, the risk free rate by itself may go close to zero. Risk Return is not a theoretical concept. It is defined by the business model and the attached risk appetite and return expectation. To be able to define a business model it requires requires resources like capital, know how, systems and customer potentials. Management will therefore build on existing resources and will build up future resources. A drastic example of mismatch in resources andthe business model was the Hypo Alpe Adria Bank, a bank expanding into south east Europe at high speed. The capability to assess and manage debtors was insufficient. Total Bank Management is translating the Bank Strategy and Risk Policy into Capital allocation and RiskReturn expectations/plans for each business line. This is a process is supervised by the regulator in form of the ICAAP (Internal Capital Adequacy and Assessment Process) and the mid-term impact of business plans on profits and capital.

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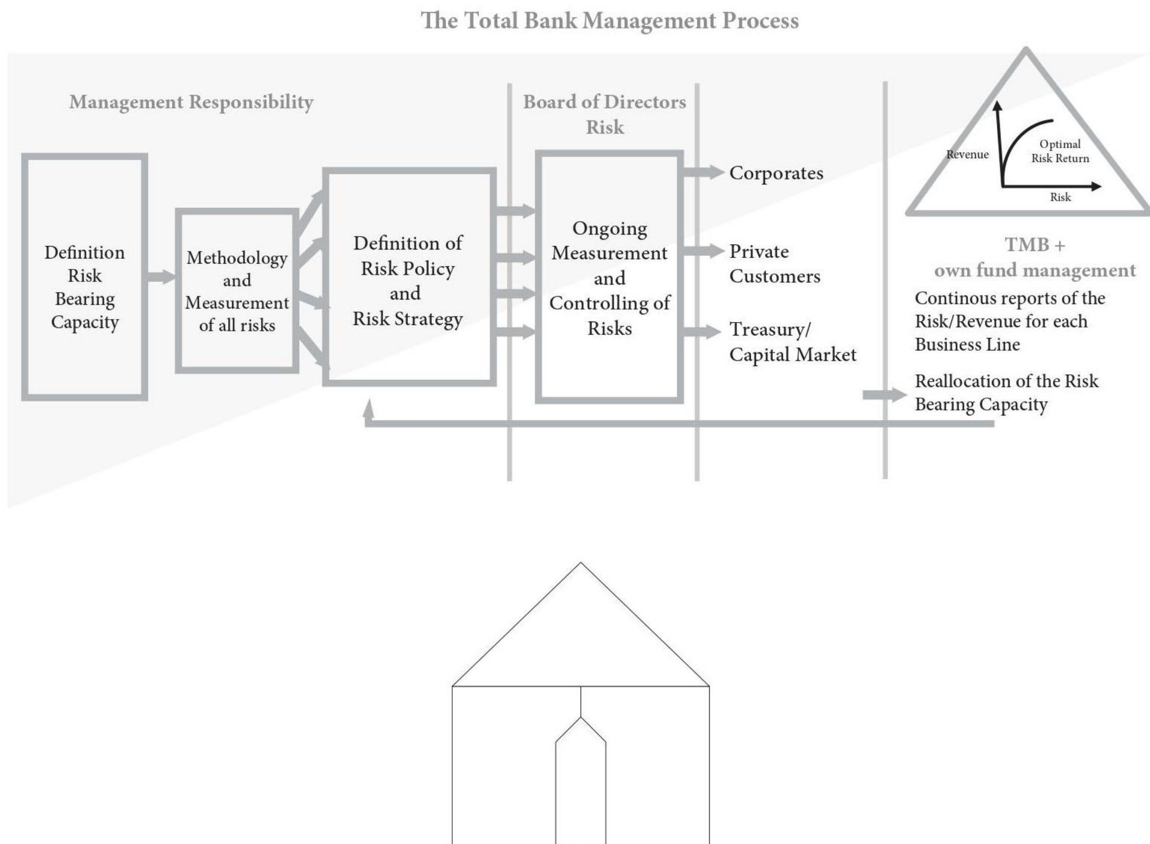
1 Cf. Harry M. Markowitz: Portfolio Selection, Journal of Finance, 7, 1952, ISSN 0022-1082, p. 77–91.



Regulatory Framework restricts the possibility of shareholders and bank management to define business models. Banking Regulation is directed towards the limitation of risk inherent in the finance sector. The Markowitz rule would say – the less risk a bank is able to accept the less transformation tasks it will be able to fulfil resulting in lower profit expectations. Or – the other way round: Less risk means less volatility in banks' results and fewer financial crises, but it also reduces the tasks that the banking sector can take on. Today's Banking Regulation is very conservative: Banks have to demonstrate that they are able to survive – even in periods of stress conditions.

In order to achieve this goal Banking Regulation limits the Transformation capability of banks (Liquidity Buffers through LCR; Less maturity transformation through NSFR; Guidelines to limit Interest Risk in the Banking Book, Limitations and more capital attribution for trading positions).

Today's Banking Regulation not only requires the formal fulfilment of ratios but also bank internal organisation and processes. This so called Pillar 2 regulation is supervised by the regulators (SREP; Supervisory Review and Evaluation Process). In addition comprehensive compliance requirements with substantial penalties that are personally directed at the bank managers assure that the regulations will be respected.

Therefore ALM and TBM are in eye of the comprehensive and ever increasing regulators Directives, Regulations, Guidelines and Technical Standards. **All action to manage a bank's banking book have to be based on compliance with organisational standards and risk management benchmarks including limits and follow up whenever limits are violated.** Therefore ALM and TBM have to anticipate regulatory actions in order to be able to adapt their organisation and their business model. To be in line and ready as soon as a new piece of Regulation is implemented it requires skilful and well informed people (also this is a compliance requirement) and a constant learning process.

Summary

Asset Liability Management (ALM) means managing the risks of the Banking Book in the Financial Markets.

Total Bank Management (TBM) means managing the business model according to goals stated by management and the supervisory board. It focuses on Equity allocation and on the management of Risk Return of the single business lines.

Banks business models have the following core competences: Debtors assessment and management skills and the management of net interest income as a corner stone of income.

In addition banks business models demonstrate more or less activity in Transaction Services, Buy/Sell of fungible Credit Risk, Spot, Forward and Options Transactions and capital market activities. All the cash and risk flows out of these activities will be bundeled in ALM.

The business model of a bank is determined by its resources. Resources already existing or resources to be developed. Important bank resources are Customer potentials, staff know how, competitive cost position, market know how especially with the credit business and Risk Management Systems.

The Regulator limits the ability of bank management and bank owners to implement business models. The regulator intends to limit risk in the financial sector in favour of the overall economy. Modern Regulation focuses not only on Ratios but also on the capacity of an organisation to conform to the rules.

Customer business is based on a Transfer Price systems that calculates the revenue of a deals upon hedged risk.

The same Transfer Prices are used to bundle risk into risk positions that are managed by ALM. ALM has to manage positions within risk limits and to achieve a return on the required/allocated capital.

TBM focuses on the management of credit risk and the ICAAP. Overall risk has to be limited with the banks risk bearing capacity and to be re/allocated to the business lines in order to achieve the return intended by the business model.