

Size effects and integrated business models in private banking

Teodoro D. Cocca, Chair for Wealth and Asset Management, Johannes Kepler University Linz

Private banking is a rarely-analyzed field in academia due to a general lack of data. On the one hand, most institutions offering private banking services are not listed on an exchange or they are business units of a larger organization without business unit reporting, which makes data collection prohibitive. On the other hand, more and more institutions have recently started publishing company data on a voluntary basis or have adopted accounting standards that demand business unit reporting. For this study we were therefore able to collect, for the first time, an international dataset that includes 253 financial institutions focusing on private banking.

Private banking as a business field has certain characteristics that are structurally different from other classical banking business fields. We define private banking as the business field or unit of a bank that services wealthy individuals [other definitions can be found in Tilmes and Schaubach (2006) or Atz (1999)]. Under this definition private banking includes, among other things, personalized services such as money management, financial advice, and investment services for high net worth clients. Although high net worth is not defined consistently, it is generally thought to refer to clients having net worth greater than €500,000. Private banking may be provided in a separate department of the bank or a subsidiary. These are the most common arrangements seen in large universal banks. Private banks may also be stand-alone entities in the form of share companies, individually-owned firms, collective and limited partnerships, or partnerships. Private banking services always involve a high level of confidentiality regarding client information and a focus on a high-level personal service.

We use the unique dataset mentioned above to explore size effects and advantages of integrated business models – two issues that are highly relevant from a theoretical but also practical point of view. As more and more market players are following aggressive national and international growth strategies, the question of potential size effects justifies deeper analysis. Should a clear tendency towards economies of scale be recognized it would call for a consolidation of the highly-fragmented private banking sector. The adoption of integrated business models by some of the market leaders also raises questions of efficiency and synergies – are these models superior to pure private banking models?

As such, the question of size effects in private banking is viewed controversially – two standpoints are common among practitioners:

1. Private banking allows for limited scale effects because of the nature of the client relationship. Clients demand a close relationship with their banker and a highly-personalized service. Larger business volumes can only be managed by the same number of advisers or relationship managers to a limited extent. Customer-centric businesses like these do not show high scale effects [Selden (2007)]. Furthermore, the main cost components are

variable in nature (such as salaries which today are also linked to the revenues or profits generated by the client adviser) and therefore do not allow linear profit increases from larger business volumes.

2. The advancement in information technology and the standardization of many investment products has led to an industrialization of the product management cycle within the sector, unwinding potential for efficiency gains and rationalization. An increasing need of investment in IT and process chains and higher regulatory burdens have increased fixed costs of the business, thus opening up potential for scale effects.

The literature and research on size effects in banking is extensive but has so far not specifically addressed the question within the domain of private banking. All past studies used datasets of retail banks or included broader datasets with different bank types [Allen and Rai (1996), Altunbas et al. (2001), Lozano-Vivas et al. (2002), Casu and Molyneux (2003), Rime and Stiroh (2003), Fiorentino et al. (2006)]. Other studies have focused more on the mutual fund sector or more generally on asset management, thus focusing more on the institutional side of the business [Latzko (1999), Walter (1999), Beckers and Vaughan (2001)].

The second issue addressed in this article refers to the trend of many larger players in the industry to systematically explore synergies between private and investment banking. Organizations that include sizable activities in these distinctive business areas are applying a so-called integrated business model. The synergies they are attempting to exploit are the following: (1) diversification of revenue streams and therefore a smoothing of earnings, (2) cross-selling and client referral (i.e., private client needing corporate advice or offering private investment services to a CFO of a corporate client), and (3) product innovation and development by transferring know-how across the business lines. The integrated business model – as opposed to the pure private banking players – has come under pressure recently. Major players such as the UBS, Credit Suisse, and Citibank, which made the integrated business model a cornerstone of their strategy, have had substantial losses in their investment banking activities due to their involvement in the sub-prime market in the U.S. This has drawn attention to the potential pitfalls of the integrated business model: (1) negative reputational spillover effects, (2) cultural misfit, (3) conflict of interests when the client adviser has incentives to sell in-house products, and (4) increased complexity, which places a greater demand on management skills. A lot of research will be necessary to investigate this highly relevant issue to larger players in the banking world. We start with a first approach, based on the analysis of the data collected. It must be stressed that the data used refers to a time period preceding the sub-prime crises. Therefore the questions could not yet be tested throughout an entire business cycle.

Data

The sample includes 253 banks with a substantial part of their business in private banking and 23 private banking units [Cocca (2007)]. The following criteria govern the composition of the sample: data availability, clear strategic focus on private banking, and a minimum of one-third of entire revenue deriving from fees and commission income. The sample includes the following number of banks by country: Switzerland 147, Austria 6, Benelux 16, France 8, Germany 17, Japan 5, Liechtenstein 19, the Nordic countries 9, Italy 21, the U.K. 11, and the U.S. 17. Data used in this article covers the years 2005 and 2006. Accounting data was taken from banks' periodical financial reports (annual reports, quarterly reports, and analyst reports) or from the statistical databases of the relevant national or central bank. Currency effects can restrict the comparability of certain key figures. As the last few years are characterized by large fluctuations in various currencies, calculations have been adjusted for currency effects.

Size Effects

We begin exploring size effects by calculating correlations across different key performance measures of profitability and efficiency. Figure 1 shows that size measured by assets under management (AUM), fee revenues (COM_A), and number of employees (Staff_A) has a significant positive correlation with profitability measures such as return on equity. Thus, one can say that some initial evidence for economies of scale can be found. The adjusted gross margin also has a significant positive correlation with AUM, fee revenues, and number of employees. It appears that margins are also affected by a certain degree of economies of scale.

Although in terms of profitability a number of indications for economies of scale were found, other figures in Figure 2 suggest the opposite: for example, measured against gross revenue per employ-

ee a negative relation results for size. How then can the higher profitability of larger banks be explained? Revenue per employee and costs per employee have a negative correlation with number of employees. The effect on revenue argues against economies of scale and the effect on the costs in favor of it. However, there is a significant negative relation between gross profit per employee and number of employees. Revenue per employee decreases less with diminishing size than do the costs per employee. Thus smaller banks have higher gross profits per employee. Here size disadvantages can be observed in terms of efficiency. The higher return on equity of larger banks can therefore be the result of fiscal effects, of scale effects on depreciation, as well as a more active capital management in order to optimize ROE figures. A significant negative relation between the size of a bank (number of employees) and AUM per employee exists. This seems affected by small boutiques banks in particular. The latter have specialized in very wealthy clients. This thesis is supported by a significant negative relation of AUM and AUM per employee. This connection shows that the more AUM a bank has, the less AUM per employee is managed. No significant relation between growth and a bank's size could be found. This indicates that all banks can grow at the same speed independently of their size.

Furthermore, we include investment returns in our analysis. Since data is not publicly available on the individual portfolio level, a technique to proxy for client investment performance has been used here. We take the aggregated performance of all the investment funds offered to the public under the bank's name². Figure 3 shows that relative returns have a positive influence on net new money. The relative performance of investment funds has a significant positive correlation with the growth of AUM through net new money flow. Capital market know-how appears important to clients and they therefore trust their money to banks which perform well

	Size			Profitability		BIZ_A	Efficiency	Growth			
	AUM_A	COM_A	Staff_A	ROE_A	G_margin			C_L_A	G_cost_A	G_inc_A	G_t_NNM
COM_A	0.901										
Staff_A	0.860	0.943									
ROE_A	0.394	0.376	0.388								
Gross_margin_A	0.214	0.358	0.386	0.098							
BIZ_A	-0.080	-0.163	-0.199	-0.054	-0.090						
Cost_income_A	0.075	0.063	0.013	-0.294	-0.135	0.000					
G_cost_A	-0.037	0.012	-0.058	0.108	-0.058	-0.058	-0.078				
G_income_A	0.023	0.059	-0.007	0.155	-0.015	-0.003	0.039	0.585			
G_t_NNM	-0.032	-0.027	0.022	0.096	0.124	-0.116	-0.128	0.261	0.426		
G_NNM	0.088	0.086	0.002	0.013	0.018	0.731	0.083	0.117	0.028	-0.005	
G_AUM_A	0.060	0.051	-0.038	0.161	-0.101	0.379	-0.022	0.379	0.359	0.514	-0.062

Correlation is significant at the 0.01 level (2-tailed)
 Correlation is significant at the 0.05 level (2-tailed)
 Correlation is significant at the 0.1 level (2-tailed)

Figure 1 - Correlation matrix (average for 2005/2006)

1 The variables in Figure 1 are defined as follows: AUM_A [Ln(total assets under management, in CHF)], COM_A [Ln(total fee revenues, in CHF)], Staff_A [Ln(total number of employees)], ROE_A (return on equity), G_margin (gross margin), BIZ_A (BIS tier one ratio), C_L_A (cost/income ratio), G_cost_A (growth of costs, in %), G_inc_A (growth of fee revenues, in %), G_t_NNM (AUM growth through net new money, in %), G_NNM (growth rate of net new money, in %), G_AUM_A (growth of assets under management, in %), and Ln(x) is the natural logarithm of x.

2 Mutual funds performance of a broad set of funds is compared for every bank in the sample (2,100 funds in total). Reuters is the source for mutual funds performance data. In the analysis, we differentiate between three classes of funds and measure the performance for each class individually. Here we only show the results for the aggregated returns on all investment funds (stocks, bonds, mixed) for a 5-year time period (2002-2006). Return figures of each bank are value-weighted by net asset value.

compared with benchmarks. This result seems especially relevant for private bankers as the importance of investment performance has been addressed by many client surveys but has never been empirically tested.

Figure 4 shows the average AUM per employee on the horizontal axes and the gross margin on AUM on the vertical axes. The reasons for the negative relationship between AUM per employee and profitability are surprising and can be explained in the following. One can assume that banks with few AUM per employee are predominantly focused on lower client segments. In these client segments margins are higher than in higher client segments due to missing or limited negotiating powers of clients and limited client know-how. On the other hand, large discretionary management mandates often carry special conditions. These assets yield smaller margins (expressed in percentage points) than smaller client assets. A more qualitative perspective could speak for the aspect that client advisers with many clients have less time for each client and therefore cannot give the client the attention necessary to intensify the client relationship. This again leads to smaller penetration of the client base with high margin products and services as well as a lower share of wallet. The obsessive quest for size in private banking would need to be questioned in the light of this explanation of the results in Figure 4.

	Size			Profitability
	AUM_A	COM_A	Staff_A	ROE_A
E_Rev	-0.163	-0.099	-0.205	0.277
E_Prof	-0.099	-0.094	-0.143	0.355
E_Cost	-0.127	-0.108	-0.235	-0.019
E_Pers	-0.029	-0.057	-0.189	0.142
E_Stak	0.010	-0.007	-0.090	0.431
E_AUM	-0.195	-0.360	-0.401	0.061

Correlation is significant at the 0.01 level (2-tailed)
 Correlation is significant at the 0.05 level (2-tailed)
 Correlation is significant at the 0.1 level (2-tailed)

Figure 2 - Correlation matrix II (average for 2005/2006)³



Figure 3 - Growth and investment fund performance

3 The variables in Figure 2 are defined as follows: AUM_A [Ln(total assets under management, in CHF)], COM_A [Ln(total fee revenues, in CHF)], Staff_A [Ln(total number of employees)], ROE_A (return on equity), E_Rev (gross revenue per employee, in CHF), E_Prof (profit per employee, in CHF), E_Cost (costs per employee, in CHF), E_Pers (personnel costs per employee, in CHF), E_Stak (personnel costs, taxes and net profit per employee, in CHF), E_AUM (assets under management per employee, in CHF), and Ln(x) is the natural logarithm of x.

Integrated business models

In this section we address the question of potential advantages of integrated business models. Again we explore the question by using empirical data and some regression analysis. A variable, GROUP, that measures the degree to which private banking operations are integrated into a larger organizational structure is introduced in this section. GROUP is a dummy variable and can have the values 1, 2, or 3, where 1 represents private banks that follow a pure private banking model, 2 represents private banks that are part of a larger financial group (with investment banking activities), and 3 represents private banking units of universal banks. High values for GROUP indicate private banking organizations that are highly integrated, low values indicate banks that are legally and economically independent and not integrated into any other organizational structure.

Figure 5 shows the results of our OLS-regression analysis. The dependent variable ROE can be clearly explained by the independent variables net new money (LN_NNM_A), relative performance (over_rel_5y), cost/income ratio (Cost_Income_A), and through the variable GROUP. The influence of the variable GROUP and net new money is significant at the 0.1% level. Net new money has a positive influence on ROE. The positive relationship between GROUP and ROE indicates that private banking units within an integrated organization achieve a higher ROE in comparison to independent private banks⁴. The influence of cost/income ratio and performance is significant at the 10% level, whereby cost/income ratio has a negative and performance a positive influence on ROE. Thus, these results give a first indication that some profitability advantages can be found in integrated business models in comparison to pure private banking models. We also tested whether investment returns, as discussed above, are different across the business models. No significant difference in investment performance between private banks with investment banking and pure private banks could be found. Therefore we can conclude that there are no superior investment skills but some profitability advantages associated with integrated business models.



Figure 4 - AUM per employee - gross margin

4 These results are confirmed by the Mann-Whitney-Test for differences of the ROE figure within the two groups (1 = private bank with investment banking and 0 = private bank without investment banking). In 2006, private banks with investment banking had a higher ROE on average, the Mann-Whitney Test shows a significance of the difference at the 0.01 level.

	Unstandardized coefficients		Standardized coefficients		t	Sig.
	B	Std. error	Beta			
(Constant)	-0.247	0.198			-1.249	0.228
LN_NNM_A	0.065	0.017	0.843		3.768	0.002
over_rel_5y	0.036	0.019	0.320		1.887	0.076
Cost_income_A	-0.440	0.252	-0.318		-1.749	0.098
GROUP	0.113	0.037	0.684		3.013	0.008
Dependent variable: ROE_A		R = 0.731	Adjusted R ² = 0.424			

Figure 5 - Regression analysis⁵

Discussion and final remarks

This analysis finds moderate evidence for economies of scale in private banking, which is consistent with the special character of the sector. Private banking is a business that demands a close relationship with the client. Such interpersonal activity is time-consuming and demands investments in client-specific knowledge, which cannot easily be used in another client relationship (economies of scope are therefore also limited). The extent to which scale effects can come into play is very limited – a client adviser cannot increase his or her efficiency by attracting more and more clients. On the contrary, economies of scale will, in some cases, only be achieved by advising fewer clients with larger assets. A size effect can therefore be observed on the client side. This explains why competition for ultra high net worth individuals has increased substantially. Bank size can be a differentiator in the quest for these clients, but in two very distinct dimensions. On one hand, very small private banks that position themselves as ‘boutiques’ on the market have great expertise in building long-lasting client relationships. On the other hand, they lack the extensive product range of a private banking unit of a large bank. Depending on the specific clients needs, both competitors will certainly find their clientele.

A factor that further weakens the importance of size is the trend towards a disintegration of the value chain in private banking. If more and more players evolve that bundle certain back-office services where they achieve economies of scale and offer them to other market participants, smaller players do not have to fear potential size disadvantages and are even able to combine a wide range of products through open architecture solutions with very high-touch personal services. Following this logic, the long-expected consolidation process will not take the form of large acquisitions and mergers of entire banking institutes, but rather be realized with more outsourcing or the sale of individual sections of the value chain which are significant for economies of scale. Smaller players would then be part of networks where they insource parts of their value chain. Certainly, it will be fundamental who can capture the knots of the network with the highest margins. By controlling the client relationship smaller players should be able to secure their

margins long-term while focusing on their advisory competences.

Interestingly, growth in private banking does not depend on size. This means that banking organizations with a larger and therefore geographically more diversified network do not attract more new business than smaller ones (in relative terms). Growth opportunities exist not only in emerging markets where the large players are gaining most of their growth but also in local niches where smaller players take their chances.

Performance is often cited as a key to client satisfaction. Does net new money flow reflect past investment performance of a bank's mutual funds? This study provides for the first time empirical evidence that it does. What is common for institutional money flows seems to be increasingly applicable also to the field of private wealth. We do not expect that private banking clients will start moving their assets to the best performing competitor every year but it can reasonably be expected that banks which have performance problems will see stronger money outflows than in the same situation in the past. Private banking clients are certainly becoming more performance-oriented and increasingly mobile.

The view that integrated business models bring consistent advantages in private banking finds some support. However, we merely find some indication that for a specific point in time, private banking operations of integrated business models did perform better than their pure private banks. This suggests that some synergies can be extracted from an integrated business model. We would certainly be cautious in making any far-reaching conclusions based on our results. Nevertheless, the following comments should be adopted in reference to the likely implications for private banks:

- As a private bank it is not necessary to own an investment bank, but access to investment banking products and know-how is needed. The huge increase in complexity of many investment products has led to a convergence between investment banking and private banking. Investment banking is the area where new products are developed and specific know-how is stored. Private banking acts as the distribution platform for these products. A close link between these two banking fields seems to be emerging. This does not imply that it is necessary to acquire an investment bank to be able implement this strategy on the institutional level. What appears important is to ensure access to these pools of innovation and know-how through institutional solutions such as cooperation and networking.
- Investment banking or corporate finance services seem an attractive area to find and target new clients. This should be kept in mind when planning the next marketing campaign or when exploring new potential partners for the bank. Entrepreneurs are private banking clients with special needs in corporate finance advice. Private banks therefore need to think about ways to sat-

5 The variables in Figure 5 are defined as follows: ROE_A (return on equity, in %), Cost_Income_A (cost/income ratio), LN_NNM_A [Ln(net new money, in CHF)], over_rel_5y (overall relative five-year performance, in %), GROUP (dummy variable: 1 = pure private bank, 2 = subsidiary, 3 = private banking unit in a universal bank), Ln(x) is the natural logarithm of x.

isfy this need by also including partners in their network that can offer these services on demand unless it is offered in-house.

- As recent history has demonstrated, there can be serious disadvantages in having an investment bank closely linked to private banking operations. The cyclical nature of investment banking periodically leads to severe market crashes that not only cause bank losses but also hurt the brand and image of a bank. Private banking rests on the values of stability and conservatism which do not have the same appeal in investment banking. Integrated business models carry the risk of reputational losses because of the inclination of investment banking to follow aggressive and risky strategies. Moreover, a certain potential conflict of interests cannot be neglected. Especially if products of the investment bank are placed in the portfolios of private banking clients belonging to the same group – maybe not always in the client's best interests.
- Stock markets seem to value integrated business models with a discount compared to pure private banks [Schmid and Walter (2007)]. Conglomerate discounts demonstrate the lack of confidence that the markets have in the integrated model. Integrated banks will therefore have to convince their shareholders of the value that can be created through synergies. The best way to achieve this would be by regularly quantifying and publishing the synergy effect.

Private banking is a business field which needs extensive scientific work and investigation into the underlying business dynamics. This has been a first attempt to meet the discussion among practitioners and scientists with some empirical data. Future research will have to test these results over the length of an entire business cycle. Thus exploring if integrated business models show signs of outperforming pure private banking models because of the sustainable synergies they are exploiting or just because they capture some sort of windfall profits in good market conditions. As the sub-prime crisis is evolving and hurting both investment banking and private banking revenues, data will be at hand sooner than one might have hoped.

References

- Allen, L. and A. Rai, 1996, "Operational efficiency in banking: an international comparison," *Journal of Banking and Finance*, 18:6, 655-672
- Altunbas, Y., E. P. M. Gardener, P. Molyneux, and B. Moore, 2001, "Efficiency in European banking," *European Economic Review*, 45, 1931-1955
- Atz, M., 1999, "Questions every banker would like to ask about private banking and their answers," emerging issues series, Supervision and Regulation Department, Federal Reserve Bank of Chicago, May (S&R-99-6)
- Beckers, S., and G. Vaughan, 2001, "Small is beautiful - an attempt to quantify the competitive disadvantage of large asset managers," *The Journal of Portfolio Management*, 27, 9-17
- Casu, B., and P. Molyneux, 2003, "A comparative study of efficiency in European banking," *Applied Economics*, 35, 1865-1876
- Cocca, T. D., 2007, "The international private banking study," University of Zurich
- Fiorentino, E., A. Karmann, and M. Koetter, 2006, "The cost efficiency of German banks: a comparison of SFA and DEA," Discussion Paper No. 10, Deutsche Bundesbank
- Latzko, D. A., 1999, "Economies of scale in mutual fund administration," *Journal of Financial Research*, 22:3, 331-339
- Lozano-Vivas, A., J. T. Pastor, and J. M. Pastor, 2002, "An efficiency comparison of European banking systems operating under different environmental conditions," *Journal of Productivity Analysis*, 18, 59-77
- Rime, B., and K. J. Stiroh, 2003, "The performance of universal banks: evidence from Switzerland," *Journal of Banking and Finance*, 27, 2121-2150
- Schmid, M. M., and I. Walter, 2007, "Do financial conglomerates create or destroy economic value?" EFA 2007 Ljubljana meetings paper
- Selden, L., 2007, "Customer-centricity: a primer," *Journal of Financial Transformation*, 21, 13-26
- Tilmes, R., and P. Schaubach, 2006, "Private banking und private wealth management - definitionen und abgrenzungen aus wissenschaftlicher sicht," in Brost, H. and M. Faust, eds., *Private Banking und Wealth Management*, Bankakademie-Verlag GmbH, Frankfurt am Main
- Walter, I., 1999, "The global asset management industry: competitive structure and performance," *Financial Markets, Institutions and Instruments*, 8:1, 1-78