Evolving Banking Business Models

The Case of Bank of China and Deutsche Bank

Prof. Dr. Horst Loechel
China Europe International Business School, Frankfurt School of Finance & Management
German Centre of Banking and Finance at CEIBS
699 Hongfeng Road, Pudong, Shanghai 201206, P. R. China
hloechel@ceibs.edu, h.loechel@fs.de

Matteo Sottocornola
Deloitte Consulting
Via Tortona 25, 20144 Milan, Italy
msottocornola@deloitte.it
Evolving Banking Business Models

The Case of Bank of China and Deutsche Bank

Prof. Dr. Horst Loechel
China Europe International Business School, Frankfurt School of Finance & Management
German Centre of Banking and Finance at CEIBS
699 Hongfeng Road, Pudong, Shanghai 201206, P. R. China
hloechel@ceibs.edu, h.loechel@fs.de

Matteo Sottocornola
Deloitte Consulting
Via Tortona 25, 20144 Milan, Italy
msottocornola@deloitte.it

Working paper, July 2011
# Table of Contents

Abstract ..................................................................................................................................... 4  
Keywords: Bank of China, Deutsche Bank, Banking Business Models .............................. 4  
Introduction .............................................................................................................................. 5  
1. Methodology.......................................................................................................................... 6  
2. Competitive environments ................................................................................................... 8  
   2.1 Risk exposure ............................................................................................................. 9  
3. Deutsche Bank and Bank of China at a glance ................................................................. 11  
4. Organizational Structures ................................................................................................. 14  
   4.1 Deutsche Bank ............................................................................................................. 14  
   4.2 Bank of China ............................................................................................................. 15  
   4.3 Comparison of Structures .......................................................................................... 16  
5. Characteristics of the business models and evolution trends ......................................... 17  
   5.1 Deutsche Bank ............................................................................................................. 17  
   5.2 Bank of China ............................................................................................................. 18  
   5.3 A first comparison and a first set of conclusions ......................................................... 20  
6. Business Unit contribution and developing patterns ...................................................... 22  
   6.1 Deutsche Bank ............................................................................................................. 22  
   6.2 Bank of China ............................................................................................................. 25  
7. Final remarks ...................................................................................................................... 30
Abstract

Different banks run according to different business models. Of special interest is the comparative analysis of business models between banks in developed and developing countries. This paper compares the evolution and current status of business models of Bank of China and Deutsche Bank, both before and after the recent financial crisis. It shows that the mix between commercial and investment banking activities in both banks moved from opposite polarities towards a more similar business model. This process reflects the efforts of Bank of China to become an internationally-recognized investment bank, while Deutsche Bank rebalances its business model in the direction of commercial banking activities. Driving forces of these initiatives are the changing markets and regulatory environments in which the banks operate.

Keywords: Bank of China, Deutsche Bank, Banking Business Models

JEL classification: G01, G21, G24
Introduction

In the year 2009, China’s state-owned banks - Industrial and Commercial Bank of China (ICBC), China Construction Bank (CCB) and Bank of China (BOC) - were ranked as the world's largest banks by assets, and the most profitable banks in operation anywhere. Part of their outstanding performance was related to comparative effects of the world financial crisis, which had severely impacted Western banking institutions. However, to explain the astonishing leap of the Chinese banks in this way would be an oversimplification. Thus, to understand the factors underlying the improvement of the Chinese banks, together with their pass through the worst financial crisis of the last eighty years without their being severely shaken, analysis of their operative business models is needed. At the same time, to understand why Western financial institutions, regularly celebrated as best-in-their-class performers, would appear defective during that same financial turmoil, a similar analysis should be performed on them.

Chinese banks’ main style of operation is characterized by commercial banking’s well-defined business model, which has at its centre interest income. (Loechel, Zhao, 2006) This model results from the regulatory environment of China’s banking business, with its non-liberalized interest rate system. Triggered by recent changes and the ongoing liberalization of its banking and finance markets, China's traditional commercial banking business model is eroding (Loechel, Li, 2009). Pushed by growing demands for ever-more-sophisticated and diversified financial services, universal banks and financial conglomerates, based on the holding structures model, are developing (Lin, 2003) in their place. In the meantime, these banks are bypassing stringent regulation by means of having subsidiaries located in Hong Kong. Thus, the major Chinese banks are currently able to offer both asset management and investment banking services, thereby complementing their traditional loan and deposit services.

At the same time, since the financial crisis, Western banks are proceeding in the opposite direction. Driven mainly by a changing regulatory environment, they are actually on their way towards rebalancing their business models so as to subsidize their risky investment banking businesses with the more stable proceeds generally derived from commercial banking activities.

Given this overall background, this paper compares the recent changes in the business models of Bank of China (BOC) and Deutsche Bank (DB), as representative cases of the ongoing convergence between Chinese and Western styles of banking.

The paper is organized as follows: After a description of the methodology to be applied (Section 1), a brief analysis of the respective banking and finance markets in which the two banks operate (Section 2), together with the effects of the financial crisis (Section 3) follow. Section 4 gives a brief insight into the organizational structures of the two banks. This is followed by a comparative analysis of recent evolution in the business models of the banks’ respective markets (Section 5), and a review of the banking situation subsequent to the recent financial crisis (Section 6). The paper concludes with an outlook for the future.
1. Methodology

The business models of the two banks under consideration and their respective evolution can be compared and analyzed using both quantitative and qualitative approaches.

The principal basis for the qualitative approach is derived from statements, speeches, and documents issued by the investor relation departments of the respective companies, together with those same products as issued directly by upper-management. Interviews and articles published in both the specialized and general press provide additional sources of useful information. The main bases for a quantitative analysis, on the other hand, are the banks’ annual reports, and research papers delivered by analysts or consulting companies.

Both quantitative and qualitative approaches have pros and cons. In favor of a qualitative approach one can list the great amount of information available, and the lower time and effort required for its analysis. On the other hand, this kind of approach has weaknesses in both consistency and robustness of information. Statements and speeches of top management are frequently biased by both the context and the situation in which they are issued. Declarations as to business model evolution or strategy changes are not always followed by concrete actions. And finally, the actual effectiveness of a particular business model can only be inferred from its economic result.

A quantitative approach provides a solution for overcoming all the weaknesses of qualitative analysis:

1) it allows us to evaluate business models and strategies by beginning with certified and comparable data, particularly for listed companies – that is, the balance sheets are all structured in the same way – according to International Accounting Standard principles - and are certified by third parties;
2) numbers are generally free from bias and interpretation;
3) stated figures allow us to interpret and evaluate the applied business model, not the ones based only on aspiration, or statements of top management.

Obviously, the quantitative approach is time consuming, requiring a substantial effort to collect and analyze data. Moreover, once it is decided that the quantitative approach will be utilized, it becomes necessary to select the correct type of data. In this regard, the best indicator for use in reviewing a business model and for strategy analysis, as well, is “allocation of the scarcest resource,” nowadays, “capital.”

In keeping with the previous statement, the best indicator for the kind of analysis to be undertaken in this paper will be economic capital allocation. Unfortunately, these kinds of figures are not always calculated and disclosed. In our case, only DB computes and discloses the respective information; BOC does not.

Therefore, we have chosen the “comparison of income” statement as a second-best indicator. Although factors such as revenue, costs, and profits are all affected by market conditions, the sources and types of revenue are good proxies for understanding a financial institution’s

---

1 In order to match Basel II requirements (whom even BOC is approaching) only the regulatory capital has to be calculated and disclosed. Economic capital is computed only for controlling and management purposes (i.e. risk adjusted performance measurements computation) and requires complex internal model (no shortcuts or simplified models as in Basel II standard approach are provided) based on huge historical data series.
business strategy. If, as stated, volatility and sensitivity due to macroeconomic and market condition fluctuation can bias analysis outcome, they can also, on the other hand, provide useful information on the sustainability of the business model and the risks needing to be borne so as to pursue the strategy in question. In at least some aspects, disclosure of these kinds of figures are required in financial statements. Consequently, they are available and comparable across almost all banks.
2. Competitive environments

According to Porter (1980), the structural determinants of competition are his popular “five forces”: rivalry among existing firms; threat from potential entrants; bargaining power of buyers; bargaining power of suppliers; and the potential availability of substitute products. Some argue that in addition to these traditional forces, a sixth should be added: the legal framework of the market wherein a firm operates (Barth et al., 2002). This last aspect is of particular importance in a regulated industry like banking and finance.

DB may be defined as a global bank, in operation over all five continents. Hence it is not easy to define the boundaries of the market wherein it competes. Nonetheless, from a quantitative point of view, it is possible to state that the European market is the one from which its principal revenues derive (Deutsche Bank, 2009).

Meanwhile, the European and US financial markets are generally considered to be the world’s most competitive. Besides the forces highlighted in Porter’s traditional five, fierce competition is enhanced by the regulatory regimen currently in place. At the same time, one of the declared goals of the European Commission is the reduction of inefficiencies in national markets and oligopolistic structures so as to establish a harmonized market for financial services in general (European Commission, 2005). This is because an efficient banking system generates stability and is beneficial for its customers (Burger, Moormann, 2008). Thus, the European Commission’s push in the direction of establishing a level playing field, especially in regard to retail banking (European Commission, 2006).

As to that, a level playing field can best be reached by way of low entrance barriers and a free-floating interest rate regimen, one regulated principally by market forces. This situation tends to eliminate all extra yield obtained at the expenses of customers (Burger, Moormann, 2008). It also serves to promote transparent competition leading to extreme shrinkage of profits, especially those based on interest rate margins.

The reduction of interest-based margins, matched with the race to high returns on the part of investors, lead banks to dare to explore new financial products with non-interest based revenue structures, and high risk-bearing assets and liabilities. EU regulations helped to encourage this situation by its permissive style of regulation, essentially one with no restrictions as to the structure of financial conglomerates or the universal banking system (Kroszner, Rajan, 1994).

Meanwhile, universal banks operate a variety of activities spread among traditional corporate and retail lending, mortgages, and leasing, and extending to the more services of advanced clearing and settlement, credit card, custody, fund management, sales agency for insurance products (both life & pension and property & casualty), financial advising, underwriting of debt and equity instruments, mergers and acquisitions, security booking and trading, and a host of others. The pursuit of higher profit, matched with the reduction of interest margins, pushed banks toward riskier investment banking activities, in place of the much less risky commercial banking.

In contrast, there is the market situation in which BOC competes. In principle, China’s banking and finance markets cannot be considered as advanced as those of their Western peers. Indeed, interbank competition and the overall quality of banking is limited due to the following:
• Strong influence of the central government in financial institutions and markets. The top five banks of China, for example, are owned and controlled by the government. Furthermore, the regulatory environment in which the banks operate is fairly rigorous (Loechel, Li, Packham, 2010).
• High entrance barriers, particularly for foreign banks. For example, a single foreign bank cannot own more than 20% of the shares of a Chinese bank, and a consortium of foreign banks can own no more than 25%.
• Implementation of a segregated banking model. Although regulators currently allow some elements of universal banking, for the most part, Chinese banks still concentrate their business in commercial banking, particularly in deposit and loan activities.
• Guaranteed interest rates. The higher level of interest margins, above Western ones, and the basically risk-free income from this source of revenue, have led Chinese banks to pursue a stable and traditional business model based on interest-derived revenue.
• Underdeveloped capital markets. The bond market, as an alternative source of funding, is particularly underdeveloped in China. In fact, a corporate bond market does not even currently exist.
• Economic, social and demographic issues. The levels of income and wealth in China, despite great leaps forward during the last decade, and even after 30 years of consistently strong economic growth, are still not comparable to those in the West. Thus, demand for financial products, for both individuals and corporate players, has remained tied to simple financial products such as mortgages and loans.

2.1 Risk exposure

Before examining the evolution of current Western and Chinese business models, it would be worthwhile to consider how each reacted to the recent financial crisis. Beginning with universal banks, it may be stated that different lines of business bear different risks and returns (Loechel and Li, 2009). Despite the commonly shared understanding that, as far as overall risk is concerned, differentiation reduces overall risk, different ideas on this, related to the combination of commercial banking with security services and insurance activities, can be found in literature.

In their work, Allen and Jagtiani (2000) argued as to the positive effects on overall risk of the combination of securities services and insurance activities. In non-traditional banks, diversification has a positive effect on profitability (DeYoung and Rice, 2004). Banks investing in non-interest-based income activities are credited with greater growth potential and higher market valuation, when compared with banks engaged in more traditional kinds of activities (Ebrahim and Hasan, 2004).

As far as risk is concerned, the opposite conclusion was reached by Kevin Stiroh (2004). He pointed out that volatility in trading revenue largely diminishes risk reduction through diversification in non-interest income businesses, and further, that interest and non-interest income become more correlated over time.

An aligned opinion on the risk profile of non-traditional products has been expressed by Kwan and Ladermann (2009) in reviewing the portfolio effects of business divergence in banking. The authors conclude that though both securities and insurance services are generally more profitable, they are also more risky than banking.
In a more general way, Olivier De Jonghe (2009) explicitly examines the impact of bank diversification on financial system stability. He concludes that, in times of crisis, interest income is less risky than non-interest income.

An empirical approach to analyzing risk exposure can be by way of examining the different effects of the financial crisis. Although it dramatically affected banks in the West, it only marginally touched those in China. This was as a result of their low levels of investment in capital markets, and their low levels of integration in global markets generally. The main effect of the crisis on Western banks was to provoke the revamping of traditional commercial banking business. In China, on the other hand, its principal effect was to slow down the deregulation of its banking and finance industries. Nonetheless, Chinese banks’ development of a new balance between interest and non-interest derived income instruments is clearly underway (Loechel and Li, 2009).

Thus, there are two fundamental, but bifurcating ideas developed in response to the often-noted financial crisis. The following sections will present a comparative analysis of the resultant evolution of the DB and BOC business models.
3. Deutsche Bank and Bank of China at a glance

DB is a global bank, well-positioned in the first tier of world banking. BOC is an emerging bank which occupies a leading position in its home market; additionally, it is attempting to position itself as a player in international financial markets.

Since they are so dissimilar, so as we can compare these two financial institutions, three elements will be analyzed: (i) their financial dimensions; (ii) their net revenues, and, (iii) the cost side of their income statements, that is, their efficiencies in producing income. In this section, accounting figures will be analyzed only for the sake of understanding the potential comparability of the banks. Initially, any meaning as to patterns in the figures will be inferred. These aspects will be deepened in the next part of the paper.

In comparing two banks, the first aspect to take into account is relative size in terms of total assets under management. In its annual reports for 2007 and 2008, DB disclosed an increase in total assets to 2,202 billion euro. This was followed by a plunge in value (-31.85%) due to 2009 write-offs due to the global financial crisis.

BOC, despite the global crisis, showed a constant increase in total assets from 6362 billion euro in 2007, to 929 billion euro in 2009. If a comparison between the two banks seemed unfeasible up to 2008, comparability in total assets makes it more than plausible by 2009. These relative valuations are represented in Graph 1, immediately below.

Graph 1 – Total Assets (Sources: DB and BOC Annual Reports)

Shifting from balance sheets to income statements, figures during this same observation period now make them much more comparable. On the revenue side, the difference in total net revenue between the two banks was approximately 5,000 million Euros in 2007 and 3,000 million Euros in 2009 (see Graph 2, below). The discontinuity in the revenue patterns, DB’s clearly evident drop in value in 2008, was an effect of the financial crisis, and will be analyzed below.

---

2 As this paper does not have the aim of investigating the effect of the currency rates on the business model of the two banks the exchange rate Euro/Yuan is kept constant for all the periods and equal to 0.106234.
Another method for comparing the two banks comes from contrasting the figures representing net income and stockholder equity, a kind of indicator of profitability, summarized in the Return on Equity Index (Graph 3). The index indicates a constant increase in value for BOC, from 14.00% in 2007 to 16.62% in 2009. In contrast, DB figures indicate a high volatile index during this same period, again, due to the financial crisis. Beginning with a remarkable 29.00% in 2007, that return was reduced to 14.60% by 2009, after passing through a negative valuation in 2008.

The operational efficiency of the two banks under discussion is hardly comparable, even if cost-income ratio (CIR) data was available for both, and computed according to the same rules. CIR, as a tool, embodies, by nature, certain values (i.e. cost of labor, interest margins) which are strictly influenced by the characteristics of the markets in which the companies operate. These factors have nothing to do with efficiency (Burger et al, 2009). That is why CIR, especially for companies operating in such different markets as those under discussion, is a misleading indicator.

This concept is easily understandable by just looking at the evolution of DB’s CIR. In only a single year it rose from an acceptable 69.60% to a terrible 134.60%, before shrinking again in 2009 to 72.00% (Graph 4). Is there, behind this leap, an actual worsening of performance in terms of efficiency? Or was it merely a matter of variation in economic performance? We would submit that the second possibility better explains the variation. Moreover, it is not convincing to conclude that BOC, in the midst of a period of development and expansion, is more efficient than DB, a bank in its mature phase, as reviewing the CIR might suggest.
Graph 4 – CIR and Employee number (Sources: DB and BOC Annual Reports)

This statement can also be supported by looking at the two banks’ relative number of employees: BOC has almost three times the number of employees of DB (in 2009, 262,566 vs. 77,053). It is also interesting to analyze the changes in those employee numbers. DB, after the relatively stable periods of 2007 and 2008, reduced its full time equivalent workforce by 3,400. During that same period, BOC increased its number of employees from roughly 237,000 in 2007 to 267,566 in 2009.

And as an aside, although DB is widely reputed to be more efficient than BOC, such a conclusion cannot be derived from merely reviewing CIR figures.

Concluding, it can be stated that the two banks may be compared numerically. Their dimensions are reasonably comparable, and their net revenues are comparable as well. Meanwhile, the efficiency index and the data on employee number reflect differences in the marketplace wherein the two banks operate.
4. Organizational Structures

Organizational structures are deeply influenced by business models. Thus, analyzing and comparing organizational structure might provide some interesting suggestion as to ways to think about and perform our business model analyses. Moreover, a brief insight into organizational structure will help us understand the two banks’ choices in seeking to change their respective business models.

4.1 Deutsche Bank

DB’s organizational structure is detailed in illustration 1:

Illustration 1 – DB Organizational Structure

Corporate and Investment Banking (CIB) is responsible for DB’s capital markets business. It is comprised of origination, sales, and trading of capital markets products. These include debt, equity, and other securities, together with corporate advisory, corporate lending, and transaction banking businesses. The clients of this division are institutions, both public sector (including sovereign states and supranational bodies) and private sector, from medium-sized businesses to large multinationals.

DB’s CIB is subdivided into two corporate divisions:

- Corporate Banking & Securities (CBS);
- Global Transaction Banking (GTB).

Corporate Banking & Securities comprises the Global Markets, and Corporate Finance businesses. It covers DB’s origination, sales, and trading of securities, its corporate advisory and its M&A businesses. It also includes a variety of other corporate finance activities.

Global Transaction Banking covers DB’s trade finance, cash management, and trust & securities services businesses. It serves both financial institutions and corporate clients (Deutsche Bank, 2008).

Private Clients and Asset Management (PCAM) comprise two corporate divisions:

- Asset and Wealth Management (AWM);
- Private & Business Clients (PBC).
Asset Management provides retail clients across the globe with access to mutual funds. It also provides institutional clients, including pension funds and insurance companies, with a broad range of services. These include traditional asset management, alternative assets, structured absolute return strategies, and real estate asset management.

Private Wealth Management serves high net worth individuals and families worldwide. It provides these very discerning clients with fully-integrated wealth management guidance, encompassing portfolio management, tax advising, inheritance planning, and philanthropic advising services.

Private & Business Clients (PBC) provides private individuals and small to medium-sized businesses with a full range of traditional banking products. These include current accounts, deposits and loans, investment management products, and business banking services (Deutsche Bank, 2008).

The Corporate Investments (CI) Group Division covers industrial shareholdings, certain bank-occupied real estate assets, and a variety of other non-strategic holdings (Deutsche Bank, 2008).

4.2 Bank of China

Illustration 2 depicts BOC’s organizational structure.

Illustration 2 – BOC Organizational Structure

The organization of BOC is based on the structure of a standard commercial bank. It is organized according to traditional customer segmentation:

- Retail client (Personal Banking Business);
- Corporate (Corporate Banking Business);
- Financial market (Financial Market Business).

Retail Banking Business offers traditional commercial services and products. These include deposit, personal finance (i.e. consumer loans, mortgages), payment and settlement, exchange and transfer, credit and debit cards, and wealth management. It provides these to all categories of individuals.
Corporate Banking Business is responsible for providing products and services to all sized corporate enterprises. BOC is active in corporate finance, trade finance, global market finance, RMB settlement, financial advisory services, and cash management. BOC’s unique competence is its strong cross-border activities. These include activities around deposits denominated in international currency and international settlement as well as trade where BOC is market leader among the Chinese banks (Bank of China, 2008).

While carrying on commercial banking division activities, BOC is simultaneously engaged in the expansion of its investment banking business. That division is active in underwriting and financial advising, M&A and IPO activities, security brokerage, asset management, and direct investment.

With regard to its private customer segment, BOC has developed comprehensive insurance product services. Its bank assurance division is active in the underwriting of both life and property insurance.

The management of non-strategic participation, and non-core BOC activities, are managed by its Corporate Investment Division.

4.3 Comparison of Structures

The organizational structures of the banks under discussion are designed according to the needs of the principal markets they serve. BOC presents with a clearly identifiable commercial bank structure. As such, it is divided according to customer segment. Its insurance and investment businesses are managed under two specific and separate structures, designed to best match the needs of their respective customers.

DB, on the other hand, does not present with a clearly identifiable commercial bank structure at first glance. Rather, its principal structure is fashioned so as to match customer needs, whether those be under individual services (i.e. wealth management, investment management), or corporate services (i.e. funding, M&A, IPO, advisory).

Another way of looking at comparative structure is that DB exhibits a structure typical of banks in mature financial markets, while BOC’s is representative of those in developing economies, where because of its high profit margins, commercial banking business predominates.
5. Characteristics of the business models and evolution trends

In this section, the characteristics of the business models of the two banks are analyzed. Using an accounting perspective, conclusions drawn will be supported by data inferred from review of the two banks’ balance sheets. Since we are comparing consolidated financial entities operating in two different countries (Germany and China), figures are subjected to different tax and fiscal regimens. In order to neutralize effects of these differing tax systems, “before tax” figures will be provided throughout. (This assumption does not lessen the accuracy of the analyses’ conclusions: tax regulations and their effects are outside the scope of this paper.)

5.1 Deutsche Bank

In terms of profitability and profit growth, Deutsche Bank’s business model is regarded in Europe as an example of robustness and stability (at least up to 2007). This view fully takes into account awareness of the bank’s significant risk exposure. This statement can be translated into another statement: DB’s business model is a good business model during expansion periods, but one particularly exposed to the effects of economic downturns. These ideas are clearly indicated in the following graph.

Graph 5 – Profit (loss) before taxes (mEur)

The business strategy utilized by DB management has been unquestionably effective during periods of expansion. Profit before taxes were positive between 2002 and 2007, during which time figures rose from 3.55 to 8.75 million Euros. However, during that same time period, the bank’s pattern of activity was accompanied by high risk exposure. Once the financial crisis took hold, this strategy turned positive returns into losses. The reason for DB’s high sensitivity to the crisis can be found in the two principal cornerstones upon which its business model is based:

1) Focus on revenue increases rather than on cost;
2) Concentrate on non-interest business with high risk-return profile.

The implementation of this strategy resulted in an increase of total net revenues from 20,16 in 2003, to 30,13 in 2007. Simultaneously, however, bank expenditures for non-interest business increased from 17.40 to 21.38 million euro.

So that it could follow this path in the mature-though-highly-competitive financial market in which the bank operated, DB chose to focus market research on those fields of business with the most promise of profitability. This choice served to push the bank’s capital allocation in
the direction of risk-bearing investment banking, and away from the less volatile commercial divisions, whether retail or corporate (see Graph 6).

Graph 6 – Total income composition (Sources: DB Annual Reports)

Composition of total income shows the non-interest-based component of income reduced to 23% in 2005, before a period of slow increase during 2006 and 2007. Additionally, a dramatic change is evident in 2008. In its race toward higher profits, DB obviously unbalanced its business base by paying too much attention to non-interest income activities. Once the 2008 crisis developed, non-interest revenues dropped dramatically. This sharply advanced the percentage share of interest-income. As evident in Graph 6, in 2009, a new profit balance was in play.

In analyzing absolute value, as Graph 7 – below - indicates, non-interest revenue is clearly more sensitive to the market than is interest-based revenue. This is true both in terms of magnitude and of volatility. Besides its high volatility, non-interest income is characterized by having rapid after-effects. Taken together, these serve to explain the bank’s sudden drop in value between 2007 and 2008, as well as its remarkable recovery in 2009.

Graph 7 – Net interest and Non-interest based income (Sources: DB Annual Reports)

5.2 Bank of China

Bank of China is a successful Chinese bank with a strong international outlook. Its aim of becoming a global player in the banking and finance arenas can be seen even in the articulation of its corporate strategy. Its results, in term of profit before taxes (graph 8), suggest a good business model, both robust and showing a stable growth in profits. Moreover, its adopted strategy appears to have been only marginally affected by the financial crisis. In point of fact, the model seems to embody minimal risks, or at least seems to be fairly insensitive to market fluctuation. Although, obviously, the bank’s profitability trend slipped between 2007 and 2008, the reduction in profits was minimal, amounting to only 3.9%. Meanwhile, the bank’s return to profitability in 2009 was immediate.
These excellent results found their wellspring in the bank’s business model, focused on the one hand on business expansion rather than efficiency and cost cutting, and on the other, on its traditional commercial banking business, deriving profits from interest income. In fact the constant increase in total net revenue, from roughly 100,19 million RMB in 2003 to more than 230,62 million in 2009, went together with the escalation of its operational expenses. These went from 34.04 to 107.02 million RMB.

Although, as seen, commercial banking activities dominated BOC’s business model in the past, in recent years, it has been diversifying business in the direction of non-interest income activities.

Total income composition, as depicted in Graph 9, is clearly illustrative of the previously described trend. From 2006 onward, more impressive than the constant increase of non-interest income contributions to totals, is the steep increase in absolute value of the non-interest driven income component presented in the following graph.

In reviewing Graph 10, it should be kept in mind that 2008 was the inception year of the world financial crisis. As mentioned, in comparison to interest income, non-interest income streams react more quickly and with greater magnitude to market fluctuations. Thus,
 fortunately for BOC, net interest income appears to have been relatively immune to effects of the 2008 crisis.

At the same time, BOC’s non-interest income increased during the crisis. This was due to its promotion of fee-based activities like trade settlement, FX transactions, financial consultancy, and credit commitment (BOC, 2008).

These movements in capital allocation were consistent with BOC’s business strategy of reducing dependency on interest-based income.

5.3 A first comparison and a first set of conclusions

The principal markets in which DB and BOC operate, drive their respective business models. Only a small portion of DB’s revenues are interest-based. This is because the high competition, modest regulation, and low entrance barriers in the markets where it operates, lead to low interest rate margins. This latter, in turn, pushes the bank in the direction of non-interest based businesses, which, of course, turn out to have high risk exposure.

BOC, on the other hand, operates in a high-regulated market. There, the central bank manages interest rates, where it maintains at least a 300-basis-point spread between its benchmark lending and deposit rates. Moreover, the bank minimizes competition by maintaining strong entrance barriers to its markets (Loechel, Li, 2009). Thus, BOC is not forced to seek variety in its revenue sources, and can rely, instead, on interest income. Still, given the ongoing liberalization of China’s financial markets, BOC is on its way toward developing fee-based services. With these, it hopes to differentiate its income sources in the face of an anticipated decline in income from interest-rate-related sources.

Nonetheless, despite their different business models, the two banks do have certain similarities. First of all, both their business models appear to be effective and robust. Although DB’s strategy seems to be the more risky, having a revenue model with higher sensitivity to market risk than BOC’s, both banks have enjoyed stable and consistent profit growth over the time period analyzed.

Secondly, both banks are focused on strategies related to expansion rather than on activities related to cost cutting. Although efficiency is obviously of paramount importance to both banks, and both annual reports stress projects related to efficiency, still their patterns of profit generation both follow in the direction of revenue expansion.

Third, considering interest-based vs. non-interest-based streams of revenue, the two banks perfectly demonstrate symmetrically opposing movement. Consequently, DB, strongly dependent as it is on non–interest income related revenues, is moving toward reducing income disequilibrium by increasing revenues derived from the less volatile interest income related instruments. At the same time, it is reducing its dependency on fee-based revenues, commission-based revenues, and capital market activities. In a like manner, BOC, strongly dependent on interest income based revenues, and their aligned income-generating strategies, is going in the opposite direction - toward an increase in fee- and commission-based income.

There are other considerations of note concerning financial crisis after-effects. When the financial turmoil affected DB, it was in the arena of non-interest based revenues. Its interest-based income suffered in a more limited manner. If we take into consideration the structure of
the universal banking model, it is clear to see that in this case, the bank’s diversification of business, in combination with prudent risk management, saved DB from more dire crisis-related consequences. At the same time, it is true that high exposure to fee- and commission-based products as well as its involvement in capital market activities brought the bank significant losses. So it is that DB’s management has chosen to rebalance its income stream in favor of traditional commercial banking sector activities. The recent acquisition of Postbank in Germany lends testimony to this selection.

Meanwhile, the same financial crisis had only marginal effects on the Chinese market in general and on BOC in particular. Its closed financial markets, in combination with its concentration on commercial banking activities, worked as a robust barrier to the distortions arising from the chaos in the international financial markets.

By analyzing the different effects of the crisis on the two banks, it can be empirically inferred that a bank operating globally, in a highly competitive environment, is more exposed to market, credit, and liquidity risks. On the other hand, banks operating in a specific country, characterized by high entrance barriers and managed competitive conditions, are less exposed to turmoil. The universal bank business model, with its demands for diversification, was utilized by DB, and served to protect the German bank from the worst of the downturn’s potential effects. In order to characterize the events which unfolded, the following section will analyze behaviors of DB’s different business units before, during, and after the crisis. This insight will also allow us to understand the ongoing evolution of its business model during that same period.
6. Business Unit contribution and developing patterns

After looking at the two banks’ composition of revenues from an accounting perspective, in this section we will analyze the two banks from a controlling perspective. This will allow us to characterize the contributions of single business units and specific product categories to the banking groups’ overall financial results. The goal, still, is to try to understand more fully the current evolution of the two banks’ business models.

6.1 Deutsche Bank

DB appears to be a typical universal bank. Its income stream is based on diversification. Under a single roof, it brings together the various tributaries of the financial market. As described in the previous section, different business units are devoted to operating in specific business sectors. Parsing the revenues derived from these units will allow us to better understand the business model in use, and further, DB’S ongoing modification of it.

Graph 11 (below) is in two parts. It indicates the contributions of single business units to overall revenue, both in relative and absolute terms. Clusters are built according to the organizational structure explained in paragraph 4.1 (above). The stability of the organizational structure over time allows for a fairly extended historical analysis. These lead to interesting results, allowing us to further confirm our initial hypothesis regarding DB’s business model development.

We divide the analysis into three time frames:

- Before the financial crisis (from 2002 up to 2007)
- During the financial crisis (2008)
- At the end of the crisis (2009).

Graph 11 – Business Units Revenue (Sources: DB Annual Reports)

Before the financial crisis

The left part of Graph 11 clearly shows the significant contribution of CBS to total corporate revenues. Over the period indicated, CBS increased until 2006, when they accounted for 58% of total DB income (see above, right hand side, Graph 11).

The second largest contribution to income came from the PCB division; this was followed by AWM and GTB. Despite the ongoing increase in absolute income values in each of these
business units, their relative contributions to the whole decreased over time. This was due to the greater and more rapid enlargement of CBS.

The years 2005 and 2006 saw inflation of the bank’s balance sheet, with assets which were both highly profitable and highly risky. Total net revenues witnessed significant increase. The year 2007 represented the turning point in strategy for DB. Management’s attempt to rebalance revenue sources between business units, by moving them in the direction of proceeds from a more traditional commercial banking division, was already visible.

During the financial crisis

As reviewed in previous sections, the financial crisis strongly affected DB. Looking at the right hand side of Graph 11, it is clear to see when the crisis hit (CBS and AWM), and why DB suffered a great deal (CBS was its bigger business).

CBS net revenues dropped nearly to zero. With the exception of the asset and wealth management division, which faced a reduction in revenue, other business units appeared almost untouched by the downturn. In particular, during the first stage of the crisis, PCB, the segment of business traditionally focused on individuals and therefore traditional lending products, increased its revenues.

After the financial crisis

The first post-crisis year would properly be 2009. Analysis of that year’s revenue distribution provides important insight as to modifications in the bank’s business strategy. It allows us to see, also, consequent changes to its business model.

The attempt to rebalance revenue sources did have an initial effect, even if the figures continue to appear to reflect various aspects of the crisis’ final stages. This effect should theoretically appear in numbers as follows:

- reductions in margins of interest-based revenue, inasmuch as these are the principal components of the commercial banking business; (as stated, this kind of revenue is less volatile, and reacts to downturns with longer time lags);
- large revenue gains based on non-interest income.

In order to understand changes in revenue distribution, the CBS and PCB divisions will be reviewed in the following analysis. This is because income from the first is derived from non-interest income sources, while income from the second is derived from interest income sources.

6.1.1 Corporate Banking & Securities

Although CBS was DB’s principal source of revenue, it was also the one most affected by the recent financial crisis. It is worthwhile to look at the whole picture, and to focus at the product level. There, review this division’s core products. Also, we can try to identify those segments of the product mix most affected by the crisis (see Graph 12, below).
The first aspect of the graph worth noting is the substantial contribution of sales and trading (S&T) to total business unit revenue. In fact, DB business model projections relied heavily on this revenue source. And they were not disappointed: the value of S&T increased in both absolute and relative terms.

The second important finding in the graph is that DB’s attempt to rebalance revenue sources is both confirmed and reflected in the 2007 figures. After that, however, since the crisis suddenly hit in 2007, S&T’s substantial revenues turned into losses. These losses reflected unprecedented levels of market volatility across asset classes during 2008, the bankruptcy of Lehman Brothers in September 2008, and the impact these events had on DB’s business model’s revenue stream.

In fact, due to the events described, CBS reduced its exposures in Equity and in Credit Proprietary Trading. As to the latter, its losses were driven principally by its holding long positions in the U.S. automotive sector, as well as by falling corporate and convertible bond prices. The losses also resulted from basis widening on significant debt trading inventory, versus the credit default swaps established to hedge them. Additional losses in Credit Trading were spread across a variety of sectors; bonds were sold off and basis spreads widened, driven, as they were, by significant market de-leveraging and low levels of liquidity. These losses were partially offset by record results in Foreign Exchange and in Money Markets and in Commodities, where customer activity remained strong (DB Annual Report 2008).

However, as of this writing, DB has made it clear that its business division Corporate Banking & Securities will be recalibrated. While investment banking will continue to be one of DB’s core businesses, the bank intends to withdraw resources from areas where near-term recovery seems unlikely, and to instead invest those resources in areas of potential growth. These include ‘flow’ trading businesses, commodities trading, selected industry sector corporate finance, and the German mid-cap business (DB annual report 2008).

The third important finding in the graph is that interest-based revenues, grouped in DB in the loan products category, represent only a small part of the business unit’s total revenue. Over time, DB reduced its reliance on this type of product up until 2006, when revenue from loans represented only 5% of total CBS revenue. This trend inverted in 2007, when the volume of
loans increased in both absolute and relative terms. At that time, the lower volatility in interest-based products, together with that in advisory services, supported the entire business unit’s profitability. During the 2009 recovery, CBS enjoyed increasing contributions from loan products to its total revenue stream.

6.1.2 Private & Business Clients

Traditionally, PBC is the commercial bank division dedicated to retail customers.

This notion is supported by the figures provided in Graph 13. There, interest-based products account for the bulk of the division’s total revenue.

Graph 13 – PBC Revenue Details (Sources: DB Annual Reports)

Loan and deposit earnings increased by 62 million euro, or 2%, in 2008. These were principally driven by growth both in loan and deposit volumes, and were partly offset by lower margins, especially in deposit products. Payment, accounting, and other financial service revenues increased by 23 million euro, or 2%. These can be chiefly accounted for by higher revenues in the credit card business. Meanwhile, revenues from other products increased by 158 million euro, or 44%, to 513 million euro in 2008.

6.2 Bank of China

As reported in Section 5, BOC provides us with an excellent example of a large Chinese bank. Although its business is focused on traditional commercial banking, BOC is evolving in the direction of the universal bank business model, anticipating, thereby, the generation of higher fee income. In this paragraph, following the same pattern used in our analysis of DB, we will try to find evidence of evolution in the bank’s business strategy, even down to whatever changes are to be found in single business units. In any case we will look to find these as indicated in the bank’s balance sheet figures.

Unfortunately, BOC’s organizational structure and annual report disclosures are not as transparent as those of DB. Consequently, as indicated in Graph 14, revenues according to business units are presented, but with a gap for the year 2007. Regardless, though limited, the period of the analysis allows us to make some responsible and meaningful inferences as to both strategy and trends. Moreover, despite the gap in information collected, the data allow
us to highlight the effects of the financial crisis on single business units. And finally, we will be able to see how business strategy may have been affected by the widespread financial turmoil.

Graph 14 – Business Units Revenue (Sources: BOC Annual Reports)

The traditional banking business model, with its strong dependency on commercial banking, emerged from the accounting perspective. Its preponderant role is clearly evident, even from the controlling perspective. There, it is evident that results of commercial banking activities overwhelm those of other business units.

Despite that, driven by the capital market boom between 2005 and 2007, there was a rapid expansion of Chinese banks in general, and of BOC in particular into investment banking and insurance service activities, (Loechel, Li, 2009). Taken together, these initiatives provide meaningful momentum to China’s banks’ moving in the direction of the universal banking model. In fact, looking at the income contribution from single business units, changes in relative weight are evident. The insurance division expanded from 0.4% in 2005 to 0.7% in 2006, and investment banking expanded from 0.5% in 2005 to 1.7% in 2006.

The situation before the crisis depicts evolution from a narrow banking model to a universal banking model. However, we might ask: what happened during the crisis? And a more interesting question arises: does the financial crisis reduce the effort and slow BOC’s transition to the universal banking model?

As already stated, the financial downturn affected BOC only marginally. Still, 2008 figures showed a decline in revenue due mainly to losses incurred in non-interest based products managed by the insurance and the investment banking divisions.

As for the bank’s overall positive numbers, these resulted from the commercial bank division activities, which together generated 90 billion RMB. These allowed the bank to cover losses from its other divisions, as well as to register overall positive financial results.

In that scenario BOC’s path to the universal banking business model might seem to be threatened. However, management activities have continued to align so as to transform BOC into a universal bank. As a result, 2009 figures reported a gain in BOC’s investment banking activities, indicating a relative contribution of 2.0%. The same report noted an increase in net revenue resulting from insurance products. (Unfortunately exact figures for these results were not reported in 2009.)

Concluding, it can be stated that the financial crisis did not alter business model transformation underway at BOC. Despite a brief interruption of positive trends in 2008, management remained focused on balancing revenues between interest- and non-interest-based activities. Thus, it reduced the relative contribution of the former, and increased the contribution of the latter, reflecting, again, its move into investment banking.
In the following section, the development of BOC’s commercial and investment banking divisions, as well as the expansion of its insurance division (up until 2008), will be analyzed in greater detail.

6.2.1 Commercial Banking

Due to the lack of information for the year 2007, analysis at the product level of BOC’s commercial bank business unit, is limited to the periods 2005 to 2006, and 2008 to 2009 (see Graph 15).

Graph 15 – Commercial Bank Revenue Details (Sources: BOC Annual Reports)

Revenue from BOC’s commercial banking division is principally generated by way of its corporate banking business. This is followed by proceeds from personal banking, and those from treasury operations. In absolute values, income from each of these three departments has increased over time. However, review of relative values from the right hand side of Graph 15, indicates a shift in contribution weight, from corporate to personal business and treasury service.

BOC’s corporate banking division has a unique additional element: its focus on FX denominated deposit. There, BOC’s market share is 19.25%. This is in contrast to a market share of 8.40% for RMB-denominated deposits (BOC, Annual Report, 2008). Also, BOC has become a market leader in international settlement and trade. This is a key asset for the corporate division.

Meanwhile, due to personal investment and fee-based activities, BOC’s personal banking business is growing in importance. BOC is particularly active in foreign currency savings. Its market share of this activity is around 20%. And, as indicated directly by BOC, future strategy in retail and private banking will be focused on fee-based income activities (BOC, Annual Report 2008).

Post-crisis-year data confirm the pattern of previous periods: BOC’s traditional business ran in a highly-regulated, low competition environment. As such, it was barely touched by the international financial turmoil. Interesting is the increase in treasury operations, operating as a signal of coherence within BOC’s overall strategy.
6.2.2 Investment Bank

The absolute and relative results of BOC’s investment banking division are shown in Graph 16.

Graph 16 – Investment Bank Revenue Details (Sources: BOC Annual Reports)

As in its commercial bank division, FX products and foreign exchange play dominant roles in BOC’s investment banking division. As might be expected, the pattern of revenue over time shows high volatility. In particular, the years between 2006 and 2008 witnessed notable losses. On the other hand, 2009 saw positive results in all product categories, even where total contribution from some particular unit or other may have diminished. In particular, equity and IR-based products continued to play a growing role in income generation. These accounted for 10.0% and 6.0% of total trading gain respectively. This result was directly in line with bank strategy and expectations.

6.2.3 Insurance

BOC is not only going to become a universal bank, it is also a bank assurance company. Returns from its insurance business are shown in Graph 17.

Graph 17 – Insurance Revenue Details (Sources: BOC Annual Reports)
The contribution of insurance products to total revenues is increasing in proportion to other revenue sources.

It is important to underline the fact that insurance life products are “real” insurance products and not hidden financial investment (i.e. unit- or index-linked products), as they might be in European markets. This structure is typical for an insurance market in its early stage of development. Specifically, as opposed to being designed to provide high levels of return on investment, it is designed to help individuals looking for instruments which can help preserve their levels of accumulated wealth.
7. Final remarks

DB is a huge investment bank with a “small” commercial banking division. It embodies the characteristics of a global bank focused on international transactions, international investments, and transaction, as well as service management.

The dimension of global player has been attained without reliance on traditional commercial banking activities; that is, DB has:

- no specific focus on loans of any kind for private customers (i.e. mortgages);
- no specific focus on corporate loans;
- for both segments, focus on advisory and trading.

This strategy has led to significant dependency on non-interest income, the kind of income traditionally related to high-profit, if high-risk products. Confirmation of the greater exposure to risk characteristic of this kind of revenue source may be found by comparing the relative volatilities of both business models.

The rationale behind this new strategy may be found in the structure of the markets in which DB competes. Low entrance barriers and low regulations normally characterize Western markets. This condition leads to high competition together with a consequent reduction of profit margins for the bank (especially interest margins). In addition, significant standardization of traditional interest-based products, and durability and sustainability of competitive advantage deriving from innovations on these kinds of products, led DB to explore new sources of revenue. In this environment, the growth of fee- and commission-based products and services, structured finance and investment banking activities, clearly appeared as potentially more profitable. This made them preferable, despite inherent risks.

At the opposite end of the business model spectrum is BOC. BOC is a traditional commercial bank on its way to becoming a global bank.

The revenue model of BOC continues to be based on traditional sources of interest-based products. Among these are loans and leasing. Meanwhile, the bank is moving toward developing non-interest based products. Thus, it is evolving its business model in the direction of modern Western banks. Thus, BOC is focusing on:

- developing a strong insurance division, based on the model of Western bank assurance companies;
- developing structured wealth management services;
- enhancing investment banking activities.

Moreover BOC is positioning itself as a privileged partner in the international activities of Chinese corporations, and in private customer FX-denominated investments and deposits.

Meanwhile, BOC’s business model is linked to the conditions of the principal markets in which it operates. Chinese banking is highly regulated. Its financial institutions offer loan products with interest rate margins specified for them. The high entrance barriers, defined by authorities, help keep competition low. And since China is a growing economy where corporations can generally rely only on bank loans to fund their growth, banks are not encouraged to differentiate sources of revenue or to innovate in products and services.
Despite this superficially stable situation, BOC is working on evolving its business model in the direction of being better-equipped to compete in international market, and toward be ready to face its domestic market’s anticipated deregulation.

The two business models reacted differently to the financial turmoil: DB was strongly affected by it, whereas BOC’s effects were minimal. Although in the past, its great proportion of risk-bearing assets and its investment banking activities earned the German bank its greatest revenue, now they were the reason for its suffering huge losses. The overall sustainability of its business was insured only by its traditional commercial banking activities.

On the other hand, banks following the traditional Chinese banking model, with its strong regulatory posture, were neither heavily invested in securities, nor very much involved in international capital markets.

Even before the financial crisis, DB had begun to reduce dependency on investment bank activities and on non-interest-based revenues. The global financial crisis served to accelerate this process. The result is a repositioning of the bank in the direction of more traditional commercial bank activities, and a rebalancing of priorities in the investment banking division.

BOC, meanwhile, is going in the opposite direction, evolving its business model so as to achieve a higher complexity of products and services. With regard to private customers, the bank’s focus has shifted so as to participate in advisory services and wealth management activities. On the corporate side, focus has shifted in the direction of international activities like FX transactions and advisory services. The development of investment banking also is an important current priority.

From a certain point of view it can be stated that BOC is following the DB development path - with a 15 to 20 year time lag. As did DB, decades earlier, the Chinese bank is establishing operations in the world’s core financial centers. There, it pursues opportunities which support national corporations involved in international expansion, and foreign corporations seeking to do business in China.

Once BOC’s operations become established in the world’s important financial centers, the bank will no doubt switch from being a mere commercial bank supporting corporations, to becoming a global player with profitable investment bank businesses. As long as Chinese banks expect to compete in global markets, the evolution of BOC, as well as that of the entire Chinese financial system, in the direction of the universal banking model, seems to be unavoidable. That model, represented in this paper by DB, appears to be robust and sustainable, permitting the running of profitable businesses during periods of economic expansion. And thanks to the diversification of activities, it also allows banks to endure during periods of financial turmoil.

Given their current status and respective development trajectories, it can be concluded that DB and BOC are moving in the direction of similar business models. They are doing so, even though they are coming to them from opposite directions. They are attaining a certain equilibrium between traditional commercial and investment banking activities. The fulcrum upon which this equilibrium rests will be defined by their respective markets, and by the new reality of regulation and supervision arising in the wake of the world’s recent financial crisis.
References:


Deutsche Bank Annual Report 2002 // Available at: http://www.db.com/ir/en/content/reports_archive.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Report 2003 // Available at: http://www.db.com/ir/en/content/reports_archive.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Report 2004 // Available at: http://www.db.com/ir/en/content/reports_archive.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Report 2005 // Available at: http://www.db.com/ir/en/content/reports_archive.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Report 2006 // Available at: http://www.db.com/ir/en/content/reports_archive.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Review 2007 // Available at: http://www.db.com/ir/en/content/reports_2007.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Review 2008 // Available at: http://www.db.com/ir/en/content/reports_2008.htm Downloaded on March the 10th 2010

Deutsche Bank Annual Report 2009 // Available at: http://www.db.com/ir/en/content/reports_2009.htm Downloaded on December the 11th 2010

De Jonghe/Oliver (2009) Back to the basics in Banking? A micro-analysis of Banking System
Stability // European Banking Centre, discussion paper


