



Raimo Voutilainen

IN SEARCH FOR THE BEST ALLIANCE
STRUCTURE BETWEEN BANKS AND
INSURANCE COMPANIES

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To Leena

Abstract

Banks and insurance companies have widely recognized the need for mutual co-operation in the form of cross-sector alliances. In this thesis we study the problem of finding the most suitable alliance structure between banks and insurance companies from the point of view of executive management, supervisory authorities and customers. The problem is a multiple criteria decision problem where the criteria are often difficult to quantify and compare. We also study possible compromise alliance models for several decision maker groups and a group's understanding of other groups' decisions.

This thesis consists of four articles which all have been published or accepted for publication in international refereed journals, and a summary paper. In the first article we study alliances between banks and insurance companies from the perspective of the top management, and the relevant business environment is the retail market. We define six different structural models for financial alliances. The parameters of the models are the closeness of the alliance in terms of mutual ownership, and the question whether or not alliance partners have overlapping service channels. We also characterize nine criteria according to which the previously defined models are to be compared to achieve the most attractive alliance model. In the design of the criteria representatives of the top management of Finnish banks and insurance companies have been consulted.

In the second article we study alternative alliances starting from the same structure models and criteria used to evaluate the models which were derived in the first article. To solve the problem of searching the most preferred alliance model, we use an expert panel and the Analytic Hierarchy Process (AHP). Experts are representatives of the top management of Finnish banks and insurance companies. During the decision making process new criteria for model comparison emerge. Finally, the most important criteria consider economies of scope, economies of scale and cost and revenue synergies. Based on the evaluations of the panel, the alternatives Financial Conglomerate and Cross-Selling Agreement, no Overlapping Service Channels are most preferred. Which one is chosen, depends on how risk is emphasized.

In the third article, we look for the best financial alliance compromise structure between the executives of the banks and insurance companies and the bank and insurance supervisory authorities in Finland. First, we study alternative alliance structures from the point of view of supervisory authorities. Together with leaders and experts of these authorities, we introduce eight criteria for the evaluation of the six alternative alliance structures which were defined in the previous articles. The evaluation is carried out by an expert panel consisting of the representatives of the supervisory authorities. The most important criteria consider system risk management, optimal functioning of the markets and capability to supervise the alliance. The financial conglomerate was preferred by bank and insurance executives to the other alternatives. The alliance models based on plain cross-selling agreements receive the highest ranks in the evaluation of supervisory authorities. The financial conglomerate might be an acceptable compromise

alternative for the supervisory authorities as well, if two criteria could be improved in that alliance model in a credible way.

In the fourth article we study alternative alliance structures from the point of view of Finnish customer representatives. Seven criteria are introduced for the evaluation of six alternative structure models for such alliances which are adopted from the previous studies. The evaluation is carried out by an expert panel consisting of customer representatives. The most important criteria consider sustainability and reliability of the operations, system risk management and transparency and comparability of the products. The alliance models based on plain cross-selling agreements receive the highest ranks.

The customer representatives also evaluate the models using the most important executive and supervisory criteria from our earlier studies. The evaluation is similar – except for the risk criterion – to the executives' and different from the supervisors' evaluation. It is more difficult for the customer representatives to assume supervisory than executive thinking. Finally, we compare the criteria and the model priorities of this and our second and third articles. The best compromise model from all three points of view could be the financial conglomerate on the condition that three criteria are satisfied to a sufficient degree.

The summary gives background to the four articles from the development of the operational environment of banks and insurance companies, relates our research to relevant literature, and summarizes the main results of the articles.

Keywords: Financial alliances; Financial conglomerates; Multiple criteria decision making; Analytic hierarchy process; Strategic planning; Bank and insurance supervision; Customer perspective

Doctoral dissertation

Helsinki School of Economics
Department of Business Technology

In Search for the Best Alliance Structure Between Banks and Insurance Companies

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Publications

The dissertation consists of a summary paper and the following publications:

- I Voutilainen, R., "Comparing Alternative Structures of Financial Alliances", *The Geneva Papers Vol. 30, pp. 327-342, 2005* *
- II Korhonen, P., Voutilainen, R., "Finding the Most Preferred Alliance Structure Between Banks and Insurance Companies", *European Journal of Operational Research*, In Press **
- III Korhonen, P., Koskinen, L., Voutilainen, R., "A Financial Alliance Compromise Between Executives and Supervisory Authorities", *European Journal of Operational Research*, In Press **
- IV Korhonen, P., Koskinen, L., Voutilainen, R., "A Customer View on the Most Preferred Alliance Structure Between Banks and Insurance Companies", Helsinki School of Economics working papers W 386 (2005), forthcoming in *Zeitschrift für Betriebswirtschaft*.

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Preface

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Espoo, February 2006

Raimo Voutilainen

Summary

1. Introduction

Banks and insurance companies have actively both co-operated and competed with each other during the last decades. Co-operation has appeared as cross-industry alliance formation, which is the subject of this thesis. Competition, on the other hand, has mostly taken the form of financial convergence in which various financial sectors assume each other's tasks. Alliance formation is a significant phenomenon, because practically all Finnish banks and insurance companies are members in an alliance.

The purpose of this summary is to give background to the four articles of this thesis and to summarize the main results of them. The emphasis in the background part is on phenomena in the financial market which are closely connected to alliance formation and which are not covered by the articles. The focus is in Finland and the Nordic countries.

The finding of a suitable form for the co-operation of banks and insurance companies has been under active debate for some twenty years in the financial industry in Western countries and also in Finland. Co-operation has normally required alliance formation. A closely related phenomenon is financial convergence, which means a blurring of conventional boundaries of once discrete financial sectors – banking and insurance. Converging sectors are assuming each other's tasks. In the following section we present examples of products with which one financial sector can assume another sector's task by replacing its product. Then we describe the development of financial convergence in Finland since 1980's.

2. Financial convergence

Insurance products may sometimes be replaced by bank or capital market products that perform the same or almost the same task as the original product. In the same way bank products can sometimes be replaced by insurance products. Let our first well-known example be bank guarantee and guarantee insurance, both of which can be used as loan collaterals in the same way. Here the products of different financial sectors perform exactly the same task. As the second example, an insurance product which could replace a deposit is a traditional (with profits) savings life insurance. This insurance type includes a bonus possibility, but normally there is a guaranteed annual return independent of the financial result of the insurance company. This guaranteed return corresponds to the interest rate of a deposit. In Finland there is a small difference in the risk of losing the capital between these products. A depositor knows that if his/her bank goes into bankruptcy, (s)he will get the deposit back through state guarantee up to the amount of EUR 25.000. In the Finnish voluntary insurance there is no such guarantee. Presently, the solvency levels of Finnish life insurance companies are so high that this risk can be considered fairly low.

As the third example, one or several collaterals of a corporate loan can be replaced by a loss of profit insurance. If the insurance pays a big portion of a company's expenses after a claim, the company is able to take care of its obligations towards its bank. Therefore, loss of profit insurance decreases credit risk significantly. This effect on the risk should be shown in the interest level in the same way as good traditional guarantees do. As our fourth and last example we consider insurances of great risks and catastrophe bonds. Insuring and reinsuring great risks requires good solvency and it has been sometimes asked if the capacity of the global insurance market is sufficient for handling all the great risks. A catastrophe bond is an alternative risk transfer (ART) method where an insurance company or an ordinary company exposed to a great risk, instead of taking an insurance to cover it, issues a special bond the payback of which is dependent on whether the risk event occurs or not. If it happens, the bond is paid back only partially or maybe not at all. If it does not happen, the capital is paid back normally together with an interest which is, naturally, higher than with risk-free bonds.

A good benefit of the ART methods is that the global capital markets are much more liquid than non-life insurance and reinsurance markets. The ART market has grown considerably during the last ten years. Big insurance companies have established capital market departments to run ART business. This is because insurance companies have not wanted to stay out of the fastest growing part of risk transfer business. Establishing a subsidiary in another financial sector's territory is a typical act of financial convergence. The interest of a catastrophe bond has to be calculated carefully, and there is nowadays a rating system for them in the same way as for e.g. corporate bonds. Because ART methods can replace insurance techniques in transferring great risks, it remains to be seen if global capital markets are taking over this business from the international reinsurance sector.

Our four examples show that different financial sectors have developed products which can be used instead of certain products of another sector. There a

product of banking or capital markets performs the same or almost the same task as an insurance product or vice versa. It can be concluded that the boundary between the financial sectors has become obscure.

Assuming another sector's tasks can also happen by establishing a subsidiary in another sector's territory. We now turn to the Finnish experience of financial convergence during the last decades. We consider three financial sectors: banks, insurance companies, and asset manager groupings (including e.g. asset management companies, fund management companies and securities brokerages). These three sectors can act towards each other in six possible ways, each one in two directions. Here "acting" means basically establishing a subsidiary in another sector's territory. We discuss now all six convergence trends as they have appeared in Finland.

2.1. Banks establishing asset managers

Towards 1970's and early 1980's asset managers which were independent of Finnish banks provided the customers of these banks various asset management services. They had developed a profitable business, which the banks did not like, because they were left the production of mass services while the asset managers served the most lucrative customers, the high net worth individuals. The banks made then a very logical defensive move in establishing asset management subsidiaries with exactly the same structure as the independent asset managers had. Thus, the banks became able to offer a wide range of financing and capital market services to their customers. Nowadays, banks dominate the mutual funds market thanks to their good knowledge of their customers' financial situation. The traditional asset managers have better market shares in higher segments and discretionary asset management than in bulk funds.

2.2. Banks establishing insurance companies

Towards the end of 1980's, after financial deregulation, the interest margins began to shrink and Finnish banks experienced that to compensate this they should find new sources of income. As one possibility they identified commission income from out-of balance sales. In the end of 1980's and in the beginning of 1990's banks entered sales agreements with external insurance companies with which they had overlapping service channels. The emphasis was on risk insurance for private households. The sales success was not very impressive. At the same time, banks in France, the Netherlands and Sweden started to establish own life insurance subsidiaries which were supposed to specialize very strongly on savings life insurance. Finnish banks were in contact with them, and as those European banks began to report promising results, Finnish banks started to plan their own life insurance subsidiaries. The Union Bank of Finland was the first one to start a life insurance company in 1993. The other big banking groups OP Group and Postbank followed the example in 1995.

The experience until today shows that Finnish banks have been especially successful in the sales of two insurance classes: loan protection insurance and savings life insurance (savings, capital and individual pension insurance) especially for private customers. In principle, an insurance partner can be internal or external. In practice, establishing or acquiring an own life insurance company has been standard procedure at least for bigger banks because of, for

example, conflict-free building of earnings logics and synergies in asset management. A bank's loan protection insurance partner is very often external in Finland, the market leader being Genworth Financial which has entered a sales agreement with several financial institutions. Genworth has no overlapping service channels with its partners, because it has only one country office with no sales activities.

The good track record in loan protection sales is due to the fact that this product has been completely embedded in a loan product and the sales negotiation is part of the loan negotiation process. Loan protection is not sold as additional insurance cover but as a part of the loan - "a secure loan". The good savings insurance sales figures in Finnish banks are mainly due to the facts that banks know much better than any other institutions the financial situation of a customer and that customers traditionally consider their banks reliable advisors - largely because of long term customer relationships. The market share of the Finnish banks of the national life insurance premium income has developed remarkably: In 1993 it was 1 %, in 1996 40 %, and in 2000 60 %.

After the year 2000 the market share has remained at the level of ca. 60 %. There are only a few European countries where the bank channel is so dominant in life insurance sales - at least Spain should be mentioned here.

The Finnish banks have been active in establishing life insurance subsidiaries, but non-life insurance companies in banking groups have been rare exceptions. Nordea and Sampo are the biggest and the third biggest retail banks in Finland. Sampo Group is a typical example of a financial conglomerate. It was formed by a merger between a bank, a non-life and a life insurance company. The non-life insurance company was sold out and became a part of the Nordic If, but then after a couple of years Sampo acquired the whole If to the conglomerate. The behaviour of Nordea has been different: When Nordea became pan-Nordic, it included a Danish non-life insurance company Tryg Vesta which was soon sold out to Denmark. Nowadays Nordea has a sales agreement with Tryg Vesta, and the parties are further developing their cooperation. They have no overlapping service channels in Finland, in fact Nordea is Tryg's only sales channel here.

Sampo has been the only bank in northern Europe that is consolidated to a non-life insurance company. In September 2005 the Finnish Okobank announced that it has acquired the majority of the non-life insurer Pohjola. In France and the Netherlands such combinations occur, and those banks report good sales in insurance lines specially tailored for a bank channel. For example, the French Credit Agricole has both life and non-life subsidiaries Predica and Pacifica.

It is commonly believed that the poor sales synergy between bank and non-life insurance products is a good reason to avoid banking and non-life insurance in the same group. However, as pointed out by Boyd et al. [1993], Boyd and Graham [1988], Lown et al. [2000], Ladermann [1999], Kwan and Ladermann [1999], Estrella [2001] and Kist [2001], banks can benefit from significant diversification gains if consolidated to insurance companies. In fact, non-life insurance companies lead to larger diversification and failure reduction benefits than life insurance companies, see Estrella [2001]. One gets the feeling that these potential diversification gains may have been overlooked when certain banks have wanted to remove non-life insurance from their consolidation groups as soon as possible.

2.3. Insurance companies establishing banks

Finnish insurance companies felt strengthening competition from the banks in the latter half of the 1990's because the bank-owned life insurance companies won greater and greater market shares. The non-bank owned life insurers strengthened their marketing towards corporate clients because banks have not so far been especially successful in selling corporate insurance. The non-bank owned life insurers became also aware of the need for customer protection: The banks began to attract their customers' money to their own life insurer when, for instance, the capital insurance in the non-bank owned life insurer expired and was paid to the customer. A bank is, of course, in a good marketing position always when a customer is considering reallocation of his/her assets. A simple way to prevent this would naturally be to establish an own bank where all the money from the customers' savings insurance were directed and where the customer would keep as much "loose money" (waiting for possible reallocation) as possible.

So far in Finland, only Tapiola Insurance Group has established an own bank in 2004. It functions in the Tapiola branch network with no separate branches. A large part of its services are available only through the Internet. The non-life insurer Pohjola has reacted to the customer protection issue in a different way. It entered an alliance in 2002 with 32 local savings banks which are safe havens from the customer protection point of view, because all the life insurance and mutual fund products offered by those savings banks are produced in Pohjola (mutual funds are managed in a joint venture company, but Pohjola is their asset manager). The partners also own jointly a retail bank. The branch network of Pohjola's savings bank partners is not nationwide, so there are holes in customer protection. From Pohjola's point of view, one risk is the low market share of its partners - only 5 % of the retail banking market, while Pohjola has ca. 25 % market share in non-life insurance. A significant number of Pohjola's customers use some "unfriendly" bank, very often Nordea. In September 2005 The Pohjola Group was acquired by Okobank, which shall terminate the cooperation between Pohjola and the savings banks. Tapiola started its own bank from scratch and it will take years until it reaches a significant status among Tapiola's customers.

2.4. Insurance companies establishing asset managers

In late 1990's, the mutual fund volumes grew in Finland, and unit linked insurance became a real alternative to traditional (with profits) life insurance. Some non-bank owned life insurers, like Sampo (in 1999 before the merger with Postbank) and Tapiola (in 2000) wanted to be self-supported in fund production and established asset manager groups. Their bank-owned competitors had already in-house fund management and asset management units. In addition to unit linked sales, Sampo and Tapiola certainly also had in mind direct fund marketing, although it takes a great training effort to provide the traditional insurance branch people with necessary investment market knowledge.

Pohjola was more ambitious as for asset manager functions. When it acquired the Conventum group in 2001, Pohjola made it very clear that they shall stand on two feet - nonlife insurance and wealth management. After structural arrangements with Suomi in 2004, Pohjola has acquired life insurance as well. In terms of volumes, a great part of life insurance can be classified as wealth management. So far, Pohjola has got relatively few and big, often institutional, fund customers, but the retail customer base has been thin. In an alliance with

32 savings banks they tried to increase their retail market share. In September 2005 Pohjola was acquired by Okobank.

2.5. Asset managers establishing banks

Non-bank owned asset managers have faced exactly similar customer protection problems as insurance companies, see section 2.3 above. When their customers' money has been in a bank account waiting to be reallocated, the bank has actively offered their investment products. Therefore, many bank-independent asset managers, e.g. Evli and EQ, have established banks for their customers' "parking money" that can also grant liquidity loans. Those banks are not meant to be only banks of their customers, because they lack certain transactional facilities.

2.6. Asset managers establishing insurance companies

No asset manager in Finland has established an insurance company, although savings life insurance is essentially asset management. On the other hand, many asset managers are important partners to (non-bank owned) life insurers as fund providers. The asset manager closest to insurance business is Evli which has established a broker company Evli Life. If the tax treatment of life insurance turns (or at least remains) favourable, it perhaps encourages asset managers to establish life insurance subsidiaries.

It can be concluded that in Finland banks have been the first and most active actors in the field of financial convergence, and the other sectors have more or less reacted to their manoeuvres (see e.g. customer protection issues in subsections 2.3 and 2.5 above). The banks' behaviour started as defensive against asset managers and turned offensive against insurance companies. To summarize, with these movements banks learned to fully utilize the strength of their channels and customer interface.

3. Control by ownership

The Control by ownership alliance model is a structure where banking and insurance is governed by the same ownership. This owner can be a bank, an insurance company, or a holding company. This is the tightest form of an alliance. The cross-sector consolidation within the financial industry has happened in the form of the Control by ownership model. The networking or alliance trend within the industry, which has not included consolidation, has happened in the form of cross-selling agreements with or without cross-ownership or joint ownership between the partners.

At the same time as these trends of consolidation and networking without consolidation have developed, there has been a strong trend of financial convergence, e.g. in Finland from the beginning of 1980's, see section 2. In fact, the financial convergence case of establishing or buying a subsidiary in the neighbouring sector means actually forming a Control by ownership alliance structure, as is seen in sections 2.2 and 2.3. Sometimes these groups are restructured so that the owner is a holding company.

Famous international examples of Control by ownership alliances are the merger of Citycorp and Travelers Group to the world's biggest Control by ownership structure Citigroup, the merger of Credit Suisse and Winterthur Insurance, and the merger of Allianz and Dresdner Bank. In the Nordic countries, one of the first Control by ownership alliance examples was the acquisition of Trygg-Hansa by the SEB bank, which was soon followed by selling out the non-life insurance parts of Trygg-Hansa. Later on the pan-Nordic Nordea and the Finnish Sampo, both Control by ownership structures, followed the same principle of removing or outsourcing non-life insurance from the group structure. Afterwards Sampo acquired the whole Nordic non-life insurer If. In September 2005 the Finnish Okobank followed the example of Sampo by acquiring the non-life insurer Pohjola. The different attitudes to non-life insurance of different banks have been discussed in section 2.2. The diversification benefits that non-life insurance brings to retail banking much more successfully than life insurance are also considered there.

The following benefits brought by the Control by ownership models have partly been shown in practical alliance formation cases, partly they are common beliefs among the industry:

- Building an alliance-wide earnings logic is much easier than in non-consolidation alliances like alliances of independent partners (cross-selling agreements with cross/joint ownership) and plain cross-selling agreements.
- Channel conflicts are better managed which enables more efficient cross-selling.
- Investor power increases. The significance of this criterion has been recently questioned in the market
- Reducing the overcapacity of distribution channels is easier than in looser (non-consolidation) alliances.
- Alliance-wide customer relationship management is easier than in looser alliances.
- Decentralizing or diversifying business portfolio efficiently requires a consolidated structure, i.e. a Control by ownership structure. Cf. Kist [2001].

These assertions are strongly verified by our study.

4. **New trends in the financial sector**

In the following, we shall briefly discuss some trends in the financial sector which are already influencing or shall influence banks and insurance companies, whether they have entered an alliance or not.

Naturally, alliance formation itself is a major trend in the financial sector, and it is actually hard to find a bank or an insurance company e.g. in Finland nowadays with no cross-sector alliance ties. Until recently, non-consolidation alliances have been more frequent than Control by ownership models in Finland because mutual insurance companies and co-operative and savings banks cannot participate in consolidation arrangements. Financial convergence (see section 2) has also been a powerful trend among the financial enterprises for more than twenty years.

Another quite recent trend is moving from product oriented action model to customer oriented model in many fields of action. This is shown, for example, by allocating a personal contact person, "an advisor" for customers in higher segments, and arranging regular, often annual, checkpoints for adjusting a customer's savings plan or insurance cover. A customer receives regularly a proposal or call for an adjustment, and it is performed if (s)he is interested. One form of customer orientation is uniform presentation of products and services throughout the organization.

A recent trend in the financial sector is "one stop shopping" or "one-door-principle", where a customer is offered as many bank and insurance products as possible at one place during one customer service event. In several cases of practical alliance formation in Finland during the last years one-door-principle has been strongly emphasized as an important goal and a background motivation factor for creating an alliance.

Product bundling, or product combinations, is an important new trend in financial enterprises. Two bank products can be tied together, for example, by combining a housing loan and some savings product. Insurance products that can be combined could be e.g. savings insurance and accident insurance. One typical example of cross-sector product combinations is a housing loan and a loan protection insurance. In fact, one could easily design at least a dozen relevant bank-insurance product combinations separately for private and corporate customers. A cross-sector product combination is an important special case of cross-selling where sales transaction not only generates commission income but also genuine source of earning in the balance sheet. Therefore, cross-sector product combinations have had high priority in the agenda of companies planning alliances.

Aging population calls for new product development in almost all countries. In Finland, harmonization of tax benefits of pension savings products was rejected by the government in 2004, but it can be expected to return to public consideration. Long term care insurance should require rational tax incentives which have not been accepted by the government so far. The current tax regulation of pension insurance implies that it is in many cases more favourable to arrange a collective than an individual pension plan. A question has been raised in the administration (for example, Jouni Backman, chairman of the social democratic parliamentary group) whether voluntary long-term saving should in principle be subsidized by tax incentives at all. It can, however, be shown that such subsidies help the mandatory pension system to manage its obligations. Also such risk insurance lines as health insurance with wide cover are growing in importance.

Another important trend in the financial industry in e.g. the Nordic countries is the strong emphasis on long-term saving. Such companies as Skandia and SEB in Sweden and Sampo and Pohjola in Finland have defined long-term savings as their key, if not the most important, business area. Naturally, such a strategic statement is most easily implemented in a consolidated organization, i.e. within a Control by ownership structure. The potential for various insurance and banking products for long-term savings purpose is especially high in a country like Finland where roughly half of the financial assets of private individuals are still in bank deposit accounts. For example, in Sweden this fraction is ca. 25 %.

One recent trend which has been visible in many European countries and in Sweden more than in Finland is the opening of the value chain. Here it means

that the financial organization begins to sell to its customers products produced in external companies that can even compete with the corresponding in-house products. The rationale is the obvious customer oriented idea that the best possible products are not always produced inside the company and it is good service and often good business to sell the customer an external product when (s)he needs it. The Finnish banks have not opened their value chain very much (concerning, as an example, mutual funds). It would seem that the Control by ownership alliance structure is not any incentive – even if it is not an obstacle – to open value chain, whereas in looser structures it is more natural to sell others' (starting from the alliance partners) products.

5. Opportunities and threats

The competition between financial enterprises is constantly growing, whereby the prices are pressed downwards and also turned more and more transparent. In order to control the expenses, sales channels have to specialize themselves in the products of which they have the best knowledge. Generally all types of alliances become more frequent because of efficiency, scale benefits and a wide product assortment in one single place.

One threat in consolidated alliances is the fact that banking and life insurance in the same group do not equalize, but amplify each other's business cycles, and the crucial question is: how might the owner of the group tolerate the subsequent swings of ROE and possibly required solvency capital injections? This has caused serious discussion of the justification of cross-sector consolidation in many parts of Europe (for example, the economist working group of the Conference Board in Switzerland in 2003). If a bank considers life and non-life insurance as possible complements to its business portfolio, life insurance offers, obviously, better sales synergies (especially because savings insurance is closely related to familiar banking products). As is pointed out above in section 2.2, non-life insurance, on the other hand, diversifies the business portfolio much better than life insurance. A natural question then is: Should the bank acquire both businesses to obtain balance?

Supervision of Control by ownership organizations is challenging, and the supervisors are increasingly worried about the concentration of customer risks.

The modern customer interface is difficult to manage properly. A customer uses the different service channels (the branch network in various forms, the Internet, the mobile channel, the contact centre) in the way he/she wishes, and the integration of the channels is challenging. Customer relationship management (CRM) in general is demanding and expensive.

6. Equity and non-equity alliances

In this section we comment the findings of Pangarkar and Klein [2001]. Their results cannot be directly applied here because they have single industry focus, i.e. the companies participating in an alliance represent the same industry (their case study concerns biotechnology industry), while we study cross-industry alliances. Nevertheless, it is interesting to discuss their results since there is certain similarity between their and our observations.

Pangarkar and Klein [2001] examine the choice between two alternative alliance governance structures: equity and non-equity. Equity alliance means that an alliance member has a minority equity stake in another member (possibly but not necessarily also vice versa), or alliance members have entered into a joint venture. Non-equity alliance lacks these ownership features and is a pure contractual agreement. Non-equity alliance can consist of an agreement from the areas of sales, licensing, technology exchange, second sourcing and production.

Strategic alliances are increasingly seen as competitive necessities particularly in international markets (Johansson [1995], Parkhe [1993]). Varadarajan and Cunningham [1995] point out that alliances enable firms to achieve a variety of objectives, such as attaining a wider geographic presence, sharing risks, pooling complementary skills, and achieving critical mass. Scholars studying strategic alliances agree that more appropriate structuring of alliances might help make the cooperation more robust, thus reducing the likelihood of failure (Gulati [1995], Parkhe [1993]).

According to Pangarkar and Klein, co-alignment of incentives and the administrative monitoring properties make equity alliances more adaptable to a changing environment than do purely contractual arrangements. These features also help firms deal with transactional uncertainty, which can be attributed to factors such as partner behaviour and demand volatility within the industry (Harrigan [1988], Sengupta and Perry [1998]). Equity alliances have also several disadvantages. Arrangements such as joint ventures are more difficult to establish (Gulati [1995]). There are high costs to either terminating or fundamentally changing equity alliances. Administering an equity alliance is an inherently more complex task than administering a non-equity alliance (Buckley and Casson [1988]).

Partners in a purely contractual relationship have great flexibility to enter into and exit from such arrangements, at relatively low costs. A disadvantage of these arrangements is that since they are relatively easy to enter and exit compared to equity alliances, partners are reluctant to make significant alliance-specific investments (Gulati [1995]). This has been clearly seen for a long time in sales agreements between Finnish banks and insurance companies. Especially, when there has been no actual two-sided cross-selling, and, for example, only a bank sells products of an insurance company, there is a great risk that this sales activity receives gradually a lower priority among the many tasks of the bank personnel, if the sales commissions are not exceptionally high.

Pangarkar and Klein point out that previous research has noted that firms are likely to resort to alliances when they face a high degree of environmental uncertainty, see also Sengupta and Perry [1998]. They state this in the context of international alliance formation, but the same holds also in the case of Finnish domestic alliances between banks and insurance companies. The main source of uncertainty has been the narrowing profit margins among both industries and, consequently, the companies have recognized the need to acquire new income by means of cross-selling.

According to Pangarkar and Klein, alliance purpose influences the choice of alliance governance form. They study closer two purposes: research and development - and marketing, which, according to their assumption, addresses adequately issues related to the impact of alliance purpose on alliance governance. This is probably true for such an emerging industry as

biotechnology. On the other hand, banking and insurance are mature and not very R&D intensive industries.

The following hypothesis they present and also provide with statistical evidence from biotechnical industry is interesting: "If the purpose behind alliance formation is marketing, the alliance is more likely to be a non-equity alliance than an equity one." We shall keep in mind that Pangarkar and Klein had a single industry focus and the results are not directly applicable to an environment like we have. However, if we approve the assumption that cross-selling and obtaining a greater share of wallet of a customer are the primary drivers behind the alliance formation, then we can say that marketing is the purpose of alliance formation also here. The above mentioned hypothesis is also true in the Finnish alliances between banks and insurance companies, because pure contractual agreements (in practice sales agreements) are very common and clearly outnumber the amount of equity alliances or control by ownership alliances..

One purpose behind alliance formation which Pangarkar and Klein do not mention at all is optimizing cost and revenue synergies. They are studying an emerging industry where there is not much relevance in, for example, cutting down service network costs, which has proved to be essential in the Finnish bank and insurance sectors.

Hagedoorn and Narula [1996] and Harrigan [1988] argued that when the anticipated transaction costs are low, non-equity alliances offer a flexible means for inter-firm cooperation. Non-equity alliances are particularly useful when there is asymmetry between partners in terms of organizational size and culture, among other factors. If we look at Finnish actual alliances, we can note that OP group is much bigger than its partners Fennia and Local Insurance, and they formed a non-equity alliance. On the other hand, Pohjola is much bigger than the savings banks it is associated with, but they formed an equity alliance with two joint ventures. (In September 2005, OP Group (Okobank) acquired Pohjola which shall terminate the above mentioned alliances.)

Pangarkar and Klein note that non-equity alliances are clearly predominant in biotechnology industry, and they encourage managers to use these arrangements since they offer a flexible and low-cost alternative to equity alliances. It is our belief that there are two reasons why there is a trend towards longer lasting and tighter alliances in our setting than in biotechnology industry: (1) cross-selling ties partners together in cross-industry alliances, (2) product development involves longer time spans in financial sectors than in biotechnology, especially when creating cross-sector combination products. Comparing more generally the alliance formation behaviour of bank and insurance sectors with that of other industries is an interesting topic for further research.

7. Conditions for alliance formation

Park and Zhou [2005] present a game theoretical model to generalize the conditions for alliance formation. Their paper focuses on competitive alliances - that is, ongoing cooperative relationships among direct rivals in a competitive setting. In our context alliance members are not usually rivals since they represent different industries, the only exception in Finland was the alliance between OP Group, Fennia and Local Insurance, where Fennia and Local Insurance compete with each other in the area of non-life insurance. (Finnish

banks and mandatory insurance companies that compete with each other have formed alliance structures to share information technology resources, but they are not cross-sector arrangements.) Nevertheless, it is interesting to discuss applicability of the remarks, observations and results that they present to our setting.

Silverman and Baum [2002] showed that firms face increasing competitive pressures as their rivals engage in more alliances, which also affects the firms' performance and survival. It is widely accepted that the potential costs for a firm could be substantial when it is left out of alliance activities (Garcia-Pont and Nohria [2002], Gomes-Casseres [1996] and Silverman and Baum [2002]). In recent years, more and more firms have been reacting to increasing competitive pressure by forming alliances with direct competitors (Garcia-Pont and Nohria [2002], Gomes-Casseres [1996] and Harbison and Pekar [1993]). In Finland, many banks and insurance companies have clearly considered it necessary to form alliances in the first years of the new millennium for competitive reasons, but the only direct competitors that have entered an alliance with each other have been Fennia and Local Insurance - under the influence of the third partner, OP Group which represents the banking industry.

The study of Park and Zhou [2005] focuses on conceptualizing a firm's alliance decision based primarily on competitive pressures in the market. The competitive dynamics approach emphasizes how one firm's alliance behaviour affects other firms' fortunes - for example, by imposing losses on other firms by preempting them from forming desirable alliances. Park et al. [2002] and Park and Zhou [2005] have made an unexpected finding: weak firms are more likely to form alliances, despite little chance of gains, while strong firms hold out in forming alliances despite a strong chance of positive gains. Strong firms can afford to delay their alliance decisions, since they could catch up easily once they realized the significance of the alliance. Park and Zhou show that competitive dynamics and loss prevention in a competitive setting are critical drivers of alliance formation. To our knowledge, no one has been able to confirm the above statement concerning weak and strong firms among Finnish banks and insurance companies. Probably the differences between the strength of the companies in the Finnish finance market are smaller than those of the emerging industries studied by the above authors. Thus, the argument is probably not relevant here.

Park and Zhou point out that firms not only form alliances to differentiate themselves from others but also as a competitive response to prevent others from gaining a competitive edge by accumulating more capabilities. The expected gains from an alliance may come from various sources, such as gaining market power and access to complementary resources (Kogut [1988], acquiring institutional legitimacy and new competencies (Baum and Oliver [1991], Hennart [1988]), and exploiting firm-specific competencies or reducing environmental uncertainty (Burgers et al. [1993]).

Park and Zhou summarize that strategic alliance is used to meet firms' needs and opportunities in uncertain markets while further utilizing firm-specific resources and capabilities. Many alliances are formed without immediate economic benefits, primarily to prevent potential losses from being left out of alliance activities. In Finnish alliances between banks and insurance companies immediate cross-selling benefits have often been so limited that one might presume that the actual target has been to prevent potential losses. This seems

to be especially evident in the case of some non-equity alliances (pure cross-selling agreements).

According to Park and Zhou, opportunistic hazard in strategic (competitive) alliances is inevitable because of the inherent competitive incentives for the partners. Even in a highly complementary - noncompetitive - alliance, it is a daunting task to manage conflicts that arise from managerial and organizational complexities and dissimilarities. The alliances we have studied are highly complementary. At least the alliance comparison criteria concerning fitting together conflicting earnings logics and minimizing channel conflicts address these risks. It is widely believed that strategic alliances are more likely to fail than succeed and that partners often experience adverse outcomes from unsuccessful alliances (Parkhe [1993]). In Finland, the alliances between banks and insurance companies have mostly been established during the last decade, and very few have been unwound. The reason then has been the emergence of a new strategy for one of the partners, and the new strategy has been in conflict with the former alliance strategy. The unwound alliances have been non-consolidation alliances.

As rivals participate in alliances, there is a bandwagon effect that pressures the firm to follow suit so that it will not be competitively disadvantaged (Abrahamson and Rosenkopf [1993], Garcia-Pont and Nohria [2002]). Since firms race into forming alliances to avoid potential losses from missing the alliance rather than to capture alliance gains, which is especially true for weak firms, these firms are not necessarily the best ones to establish, exploit, and to maintain alliance gains. This presents a partial explanation for the high failure rate of strategic alliances in recent years. Alliance decisions are simply based on what others are expected to do - not necessarily on a firm's own net expected gains from the alliance. Among the Finnish banks and insurance companies there was an obvious alliance formation race in the years 2000-2002. Many participants of that race considered it very important to achieve a decent cross-sector alliance before the others. It was also desirable to get a strong partner and thus prevent the competitors from forming an alliance with it.

According to Park and Zhou, while the alliance literature generally suggests that only strong firms will be able to find partners (Eisenhardt and Schoonhoven [1996]), empirical evidence does not always support this (e.g., Park et al. [2002]). This indicates that what really matters is a firm's willingness to pay for an alliance, which is driven in large part by loss prevention concerns. Fitting together earnings logics reflects what each partner has to pay for an alliance. For example, the sales commissions that the partners pay each other are an important part of the earnings logic of the alliance. Naturally, the administrative costs and the synergy benefits caused by an alliance are parts of the price of an alliance.

The mathematical and simulation results of Park and Zhou support that, along with the classic cost-benefit analysis, it is the competitive dynamics in a given market that trigger competitors' alliance decisions. The alliance strategy is thus not only a proactive move to create additional competitive gains from the complementary benefits of the alliance but also a defensive move to sustain a competitive balance in the market. In the Finnish bank and insurance market, banks have at least since 1990 defensively sold insurance products to earn sales commissions because of the narrowing profit margins of the traditional banking business. This happened in the beginning by establishing non-equity alliances with insurance companies, then towards the middle of the decade by establishing

life insurance subsidiaries. Later, in 2000-2002, the defensive alliance formation strategy was adopted by a number of banks and insurance companies, as commented earlier.

Park and Zhou conclude that firms, especially weak ones, form alliances to prevent potential losses while they do not have sufficient alliance capital to create new gains and to manage the complex cooperative relationship. These types of alliances are less likely to succeed. In Finland, the terminations of alliances between banks and insurance companies have not been caused by weakness of any of the partners, but either by a fundamental change in the strategy of one partner or a change in the ownership of one partner, after which the continuation of the former alliance relationship would have been more or less impossible.

8. Other relevant literature

Both Pangarkar and Klein (see section 6) and Park and Zhou (see section 7) present interesting results concerning alliance formation and choice of alliance type, but their primary interest is other than alliances between banks and insurance companies. The problem of finding the most preferred financial alliance structure has, according to our knowledge, only been studied partially, i.e. from a specific perspective.

Vander Vennet [2002] shows that financial conglomerates are more revenue efficient than their specialized competitors. His results are confirmed by Casu and Giradone [2004].

Financial convergence (see section 2) is driven by a need for growth by entering new markets, and by the desire to maximize share of wallet from every customer (Ryan [2001]). Van den Berghe and Verweire [2001] point out that one or another form of the financial convergence can be witnessed in many, if not all, developed markets.

Convergence has brought about somewhat similar solvency regulation for the banking and insurance sectors. Bittermann [2003] compares banking and insurance risks and points out that in Germany, for example, the convergence of the financial sectors has resulted in merging the respective supervisory authorities. On the other hand, Manghetti [2002] comes to the conclusion that supervising even multinational financial conglomerates does not necessitate the convergence of supervisory authorities. Implications of financial convergence for supervision and regulation are also discussed by OECD [1998], Van den Berghe and Verweire [2001] and Verweire [1999].

Cybo-Ottone and Murgia [2000] study whether European cross-product mergers have created positive shareholder value. They document positive results driven by the strong market reaction of deals announced between banks and insurance companies. Cybo-Ottone and Murgia explain this by economies of scope or revenue efficiencies due to cross-selling of bank and insurance products to retail customers. In USA, The Citicorp-Travelers Group merger in 1998 increased the prospects for new legislation to remove the barriers between banking and insurance, resulting in a positive wealth effect for institutions most likely to gain from deregulation, see Carow [2001].

Literature concerning business portfolio diversification benefits when banks are consolidated to insurance companies is given in section 2.2

The emergence of alliances has also influenced finance product sales: according to SIGMA [2003], growing sales of life insurance in banks has increased especially unit-linked sales volumes.

Prudential supervision of financial conglomerates is discussed by Thom [2000], and prudential supervision of insurance companies is covered by Sharma [2002].

The importance of the customer perspective to financial services integration has been emphasized by e.g. Belth [2000]. Customer perspective to mergers is taken in Bank Marketing International [2004].

Only part of the above mentioned studies discuss directly the problem of finding the best alliance structure. Those use only one or at most two criteria (revenue efficiency, shareholder value, economies of scope, etc.). They compare only two alternative structures at time. Very often the emphasis is on a merger as the only alternative. As we could not find an approach to the problem that would use all the relevant alliance alternatives and all the relevant decision criteria which could be found, we decided to approach the problem that way. We also chose to use decision theoretical approach and use interviews and group decisions of experts to solve the problem. Thus, we wanted to make sure that the decisions should reflect a real-life decision-maker's opinions. This is a new approach to the problem.

9. **Methodology used in the articles: The Analytic Hierarchy Process**

Choosing the most preferred alliance structure is a typical multiple criteria evaluation problem. Alternative alliance structure models are compared using a given set of criteria. We use the Analytic Hierarchy Process (AHP) by Saaty [1980] as a decision support system to assist the decision makers to compare the alternatives. The AHP provides us with a simple tool first to evaluate the mutual importance of the criteria, then to compare the alternative alliance structures on each criterion, and finally to calculate the overall comparison results with the help of them. The AHP is capable of handling multiple criteria decision problems where some criteria are quantitative and some qualitative or abstract.

The basic assumption in the Analytic Hierarchy Process (AHP) is that a human being makes comparisons between objects on a ratio scale (see, e.g. Saaty [1980]). In the AHP, the objects to be compared can be concrete or abstract. A central element in the AHP is a full set of $n(n - 1)/2$ pairwise comparisons, where n is the number of objects. Because it is difficult for a person to distinguish simultaneously more than 7-9 different levels of preference, Saaty (see, e.g. Saaty [1980, p. 54]) has proposed that the odd integers 1...9 are used to describe the dominance of one object over another. Then 1 stands for equal importance (two activities contribute equally to the objective) and 9 stands for extreme difference in importance (the evidence favouring one activity over another is of the highest possible order of affirmation).

If object i has one of the above nonzero numbers assigned to it, when compared with object j , then j has the reciprocal value when compared with i . Intermediate scores of 2, 4, 6, and 8 can be used, if necessary. As a result of pairwise

comparisons a matrix is obtained which can be analyzed to obtain the required prioritization results. There are several methods to estimate the numerical value scores w_i , $i = 1, 2, \dots, n$, which are the priorities for the objects 1, 2, ..., n as a result of the pairwise comparisons. Saaty [1980] recommends the method which uses the eigenvalues and the eigenvectors of the pairwise comparison matrix. One important feature of the comparison is consistency. For example, if one prefers object 1 to object 2 by 2:1, and object 2 to object 3 by 3:1, consistency means that one should prefer object 1 to object 3 by 6:1, otherwise the comparison is inconsistent. Saaty [1994] provides some measures for evaluating the degree of inconsistency. When a decision maker notices that his/her comparisons lead to too high inconsistency in the pairwise comparison matrix, (s)he can reconsider his/her comparisons.

When the objects i and j are compared in a pairwise manner, the final values derived from the paired comparisons of the objects are usually better than those obtained by direct assignment of numbers to all objects at once. An ultimate goal in the AHP, is to estimate a vector $w = (w_1, w_2, \dots, w_n)$, $w_i > 0$, $i = 1, 2, \dots, n$, which usually is scaled so that $\sum_i w_i = 1$ whereby w_i represents the relative value score of object i . The positivity condition $w_i > 0$ on the components of the vector w require that the objects be comparable on a ratio scale.

The objects to be compared may be for instance forces, actors, criteria (objectives) or alternatives (scenarios). In the AHP, the evaluation problem is presented in a hierarchy. At each hierarchy level, we have the objects of the same type. For instance, at the criterion level, we compare the criteria. At the lower level in the hierarchy, we may have the alternatives which are compared on each criterion. In this study we have quite simply two levels: the upper one is the criterion level, and the lower one is the set of alternatives (alliance models). We first perform the pairwise comparisons for the criteria, and then calculate the criterion weights (value scores) using some numerical algorithms. (There are convenient program packages to perform the calculations.) If some criteria receive very low weights, they can be dropped from further analysis. Then the alternative models are compared pairwise on each criterion, and their priorities are obtained. Finally, the overall priorities (value scores) of the alternatives are obtained by calculating the weighted sum of the criterion-based priorities by using the previously calculated criterion weights. If any pairwise comparison matrix indicates too high inconsistency, the comparisons are reconsidered. In this study the model prioritization is static, i.e. the optimization is performed at a single fixed time point when the expert panel has gathered together.

When a group is a decision maker, there are two different methods to be applied. Each group member can make his/her own evaluations, and then an external facilitator or a model makes a synthesis of the evaluations. Another way is to ask the group to make comparisons as a group. To find the joint opinion, the group may apply a majority rule or a consensus principle. We decided to ask our decision makers to negotiate until reaching a consensus. Before actual pairwise comparisons the criteria were thoroughly discussed so that the participants should understand them in the same way.

The AHP is an extremely widely used and also a widely studied multi-criteria decision method. It has been criticized because, for example, inserting a new alternative may reverse the ranks of some previously considered alternatives, see Belton and Gear [1983], Dyer [1990] and Salo and Hämäläinen [1997]. Rank reversal does not, however, affect the results of this study because all the

alliance alternatives (and criteria) were predetermined and they were not added during the analysis.

10. Summary of the articles

Banks and insurance companies have widely recognized the need for mutual co-operation in the form of cross-sector alliances. In this thesis we study the problem of finding the most suitable alliance structure between banks and insurance companies from the point of view of executive management, supervisory authorities and customers. The problem is a multiple criteria decision problem where the criteria are often difficult to quantify and compare. We also study possible compromise alliance models for several decision maker groups and a group's understanding of other groups' decisions.

The alliance structure models and the criteria for comparing and prioritizing them have been derived in co-operation with experts who have been interviewed individually and have been members in panels for group decision making. The development of the criteria and the prioritization of the criteria and the models have been a result of the group decision making process. Therefore, the results analyzed in the thesis reflect the expertise and the attitudes of the decision maker groups. They have used their own premises instead of receiving instructions how to approach the problem.

In the search for the most preferred alliance structure from the point of view of three different decision maker groups our criteria are more difficult to quantify than those occurring in the literature of financial theory. Some of the criteria are purely quantitative, but some of them are qualitative or very abstract, depending on the relevant expert opinions. This has affected the choice of the method for solving the multiple criteria decision problem.

In the first article we study alliances between banks and insurance companies from the perspective of the top management of a financial enterprise, and the relevant business environment is the retail market. We define six different structural models for financial alliances. The alternative alliance structures are

- Cross-selling agreement, no overlapping service channels (abbreviated CSA1)
- Cross-selling agreement, overlapping service channels (CSA2)
- Alliance of independent partners, no overlapping service channels (AIP1)
- Alliance of independent partners, overlapping service channels (AIP2)
- Control by ownership, where a bank owns an insurance company or vice versa (CBO1)
- Control by ownership (financial conglomerate): a holding company owns one or several banks and one or several insurance companies (FC)

The parameters of the models are the closeness of the alliance in terms of mutual ownership, and the question whether or not alliance partners have overlapping service channels. If we compare these alliance model definitions with those of Pangarkar and Klein (see section 6), we observe that there is a

correspondence between their equity alliances and our alliances of independent partners AIP1 and AIP2, especially if we allow one-sided ownership instead of requiring cross-ownership, and there is a direct correspondence between their non-equity alliances and our cross-selling agreements CSA1 and CSA2.

Pangarkar and Klein do not discuss Control by ownership models at all as alternatives for a strategic alliance. The division of the models mentioned by Van der Berghe and Verweire (2001) is otherwise similar to ours but they do not differentiate between overlapping and non-overlapping service channels. The model classification by Benoist (2002) is somewhat different including for example franchise agreements and joint ventures which have not been used in the Nordic countries.

As discussed in earlier sections, there are examples of most of the presented alliance categories in Finland: The OP Group, Fennia Insurance group, and the Local Insurance group have had a CSA2 agreement, also Veritas Insurance has a CSA2 agreement with Aktia Bank, local co-operative banks and Ålandsbanken; Genworth Financial has a CSA1 agreement with several financial institutions; Pohjola and 32 local savings banks have had an AIP2 alliance with joint ownership in a mutual fund management company and a retail bank; control by ownership has been adopted by banks like OP Group and Handelsbanken by establishing or acquiring a life insurance company, and by Tapiola Insurance group by establishing a bank; and finally, Sampo Group is an example of a financial conglomerate FC.

In our first article, we also characterize nine criteria according to which the previously defined models are to be compared to achieve the most attractive alliance model. Thus, we obtain a multi-criteria decision problem. In the design of the criteria representatives of the top management of Finnish banks and insurance companies have been consulted.

Finally, we perform a tentative evaluation of the importance of the criteria which indicates that the criteria concerning earnings logics, synergies and channel conflicts are the most important. The control by ownership models CBO1 and FC would seem to be most attractive with respect to these criteria from the executive management point of view.

The contribution of the first article is the structuring of the problem (alternative alliance structure models and the criteria for evaluating them) from the executive point of view.

In the second article we study alternative alliances between banks and insurance companies starting from the same six different structure models for such alliances and nine criteria used to evaluate the models which were derived in the first article. To solve the problem of searching the most preferred alliance model, we use an expert panel and the Analytic Hierarchy Process (AHP). Experts are representatives of the top management of Finnish banks and insurance companies. During the decision making process new criteria for model comparison emerge. Finally, the most important criteria consider economies of scope, economies of scale and cost and revenue synergies. Based on the evaluations of the panel, the alternatives Financial Conglomerate and Cross-Selling Agreement, no Overlapping Service Channels are most preferred. Which one is chosen, depends on how risk is emphasized.

One of the criteria which are widely discussed in the literature but are not selected to the executive criteria of our study is the diversification of the business

portfolio. The executives involved in our study did not consider it important. Portfolio diversification is briefly discussed above in section 2.2. Also risk considerations are frequent from many points of view in the literature, but our executives gave only a low weight to a risk criterion. Other criteria occurring in the literature but not among our executive criteria are revenue efficiency and shareholder value (see section 8). On the other hand, some of our criteria hardly occur in the literature, for example those concerning channel conflicts and sales management.

An alliance comparison criterion can be called an alliance driver, if it receives a high weight when the criteria are prioritized. An alliance driver is considered to be able to separate efficiently the alliance alternatives from each other. Our study shows that, despite their general significance, implementing the one-door-principle and product development are not any alliance drivers. Thus, the statistical analysis that Pangarkar and Klein [2001] give to hypotheses concerning the influence of the purpose of conducting R&D on the alliance governance form (see section 6) is not especially relevant in this context. According to our second article, CRM aspects are not a special alliance driver, either. All the criteria mentioned here except risk can be clearly best managed in Control by ownership alliance models.

The advice of Pangarkar and Klein to form non-equity alliances (cf. Section 6) is in interesting contrast with the executives' preferences in our second article: Although the majority of the participating panelists were from mutual insurance companies and local banking organizations for which it is much more difficult to participate in ownership arrangements than for listed companies, they preferred equity to non-equity alliances, and considered Control by ownership structures even much more desirable. Clearly they did not emphasize the drawbacks of equity alliances or control by ownership structures such as difficulty in establishment, high costs to either terminating or fundamentally changing the alliance, or complex administration. The financial benefits were considered to outweigh all these drawbacks.,

The contributions of the second article are the insights generated based on the opinions of the participating executives with the help of the Analytic Hierarchy Process, and the analysis of the evaluation process.

In the third article, we look for the best financial alliance compromise structure between the executives of the banks and insurance companies and the bank and insurance supervisory authorities in Finland. First, we study alternative alliance structures between banks and insurance companies from the point of view of supervisory authorities. Together with leaders and experts of these authorities, we introduce eight criteria for the evaluation of the six alternative alliance structures which were defined in the previous articles. The evaluation is carried out by an expert panel consisting of the representatives of the supervisory authorities. The most important criteria consider system risk management, optimal functioning of the markets and capability to supervise the alliance.

In our second article, the financial conglomerate was preferred by bank and insurance executives to the other alternatives. The alliance models based on plain cross-selling agreements receive the highest ranks in the evaluation of supervisory authorities. The financial conglomerate might be an acceptable compromise alternative for the supervisory authorities as well, if the criteria

System risk management and Capability to supervise the alliance as well as possible could be improved in that alliance in a credible way.

The contributions of the third article are the definition and analysis of the problem from the supervisory point of view, and the searching for a compromise alliance structure between the executives and the supervisors.

In the fourth article we study alternative alliance structures between banks and insurance companies from the point of view of Finnish customer representatives. Seven criteria are introduced for the evaluation of six alternative structure models for such alliances which are adopted from the previous studies. The evaluation is carried out by an expert panel consisting of customer representatives. As a supporting tool, we use again the Analytic Hierarchy Process (AHP). The most important criteria consider sustainability and reliability of the operations, system risk management and transparency and comparability of the products. The alliance models based on plain cross-selling agreements receive the highest ranks.

The customer representatives also evaluate the models using the most important executive and supervisory criteria from our earlier studies. The evaluation is similar – except for the risk criterion – to the executives' and different from the supervisors' evaluation. The customer representatives also invent executive and supervisory criteria. It is more difficult for them to assume supervisory than executive thinking. Finally, we compare the criteria and the model priorities of this and our second and third articles. In case of common criteria that two decision maker groups included in the actual model evaluation the prioritization results were very similar. The best compromise model from all three points of view – the executives', the supervisors' and the customers' – could be the financial conglomerate on the condition that the two above mentioned supervisory criteria and the customer criterion *Transparency and comparability of the products* are satisfied to a sufficient degree.

The contributions of the fourth article are the definition and analysis of the problem from the customer point of view, examining how well the customer representatives understand the problem from other perspectives, and the searching for a compromise alliance structure between all three decision maker groups.

11. Possible avenues for further research

The Analytic Hierarchy Process (cf. Section 9) with consensus decision principle has functioned well in this group decision context. Therefore, it would be recommendable to perform possible further experiments with the same method. The important question is: is there still a relevant decision maker group to act as an expert panel to decide which is the most preferred alliance structure model? The results from these articles have been communicated to numerous audiences, and an expert group which, according to some opinions, is still missing is the personnel of a financial enterprise. It is very probable that a further analysis with personnel representatives from various companies could be carried out producing meaningful criteria and prioritizing results which it would be interesting to compare with the results obtained so far. In the fourth article, among the customer representatives there were representatives from the Union of Insurance Employees in Finland and the Trade Union of the Finance and Insurance Sectors. Thus, the personnel perspective was already adopted.

However, because the point of view then was that of a customer's, a further study concentrating on the personnel perspective could be worth while.

Another point of view that should perhaps be studied is that of the owner of a financial enterprise. Owners are the final decision makers in the market, and in, for example, questions concerning mergers and acquisitions their perspective may be different than that of the management of a company.

As we discussed financial convergence in section 2, we considered independent asset managers a third group of actors besides banks and insurance companies. In this thesis we have, however, restricted ourselves in alliances between banks and insurance companies. In the end of section 2 we pointed out that insurance companies and asset managers have found it necessary to react to banks' actions and protect their customer relations. Thus, it would be interesting to view the alliance question from the asset managers' side. Asset managers and insurance companies are in a way competitors, because insurance companies have established asset management subsidiaries. On the other hand, they can cooperate in many ways: an insurance company may link its unit linked insurances to an asset manager's funds or even sell those funds directly, an asset manager may sell insurances directly or via a broker subsidiary, and so on. There still remains the possibility for an asset manager to establish an own insurance company as many of them have established banks with limited service assortment. In all, the optimal action strategy for an independent asset manager with various alliance formation possibilities would be an interesting research subject.

When we look at the alliance behaviour of the Finnish banks, it is interesting to notice that if a bank has not an own subsidiary as an insurance supplier, it normally has entered a cross-selling agreement with an external insurance company which is at least practically exclusive. Only OP Group has had two competing insurance partners, and their competition in the OP sales channel has been limited. In other countries, for example in the United Kingdom, it is customary for a bank to have an insurance broker subsidiary for those insurance lines the bank does not want to produce in an own insurance subsidiary. The broker industry is not yet so developed in Finland, but it would be interesting to study the possibility and the potential benefits for a bank to establish a broker subsidiary.

Another interesting research area would be the alliance formation of banks and insurance companies with companies from non-finance sectors. Right now alliance activities seem to strengthen in Finland between insurance companies and big retail chains (for example, Tapiola and S group, and Fennia and Kesko). These are non-equity alliances with obviously great cross-selling potential. Probably the alliance models of this thesis should be modified, but it would be interesting to try to find out the best way an insurance company or a bank should enter an alliance with a non-finance company to achieve the best results. On the other hand, the non-finance company like e.g. a retail chain has the same problem.

As we have shown in sections 2.2 and 3, the alliance formation (and often consolidation) between banks and insurance companies in Finland has followed European trends. Therefore, one could expect that if an analysis similar to this study were carried out elsewhere in Europe, the results would be rather similar. However, as we have pointed out in section 5, central European financial conglomerates have faced problems. Consequently there has been serious

criticism about the justification of consolidation that we have not seen in Finland. It would be interesting to test if this had any influence on the results.

In the above mentioned potential future research projects interviews, an expert panel and the AHP are noteworthy candidates for a research method.

Finally, as pointed out at the end of section 6, a comparative study on alliance formation strategies between banks and insurance companies on one hand and other industries on the other hand would be worth while.

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Comparing Alternative Structures of Financial Alliances

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In this paper, we study alliances between banks and insurance companies. Our perspective is that of the top management of a financial enterprise, and we constrain ourselves to the retail market. We define six different structure models for financial alliances. The parameters of the models are the closeness of the alliance in terms of mutual ownership, and the question of whether alliance partners have overlapping service channels. Examples are given of the models in the Finnish banking and insurance market. We also characterize nine criteria according to which the previously defined models are to be compared to achieve the most attractive alliance model. Thus, we obtain a multi-criteria decision-making (MCDM) problem. In the design of the criteria, representatives of the top management of Finnish banks and insurance companies have been consulted.

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JEL classification: G21; G22; O21

Introduction

Networking and alliance formation have been growing trends in the financial industry during the past decades. In many European countries, it became almost an industrial practice in the late 1980s to step over the borderline between banks and insurance companies. It was often banks that had calculated that it would produce good synergies to start up an insurance subsidiary, or perhaps both a life and a nonlife subsidiary, and then sell their products via the banks' own distribution network. In the 1990s, big financial conglomerates, which included both banks and insurance companies, emerged both in the U.S.A. and Europe.

The launching of financial conglomerates was generally based on the same hypothesis as intra-sector mergers: centralized ownership helps to achieve and utilize the critical mass and, thus, increase efficiency. It was also believed that different business lines could diversify the business portfolio and reduce the cyclical nature of corporate performance. There are many firm supporters of financial conglomerates but as we entered the new millennium we also heard their opponents' statements. The diversification potential has been questioned both in theory and practice. The different attitude to risk in the banking and the insurance industries has worried some observers, especially in the insurance sector. On the other hand, because of the obvious benefits of cross-selling, some kind of alliance between banks and insurance companies

is desirable. Therefore, one might ask what the most appropriate depth of an alliance is, given the financial institution's business objectives.

The term 'financial alliance' occurs seldom in the literature – when authors refer to groupings that are looser than conglomerates they often use the term 'financial convergence' (see next section). The scientific dialogue in this field is both scarce and rather pragmatic, and systematic approaches to selecting the best alliance model can hardly be found.

In the following we use the term 'financial alliance' to stand for an alliance between one or several banks and one or several insurance companies. The insurers in an alliance can be life and/or nonlife companies. Alliances between banks and nonlife insurance companies with no life counterparts are in practice rare. On the other hand, synergies between retail banking and life insurance are so significant that one often encounters alliances between banks and life insurers without nonlife counterparts.

Financial alliances often include units like mutual fund managing companies, asset management companies, securities brokerages and corporate finance companies, but for the sake of simplicity we restrict ourselves in this paper to the groups of banks and insurance companies. (In most European countries banks are allowed to be 'universal'. Consequently, it is customary that they include the above mentioned functions. The same holds increasingly for insurance companies.)

Some of the driving forces behind the alliance or networking trend are, as follows:

- narrowing profit margins in banks and insurance companies call for new sources of income by cross-selling;
- tight margins can also necessitate savings and cutoff programmes that can be more effectively carried out by a closer alliance structure;
- changing customer behaviour such as one-stop shopping requires cooperation between all financial service providers;
- international trade agreements are dismantling tariffs and breaking down barriers to trade allowing more companies to enter new markets;¹
- regulators are espousing greater competition because they are recognizing the economic benefits to their countries and their customers;²
- cross-selling can play, and has played, an important role in preventing job losses and creating employment in the banking sector.³

The perspective in this paper is managerial. Another two possible perspectives would be the supervisory perspective (although there are common factors between these perspectives) and a customer's perspective. We also concentrate on the retail market — alliance formation also has significance in relation to other customer segments.

In the following section, we give an overview of previous research related to financial alliances. In the next section we define six structure models for alliances, and give examples of the models in the Finnish banking and insurance market. In the following section, we suggest nine criteria according to which the previously defined models are to be compared to achieve the most attractive alliance model. In the

¹ Ryan (2001).

² *Ibid.*

³ Benoist (2002).

penultimate section, we comment on the interviews of representatives of the top management of Finnish banks and insurance companies who were consulted in the designing of the criteria. In the final section we summarize the results that we have obtained.

Overview of previous research

Focarelli and Pozzolo⁴ point out that during the 1990s the number and value of mergers and acquisitions increased rapidly in virtually all sectors of economic activity. They were particularly frequent in the banking sector. Vander Vennet⁵ shows that financial conglomerates are more revenue efficient than their specialized competitors. His results are confirmed by Casu and Girardone.⁶

Financial convergence. The emergence of alliances is connected to financial convergence, which means a blurring of conventional boundaries of once discrete financial sectors.⁷ Converging sectors are assuming each other's tasks. Convergence is driven by a need for growth by entering new markets, and by the desire to maximize share of wallet from every customer.⁸ Van den Berghe and Verweire⁹ point out that one or another form of the financial convergence can be witnessed in many, if not all, developed markets.

Supervisory perspective. Convergence has brought about somewhat similar solvency regulation for the banking and insurance sectors. Bittermann and Lutz¹⁰ compare banking and insurance risks and points out that in Germany, for example, the convergence of the financial sectors has resulted in the merging of the respective supervisory authorities. On the other hand, Manghetti¹¹ comes to the conclusion that supervising even multinational financial conglomerates does not necessitate the convergence of supervisory authorities. Implications of financial convergence for supervision and regulation are discussed by OECD, Van den Berghe and Verweire and Verweire.¹²

Shareholder aspects. Cybo-Ottone and Murgia¹³ study whether European cross-product mergers have created positive shareholder value. They document positive results driven by the strong market reaction of deals announced between banks and insurance companies. Cybo-Ottone and Murgia explain this by economies of scope or revenue efficiencies due to cross-selling of bank and insurance products to retail customers. In the U.S., the Citicorp–Travelers Group merger in 1998 increased the prospects for new legislation to remove the barriers between banking and insurance,

⁴ Focarelli and Pozzolo (2001).

⁵ Vander Vennet (2002).

⁶ Casu and Girardone (2004).

⁷ Ryan (2001).

⁸ *Ibid.*

⁹ Van den Berghe and Verweire (2001).

¹⁰ Bittermann and Lutz (2003).

¹¹ Manghetti (2002).

¹² OECD (1998); Van den Berghe and Verweire (2001); Verweire (1999).

¹³ Cybo-Ottone and Murgia (2000).

resulting in a positive wealth effect for institutions most likely to gain from deregulation.¹⁴

Diversification. Boyd *et al.*¹⁵ used hypothetical cross-product mergers and simulations and found risk reduction effects from these deals. Boyd and Graham¹⁶ found that life insurance companies seem to offer good prospects as matches for bank-holding companies because of potential diversification gains.¹⁷

Estrella¹⁸ examines direct measures of potential diversification gains from consolidation of financial firms. His results indicate that there may be bilateral diversification gains from mergers involving the banking and insurance industries. Estrella points out that these gains are not limited to life insurance as suggested by the previous authors, but extend to nonlife insurance companies, which actually lead to *larger* diversification gains than those with life insurance companies.

The emergence of alliances has also influenced finance product sales: according to SIGMA,¹⁹ growing sales of life insurance in banks has increased, especially, unit-linked sales volumes.

Structure models for financial alliances

As we described in the previous section, the existing literature on financial alliances is strongly concentrated around alliances created by cross-sector ownership. The objective of this work is to create a model to find out if ownership really is superior to looser alliance models.

Alliance structures can be classified into three categories according to the degree of closeness of the members. The categories in increasing order of closeness are as follows:

Cross-selling agreements. The parties agree to sell each other's products to their own customers. (One can alternatively cross-sell by selling one's own products to the other party's customers. This can be recommended if the products are complicated. This type of cross-selling is often made more effective so that one party gives with the customer's permission his/her contact information to the other party for marketing their products.) The cross-selling is frequently one-sided. Most often a bank sells an insurance company's products to its customers. Life insurance products especially, depending on the tax system, can bring immediate added value to a retail bank's customer service process and they can be sold effectively by the bank sales force.²⁰ Similar advantages for insurance companies are not so obvious. Generale and Gobbi²¹ show that the most efficient banks in developed countries earn a smaller percentage of

¹⁴ See Carow (2001).

¹⁵ Boyd *et al.* (1993).

¹⁶ Boyd and Graham (1988).

¹⁷ See also Lown *et al.* (2000) and Laderman (1999).

¹⁸ Estrella (2001).

¹⁹ SIGMA (2003).

²⁰ Cf. for example, Van den Berghe and Verweire (2001); Benoist (2002).

²¹ Generale and Gobbi (1999).

their profits from traditional activities and a larger share from off-balance-sheet operations (such as life insurance and mutual fund sales).

This alliance category can still be divided into two subcategories depending on whether the parties' service channels are overlapping or not. Here a service channel can be a branch office network, but also a call centre or website, etc. Especially in the case of overlapping branch networks one easily faces *channel conflict*: the alliance members do not cooperate effectively due to the fear of losing their customers to the other party and consequently such items as sales provisions. Basically, overlapping channels give rise to competition for the same customers. Nonoverlapping service channels often mean that the other party has no service channel at all – it functions as a product provider and uses its associates' sales force(s) to reach its customers.

Alliance of independent partners. This alliance type is a special case of a cross-selling agreement where the alliance is tightened by cross-ownership and/or joint ownership in third parties. Cross-ownership means a minority stake of the other party's shares. If the ownership were one-sided, it would probably be a sign of asymmetry and one party's dominance of the alliance. An example of joint ownership is a mutual fund management company owned jointly by a bank, or banks, and an insurance company, or insurance companies. One could also think about cross-ownership/joint ownership without a cross-selling agreement, but such a model seldom occurs in practice. Also, this alliance category can, naturally, be divided into two subcategories depending on whether the parties' service channels are overlapping or not.

Control by ownership. A weakness in both the previous models is that it can be difficult to satisfy each alliance member with respect to the division of earnings and costs. This can be avoided by concentrating all the control in one of the alliance members. (This is called 'bancassurance' if a bank has taken control. The opposite model 'assurfinance' is not considered to be so effective. Van den Berghe and Verweire²² claim that the only successful route in this respect is buying an existing bank instead of establishing one from scratch. Benoist²³ comments on assurfinance in further detail.) There are two ways of implementing control by ownership: a bank can simply own (a control of) an insurance company or vice versa. In a more sophisticated ownership model, a holding company owns a number of banks and insurance companies. It is for this structure that we use the term 'financial conglomerate'. This is a result of a cross-segment consolidation. Recently, consolidation has also been happening across countries ('cross-geography consolidation').

An example of a financial conglomerate that offers its customers a large portfolio of financial services is Citigroup.²⁴ Some firms, like ING, have chosen to specialize in just a few select services.²⁵ Kist²⁶ points out that the premise for creating such conglomerates is to create value for all stakeholders, that is, shareholders, employees, and, most important, their clients. He also defines an integrated financial services company (IFS) as an organization that provides insurance, banking, and asset

²² Van den Berghe and Verweire (2001).

²³ Benoist (2002).

²⁴ Carow (2001); Ryan (2001).

²⁵ Ryan (2001); Kist (2001).

²⁶ Kist (2001).

management products to its customers through a variety of distribution channels. IFS can be understood as a well-integrated financial conglomerate. It has the unique ability to develop tailor-made banking, insurance, and asset management products for its customer base.²⁷ Being a conglomerate increases the number of opportunities for diversification. For instance, it enables greater geographic diversification. The Nordic Swedbank, Nordea, and Sampo, for example, have successfully established themselves in the states around the Baltic Sea.

Only recent literature is available concerning alliance models and it is scarce. The division of the models mentioned by Van den Berghe and Verweire²⁸ is otherwise similar to ours but they do not differentiate between overlapping and nonoverlapping service channels. The model classification by Benoist²⁹ is somewhat different including, for example, franchise agreements and joint ventures that have not been used in the Nordic countries.

In Finland, there are examples of most of the aforementioned alliance categories: the Okobank group, Fennia Insurance group, and the Local Insurance group have a cross-selling agreement with overlapping service channels; Genworth Financial has a one-sided sales agreement with several financial institutions with no overlapping service channels; the nonlife insurer Pohjola, the life insurer Suomi, and 32 local savings banks have an alliance of independent partners with overlapping service channels and with joint ownership in a mutual fund management company and a retail bank; control by ownership has been adopted by banks like OP Group and Handelsbanken by establishing or acquiring a life insurance company, and by Tapiola Insurance group by establishing a bank; and finally, Sampo Group is an example of a financial conglomerate (see also Figure 1). Because there are so many models in real use in Finland, the problem of selecting the most attractive model is most relevant.

Criteria for model comparison

The alliance models described in the previous section shall be compared and eventually prioritized according to the following criteria. The decision maker here is the top management of a financial enterprise, which is considering various ways to create a financial alliance. Another possible and interesting point of view would be that of a supervisory authority, but we do not discuss it here.

The criteria are here understood as objectives that should be optimized. They are not necessarily quantitative. The criteria we suggest here are as follows:

1. maximize the efficiency of product development, especially the design of combination (hybrid) products,
2. implement the one-door-principle as effectively as possible,
3. compromise possibly conflicting earnings logics as well as possible,

²⁷ *Ibid.*

²⁸ Van den Berghe and Verweire (2001).

²⁹ Benoist (2002).

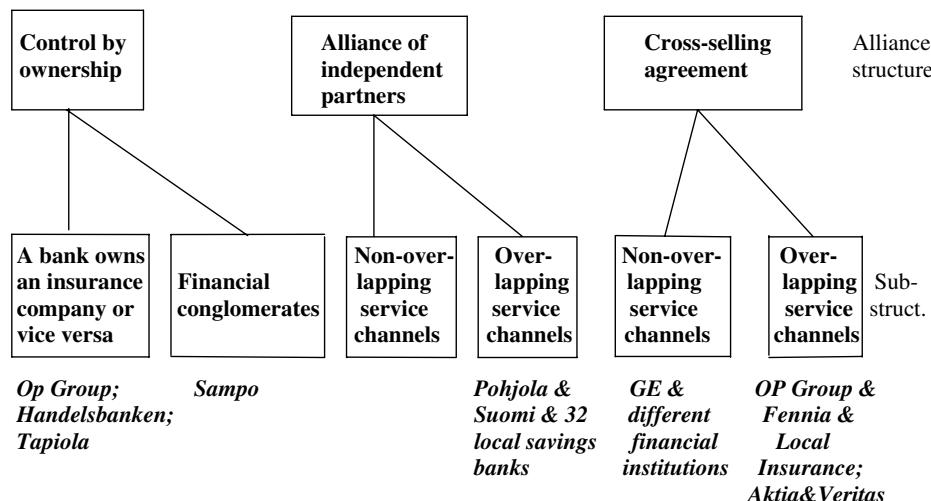


Figure 1. Examples of structure models adopted in Finland.

4. maximize the efficiency of customer relationship management,
5. optimize cost and revenue synergies,
6. minimize channel conflicts,
7. optimize required solvency capital,
8. maximize investor power,
9. maximize the efficiency of sales management.

Let us take a closer look at these criteria.

1. *Maximize the efficiency of product development*

Quality of product development is essential for any financial institution, and it is useful to be able to control it through cooperating partners. Combination products such as, for example, a loan and a loan protection insurance, or a mortgage loan connected to a mutual fund savings plan, are a way of packaging different offerings together and deepening customer relations. Van den Berghe and Verweire³⁰ give an interesting view of the future of integrated financial services. They point out that one does *not* need an integrated group of financial suppliers to offer integrated products. If distribution is able to offer client-oriented financial services from different financial services providers, they might evolve to become important players in the financial sector.

Decreasing active age groups and growing old age groups cause a serious financing problem for entire national economies. Nguyen³¹ examines the optimal pension model and its influence on individual saving behaviour, especially under the influence of an

³⁰ Van den Berghe and Verweire (2001).

³¹ Nguyen (2003).

ageing population. Demange and Laroque³² study the functioning of social security schemes under demographic shocks. On the micro-level, we shall probably witness the creation of more long-term savings products with tax incentives with which individuals can complement mandatory social security systems. This again calls for the successful combination of various financial products. Benoist³³ points out that in the U.K. and Germany the creation of stakeholder pensions has increased the potential benefits of mergers and alliances between bankers and insurers. Ryan³⁴ anticipates new markets for individual pension products and, more generally, products that provide financial security in old age.

2. Implement the one-door-principle as effectively as possible

One-door-principle means that a customer is offered as many bank and insurance products as possible at one place during one customer service event. The objective is full customer service at one stop and, thus, again packaging different products together and deepening customer relations. Benoist³⁵ concludes that this makes life easier for clients. Van den Berghe and Verweire³⁶ discuss one-door-principle and conclude that it suits some customers, while others prefer shopping around themselves. Bank Marketing International³⁷ claims that customers are not very interested in one-stop shopping.

3. Compromise possibly conflicting earnings logics as well as possible

In an alliance, partners have to fit together their earnings logics. From one alliance member's point of view control over the other members obviously helps to optimize the result. An interesting study on the development of the earnings logics of members of a complex business network is given in Pelkonen and Dolakia.³⁸

4. Maximize the efficiency of customer relationship management

Customer-orientation means, for example, selecting the customer's needs as a basis for business generation, and tailoring the service according to the business volume generated by the customer. The customer is given a responsible contact person, and uniform service through the organization is secured by sufficient internal training. Customer orientation must also show in provision structures: the customer does not nowadays accept being forgotten after the sales transaction, and provision structure must reward the salesperson for the long-term care of the customer. According to Ryan,³⁹ most Americans maintain relationships with several different financial services providers but recent surveys show that over 50 per cent of consumers want to consolidate their financial relationships. The change in insurance customers' behaviour and expectations is discussed, for example, by the European Commission.⁴⁰

³² Demange and Laroque (2001).

³³ Benoist (2002).

³⁴ Ryan (2001).

³⁵ Benoist (2002).

³⁶ Van den Berghe and Verweire (2001).

³⁷ Bank Marketing International (2004).

³⁸ Pelkonen and Dolakia (2003).

³⁹ Ryan (2001).

⁴⁰ European Commission (1996, p. 5).

Financial institutions have parallel service channels such as physical branch networks, various agents, the internet, call centres, mobile devices, etc. The principle should be that the customer can choose the channel(s) he/she wants to use. Kist⁴¹ prioritizes an IFS (see previous section) because of its ability to have multiple distribution channels that have the means to approach customers in a variety of ways, that is, click, call, and face – as defined by Kist. Integrating various channels and inter-channel customer information transfer are challenges for a financial institution even without any alliance structure. More generally, customer relationship management (CRM) requires significant IT investments and continuous development.⁴²

5. Optimize cost and revenue synergies

Scale benefits are obvious in the production of many financial products. They have traditionally been utilized by means of consolidation within the banking/insurance sectors.⁴³ Cross-sector utilization evidently requires consolidation, too. According to Kist,⁴⁴ some ways to gain maximum advantage with an IFS (see previous section) are to integrate risk management activities across the group, develop consistent financial reporting performance measures across all business types, and implement shared services for technology, accounting, and human resources. A great source of synergy is the ability to combine the previously separate asset management functions across the company into a single management structure.

Among other reasons, changing customer behaviour tends to make it necessary to reduce service channels, most of all branch networks. Eliminating overcapacity is, at least in principle, a more straightforward action when one member of the alliance has control over the others. On the other hand, integration creates overlapping functions that have to be streamlined. In the case of looser alliances, one-door-principle makes it possible to get rid of branch overload. For other cost and revenue synergies, see Kist.⁴⁵ Diversification gains from combining banking and insurance are discussed by Estrella.⁴⁶

6. Minimize channel conflicts

A channel conflict can occur when the channels of alliance partners cross-sell each other's products to the same customers. Then the branch staff may think that the other party is stealing their provisions by cross-selling 'their' product to their customer. Sometimes an alliance member can fear that when they have cross-sold a customer their partner's product, the partner uses the acquired customer information when selling him/her another product competing with the original company's products. Minimizing channel conflicts is strategically important to the success of an alliance and it has to show in the cross-selling agreements. Channel conflict may also lead to fragmentation of the client base and/or ring-fencing of product offers (offers labelled

⁴¹ Kist (2001).

⁴² See also Kist (2001) for customer value management. A theoretical approach to CRM in insurance is given by Schäfer (2000).

⁴³ See, for example, Focarelli *et al.* (2002).

⁴⁴ Kist (2001).

⁴⁵ Ibid.

⁴⁶ Estrella (2001). See also Vander Vennet (2002) and Casu and Girardone (2004).

‘bank’ or ‘insurance’⁴⁷). Channel conflict management, especially in financial distribution networks, is covered by Dolder *et al.*⁴⁸

7. Optimize required solvency capital

The return on equity (ROE) is one of the most important performance measures in financial enterprises. Therefore, company management must carefully optimize the relation between working capital and balance sheet. In Finland, this ratio is on the average around 10 per cent, which means that the Finnish life insurance companies have the capital of two billion euros in addition to the technical reserves. (Schroder *et al.*⁴⁹ show that unit-linked insurance has improved profit margins compared with with-profits life insurance in France, Germany, the Netherlands, and Belgium. One important reason is lower working capital requirement. Trapp⁵⁰ calls for new business models for weakly capitalized insurance companies.)

Traditionally, one important incentive for mergers and acquisitions is diversification of the business portfolio. In principle, a financial conglomerate has greater flexibility and greater opportunity for diversification than a simple combination.⁵¹ If there are several consolidated banks and insurance companies under the same control, it is crucial whether or not the different companies equalize or amplify each other’s business cycles. In the latter case, a group may be forced to complement its solvency capital as the bottom of the cycle approaches. This has caused serious discussion of the justification of cross-sector consolidation in many parts of Europe. It seems from practical experience that the business cycles of traditional (with-profits) life insurance and retail banking correlate strongly, but nonlife/risk life insurance and retail banking are less correlated.⁵²

Consolidated financial groups must have strong risk management capabilities. Information concerning risks can be used to determine the required levels of economic capital within each business unit and at the group level.⁵³ Also, the successful leveraging of risk management professionals between the banking and insurance businesses can create much synergy. Furthermore, banks and insurance companies can provide each other a partial hedge of their natural asset liabilities mismatch positions.

8. Maximize investor power

If two companies are consolidated, the investor power is often more than doubled because certain fixed minority limits may be exceeded. For this reason, consolidated structures may be favoured because conflicting interests of independent partners might prevent them from utilizing this phenomenon in practice. Besides direct share ownership, discretionary asset management and mutual fund management mandates give investor power. Theoretical implications of increasing investor power are studied by Ryan and Schneider.⁵⁴

⁴⁷ See Benoist (2002).

⁴⁸ Dolder *et al.* (2002).

⁴⁹ Schroder *et al.* (2001).

⁵⁰ Trapp (2003).

⁵¹ Kist (2001).

⁵² Cf. Kist (2001); Kwan and Laderman (1999); Laderman (1999).

⁵³ Kist (2001).

⁵⁴ Ryan and Schneider (2003).

9. *Maximize the efficiency of sales management*

Centralized sales management obviously requires centralized organizational structure, that is, consolidation. One might presume that this is a benefit compared to the decentralized management of looser alliances. However, some partners with a plain cross-selling agreement claim that they have succeeded in creating a very effective 'cross-selling culture'. This possibility is supported by Van den Berghe and Verweire.⁵⁵ Kumar⁵⁶ covers sales organization issues in a financial alliance.

In order to evaluate the attractiveness of the various alliance structures presented in the previous section in the light of the above nine criteria, we wish to point out the following:

- Although the literature seems to favour financial conglomerates, it is by no means granted that they are optimal in all circumstances.
- Even if control by ownership were preferred, it may be found to be difficult or impossible to implement. That is the case, for example, for many local banks and mutual insurance companies.
- It is certainly more attractive to control than to be controlled. In the case of the financial conglomeration, the solution for the owners of a company to be acquired could be accepting shares of the acquiring company as the purchase price.

Expert interviews

We have interviewed the experts listed in the Acknowledgements section and asked their opinions on the alliance structure models and the criteria explained in the previous two sections.

One of the major benefits of tighter alliance models is that, for example, 'control by ownership' prevents or at least strongly restricts channel conflicts. Some experts pointed out, however, that well-written sales agreements minimize, if not totally prevent, channel conflicts. Furthermore, protecting customer relations and fundamental business lines was considered more important than immediate returns.

It was generally acknowledged that the six models presented succeed in separating various real-life alliances quite well, at least in the Finnish market. In fact, as recently as November 2003 there would have been Finnish examples in every category.

Several experts paid attention to the top management point of view in the MCDM problem. Some of them asked whether it is somehow different from the shareholder's perspective. If the top management incentives are appropriate and good corporate governance is also otherwise followed, there is hardly any significant difference. The situation may change if a shareholder has important holdings in several financial enterprises.

⁵⁵ Van den Berghe and Verweire (2001).

⁵⁶ Kumar (2001).

One expert remarked that the second criterion could be stated in a more general way, for example 'create as effective sales channels as possible'. However, the author has noticed, while planning several financial alliances in recent years, that the one-door-principle has always been among the objectives. The suggested generalization is actually a part of the ninth criterion.

An expert suggested a more descriptive name for the third criterion: 'ensure as fair division of earnings and costs as possible'. The fourth criterion could, according to an expert, be defined as 'enable effective cross-selling'.

As already pointed out in the previous section, channel conflicts should be understood so widely that they include conflicts between product companies. An expert suggested, with good reason, that the sixth criterion should be called 'minimize interest conflicts between service channels and between product companies'. Channel conflicts may occur also in financial conglomerates. For example, savings insurance and deposits compete for the same customers. This problem can be solved by good steering systems. For instance, salespersons should get sufficient reward for selling other business units' products and creating successful contacts between their customers and other business units. Thus, they become 'group salespersons'.

The seventh criterion actually includes a whole MCDM problem, the most important objective of which could be 'maximize ROI'. Here the time horizon is crucial. If solvency requirements for certain business lines are relatively lower than for other lines, there is a possibility for arbitrage.

The eighth criterion was given minimal weight by some experts, while others remarked that even if institutional investors in Finland do not so often participate in board work, they use their power in annual shareholders' meetings. It is also becoming more common that they participate in board and compensation committee work. Finnish life insurance companies have, at least so far, been more active investors than, for example, fund management companies.

One of the experts suggested an additional tenth criterion: 'Optimize the stable competitive position'. Because many criteria already represent various aspects of this criterion, we decided not to add it. Another suggestion for a new criterion was to 'minimize the (negative) effects of the changes in operational environment'. We did not accept this criterion for our list either, because it is not very concrete and, again, existing criteria cover several aspects of it.

One expert pointed out that now that we had, in a sense, nine objective functions, we should keep in mind the restrictions, that is, licence regulations and minimum solvency requirements.

The criteria are, obviously, partially over-lapping, but no criterion covers another criterion in full. Therefore, there is no need to 'merge' criteria. Inserting new criteria did not seem useful either. Financial conglomerates may suffer from intrigues and sub-optimization, but these phenomena can be done away with by a competent management. One of the experts remarked that in other alliance models than 'control by ownership' much better sales results can be achieved if there are other partners' sales experts in the top management of each company. Finally, people – and not only the model – are decisive.

Table 1 Relationship between models and criteria

Criterion	1	2	3	4	5	6	7	8	9
<i>Model</i>									
CBO1	2	2	2	2	3	2	3	2	2
FC	2	2	2	2	3	2	3	2	2
AIP1	2	2	3	2	2	1	1	1	2
AIP2	2	2	3	2	2	3	1	1	2
CSA1	2	2	3	2	2	1	1	1	2
CSA2	2	2	3	2	2	3	1	1	2
Σ	12	12	16	12	14	12	10	8	12

Keeney and Raiffa⁵⁷ present the following desirable properties for a set of criteria:

- complete, it covers all the important aspects of the problem;
- operational, it can be meaningfully used in the analysis;
- decomposable, all the aspects of the evaluation process can be simplified by breaking it down into parts;
- nonredundant, the double counting of impacts can be avoided; and
- minimal, the problem dimension is kept as small as possible.

According to the interviews, our set of nine criteria satisfies these conditions at an acceptable level.

In view of the expert interviews, the mutual importance of the criteria can be evaluated in the following way: let us abbreviate the alliance models that appear in Figure 1 by CBO1, FC, AIP1, AIP2, CSA1, and CSA2, in the same order. Let us consider a matrix $X=(x_{ij})$, which relates the models and the criteria and whose elements are defined as follows:

$$x_{ij} = \begin{cases} 1 & \text{if the criterion } j \text{ is not important in the model } i \\ 2 & \text{if the criterion } j \text{ is rather important in the model } i \\ 3 & \text{if the criterion } j \text{ is very important in the model } i \end{cases}$$

The matrix X can be derived from the interviews (Table 1).

For both control by ownership models CBO1 and FC, the criteria 5 (synergies) and 7 (solvency capital) are the most important. For both models with no overlapping service channels AIP1 and CSA1, criterion 3 (earnings logics) is the most important, and for both models with overlapping service channels AIP2 and CSA2, the criteria 3 and 6 (channel conflicts) are the most important. The last row of Table 1 shows the overall importance of each criterion as the sum of the corresponding column elements.

⁵⁷ Keeney and Raiffa (1976, pp. 50–53).

Conclusion

We have structured the ill-defined problem of finding the most preferred financial alliance structure as a multi-criteria decision-making problem. The problem is how to rank the alliance models presented in the third section according to the criteria presented in the fourth section considering that the criteria are difficult to quantify and measure in a harmonious way. The problem has been defined together with the experts, and the choice of the criteria is based on their views.

The problem can be solved tentatively as follows: when we consider the last row of Table 1, we find out that the overall importance of criteria 3 (earnings logics), 5 (synergies), and 6 (channel conflicts) is the greatest. (Criterion 6 is chosen from those that received the same score of 12 because it is the only one that received a score of 3 indicating great importance.) Earnings logics are fitted together and channel conflicts settled most effectively in the models CBO1 and FC because there is a unique company highest in the ownership hierarchy, which makes the ultimate decisions. Synergies are commonly believed to be best achieved in the same models because the necessary rational business decisions are made especially efficiently by the single leader company. Because the control by ownership models CBO1 and FC are the best models to satisfy the most important criteria, we conclude that they are the most attractive alliance models from the executive management point of view.

The reader may want to use this problem or perhaps modify it and then use it in his/her decision-making. We are going to solve the problem with some more sophisticated algorithm that enables us to differentiate between all the models. We shall report the results at a later date.

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Raimo Voutilainen has held expert and executive positions in the insurance sector since 1980, especially in bancassurance environment. He is now finishing his Ph.D. studies in Helsinki School of Economics. The subject of his thesis is Alliances between banks and insurance companies.



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O.R. Applications

Finding the most preferred alliance structure between banks and insurance companies [☆]

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Abstract

In this paper we have studied alternative alliances between banks and insurance companies. First we defined six different possible structure models for such alliances, and nine criteria used to evaluate the models. The models and the criteria were introduced together with bank and insurance experts. The experts are representatives of the top management of Finnish banks and insurance companies. Searching for the most preferred alliance model is a multiple criteria decision making (MCDM) problem. To solve the problem, we used an expert panel and the Analytic Hierarchy Process (AHP). Based on the evaluations of the panel, the alternatives *Financial Conglomerate* and *Cross-Selling Agreement, no Overlapping Service Channels* are most preferred. Which one is chosen, depends on how risk is emphasized.

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Keywords: Financial alliances; Financial conglomerates; Multiple criteria decision making; Analytic hierarchy process; Strategic planning

1. Introduction

Alliance formation has been a growing trend among the financial industry during the last decades. The insurers in an alliance can be life and/or non-life companies. Alliances between banks and non-life insurance companies with no life counterparts are in practice rare. On the other hand, synergies between retail banking and life insurance are so significant that one often encounters alliances between banks and life insurers without non-life counterparts.

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Financial alliances often include units like mutual fund managing companies, asset management companies, securities brokerages and corporate finance companies. In most European countries banks are allowed to be “universal”. Consequently, it is customary that they include the above mentioned functions. The same holds more and more often for insurance companies.

The existing literature on financial alliances is strongly concentrated around alliances created by cross-sector ownership (see, for the survey, [Voutilainen, 2005](#)). Our intention is to find out if ownership really is superior to looser alliance models.

In this paper, we have studied alliances between one or several banks and one or several insurance companies. We concentrate on the retail market although alliance formation also has significance in relation to other customer segments. The point of view is managerial assuming that a manager is willing to maximize shareholders' value. The additional assumption is important, because the manager might also have some personal criteria not compatible with the criteria of the shareholders. A supervisor's or a customer's perspective might be other alternative ways to consider the problem. These perspectives are only implicitly included in our considerations.

The problem is formulated as a multiple criteria decision making task. In the first phase, we defined six different possible structure models for financial alliances and nine criteria used to evaluate the models. The models and the criteria were introduced together with bank and insurance experts. Each expert was interviewed individually. The experts are representatives of the top management of Finnish banks and insurance companies. In the second phase, the same experts were used as a panel to find the most preferred model for a financial alliance. As a decision support system we used the Analytic Hierarchy Process (AHP) developed by [Saaty \(1980\)](#) during the 70s. Currently, the AHP is a widely-known and used standard method for solving multiple criteria evaluation problems. Typically such problems consist of few alternatives and several criteria, possibly having a hierarchical structure. The AHP is a straightforward and transparent method that is also able to consider subjective and judgmental information.

Other possible and widely used tools for this problem could have been multi-attribute utility theory ([Keeney and Raiffa, 1976](#)) and ELECTRE developed by [Roy \(1991\)](#). Other possible methods are presented in [Raiffa et al. \(2003\)](#). However, we chose AHP since it is especially easy to use and understand and promotes flexible communication.

We have used the consensus decision making principle with the group of experts. Other AHP-based group decision methods are discussed by e.g. [Condon et al. \(2003\)](#). It was the experts' decision to use the consensus method, and it turned out to be successful, probably thanks to the homogeneous background of the participants.

Although the number of the applications of the AHP is numerous, it has not been applied much to financial problems ([Steuer and Na, 2003](#)). Among the four examples that Steuer and Na mention, [Arbel and Orgler \(1990\)](#) and [Ossadnik \(1996\)](#) are relevant with respect to this paper. [Arbel and Orgler \(1990\)](#) apply the AHP to the mergers and acquisitions process of a bank (targets are other banks), and they conclude that the AHP methodology can be applied to other complex and ill-defined strategic issues faced by banks. [Ossadnik \(1996\)](#) uses the AHP to allocate synergy to the partners in a merger, not necessarily between financial enterprises. Among the substantial amount of AHP applications it is difficult to find financial alliance related decision problems.

Among the literature covering business substance relevant to this problem may be mentioned [Cybo-Ottone and Murgia \(2000\)](#) and [Carow \(2001\)](#) who study shareholder aspects, and [Boyd and Graham \(1988\)](#), [Boyd et al. \(1993\)](#), [Laderman \(1999\)](#), [Lown et al. \(2000\)](#) and [Estrella \(2001\)](#) who discuss management and especially diversification of a financial business portfolio.

The paper is organized as follows. Section 2 describes our decision alternatives and criteria. In Section 3, we provide a brief introduction to the AHP and describe our problem by using the AHP presentation. Section 4 presents a decision making process and the results of the experts' meetings, our experiment, and the results. Finally, in Section 5, we conclude the paper with general remarks and ideas for further research.

2. Structure models for financial alliances and evaluation criteria

2.1. Structure models

Alliance structures can be classified in three main categories according to the degree of closeness of the members (see, for more details, [Voutilainen, 2005](#)). The categories in the increasing order of closeness are:

2.1.1. Cross-selling agreements

The parties agree to sell each other's products to their own customers. The cross-selling is frequently one-sided. Most often a bank sells an insurance company's products to its customers. In principle, it could be vice versa as well. The alliance category can still be divided into two subcategories depending on whether the parties' service channels are overlapping or not. Non-overlapping service channels can be achieved, for example, if the parties actively try to organize cross-selling in such a way that there is no competition between the parties.

Here a service channel can be a branch office network, but also a call center, website etc. Especially in the case of overlapping branch networks one easily faces channel conflict: the alliance members do not co-operate effectively in the fear of losing their customers to the other party and consequently the sales provisions etc. Non-overlapping service channels often means that the other party has no service channel at all.

Thus the two different sub-models are:

- Cross-selling agreement, no overlapping service channels (abbreviated CSA1).
- Cross-selling agreement, overlapping service channels (CSA2).

2.1.2. Alliance of independent partners

The alliance type is a special case of a cross-selling agreement where the alliance is tightened by cross-ownership and/or joint ownership in third parties. Cross-ownership means a minority stake of the other party's shares. If the ownership were one-sided, it would probably be a sign of asymmetry and one party's dominance of the alliance. An example of joint ownership is a mutual fund management company owned jointly by a bank (banks) and an insurance company (insurance companies). One could also think about cross-ownership/joint ownership without a cross-selling agreement, but such a model seldom occurs in practice.

The degree of overlapping is also used to divide this category into two different sub-models:

- Alliance of independent partners, no overlapping service channels (AIP1).
- Alliance of independent partners, overlapping service channels (AIP2).

2.1.3. Control by ownership

In both the previous models, earnings and costs are divided. The third category means the model, where all the control is in the hand of one party: a bank can simply own (a control of) an insurance company or vice versa, or a third party owns the both ones.

This category is divided into two sub-models depending on the controller:

- Control by ownership, when a bank owns an insurance company or vice versa (CBO1).
- Control by ownership (financial conglomerate): a holding company owns one or several banks and one or several insurance companies (FC).

We can notice that the classification of the different alternatives is based on the closeness of the alliance and the degree of the overlapping of the service channels.

2.2. Evaluation criteria

The initial evaluation criteria for assessing the alliance models were introduced by combining our own knowledge with the opinions of the experts who were representatives of the top management of Finnish banks and insurance companies. To find the relevant criteria is an important task and crucial for the success of the decision making. [Keeney and Raiffa \(1976, p. 50\)](#), present the following desirable properties of the set of criteria:

- complete, it covers all the important aspects of the problem,
- operational, it can be meaningfully used in the analysis,
- decomposable, all aspects of the evaluation process can be simplified by breaking it down into parts,
- non redundant, so that the double counting of impacts can be avoided, and
- minimal, so that the problem dimension is kept as small as possible.

Keeping these properties in our minds, we introduced the following nine criteria:

1. Product development (maximize efficiency).
2. One-door-principle (implement as effectively as possible).
3. Earnings logics (avoid conflicts).
4. Customer relationship management (maximize efficiency).
5. Cost and revenue synergies (maximize).
6. Channel conflicts (minimize).
7. Required solvency capital (optimize the balance).
8. Investor power (maximize).
9. Sales management (maximize efficiency).

[Voutilainen \(2005\)](#) provides a detailed description of the criteria and their background theories. A brief overview is given as follows:

1. *Product development*: Capability to develop new—especially hybrid—products is essential for any financial institution, and various alliances provide different possibilities for this activity.
2. *One-door-principle*: One-door-principle means that a customer is offered as many bank and insurance products as possible at one place during one customer service event. The objective is full customer service at one stop and, thus, again packaging different products together and deepening customer relation.
3. *Earnings logics*: In an alliance, partners have to fit together their earnings logics. It is obvious that various alliance models provide different possibilities to define earnings logics. If no alliance member can control earnings logics, it may cause conflicts between alliance members.
4. *Customer relationship management*: Customer-orientation means that a customer's needs are a key-issue for business. Customer relationship management (CRM) requires significant IT investments and continuous development. To reach agreement in development activities is necessary for successful business. The alliance CRM can be at least partially integrated.
5. *Cost and revenue synergies*: Scale benefits are obvious in the production of many financial products. They have traditionally been utilized by means of consolidation within the banking/insurance sectors. Cross-sector utilization most often requires consolidation, too.

6. *Channel conflicts*: A channel conflict occurs, when the alliance members compete for the same customers. It is important to develop a model where the channel conflicts are minimized.
7. *Solvency capital*: The return on equity (ROE) is one of the most important performance measures in financial enterprises. Therefore, company management must carefully optimize the relation between working capital and balance sheet.
8. *Investor power*: If two companies are consolidated, the investor power is often more than doubled because certain fixed minority limits may be exceeded. Conflicting interests may, on the other hand, prevent the implementation of rational investment plans.
9. *Sales management*: Centralized sales management obviously requires centralized organizational structure, i.e. consolidation. On the other hand, some partners with a plain cross-selling agreement claim that they have succeeded in creating a very effective “cross-selling culture”.

3. Problem formulation

3.1. Analytic hierarchy process

Choosing the most preferred alliance structure is a typical multiple criteria evaluation problem. Six alternatives presented in Section 2.1 are evaluated using the nine criteria introduced in Section 2.2. We shall use the Analytic Hierarchy Process (AHP) by Saaty (1980) as a decision support system to solve the problem. The AHP provides us with a simple tool first to evaluate the mutual importance of the criteria, then to compare the alternative alliance structures on each criterion, and finally to synthesize the results onto one scale.

The basic assumption in the Analytic Hierarchy Process (AHP) is that a human being makes comparisons between objects on a ratio scale (see, e.g. Saaty, 1980). For instance, the expression: A is “twice better” than B means that the utility (value) $v(A)$ of A is two times higher than the utility (value) $v(B)$ of B . Even a “softer” expression like A is “much better” than B is interpreted in the AHP to mean that $v(A) = kv(B)$, where $k \gg 1$. It does not matter, whether the objects are concrete or abstract. It is easy to believe that a human being compares the weight of stones on a ratio scale, but not all researchers agree that, for example, the expression: “today it is much warmer than yesterday” can be evaluated on a ratio scale. Actually, it is quite plausible that even in this case people make a comparison on a ratio scale presenting their internal value scores for different temperatures. The scale naturally depends at least on the person making the comparison and on the time.

A central element in the AHP is a full set of $n(n - 1)/2$ pairwise comparisons, where n is the number of objects. Because it is difficult for a person to distinguish simultaneously more than 7–9 different levels of

Table 1
Verbal descriptions and the corresponding original numerical scores

Score	Description	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance of one over another	Experience and judgement slightly favor one activity over another
5	Essential or strong importance	Experience and judgement strongly favor one activity over another
7	Demonstrated importance	An activity is favored very strongly over another; its dominance is demonstrated in practice
9	Extreme importance	The evidence favoring one activity over another is of the highest possible order of affirmation
2, 4, 6, and 8	Intermediate values between adjacent values	When compromise is needed

preference, Saaty (see, e.g. Saaty, 1980, p. 54) has proposed the use of the following verbal descriptions and the corresponding scores in making comparison (see Table 1).

If object i has one of the above nonzero numbers assigned to it, when compared with object j , then j has the reciprocal value when compared with i . Intermediate scores of 2, 4, 6, and 8 are used, if a person thinks that, for example, object i is at least moderately better than object j , but (s)he is not comfortable with saying that i is strongly better than j . Then his or her view might be represented by the score 4. If object j is at least moderately but not necessarily strongly better than object i , then the score 1/4 would be assigned to the comparison of i with j . As a result of pairwise comparisons, the following matrix is obtained:

$$A = \begin{pmatrix} 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \dots & & & \\ 1/a_{1n} & 1/a_{2n} & 1 & \end{pmatrix}.$$

Having recorded the quantified comparisons on pairs i and j as numerical entries in the matrix A , the problem now is to find numerical value scores w_i , $i = 1, 2, \dots, n$, for objects such that $a_{ij} \approx w_i/w_j$. However, in practice, it is unrealistic to expect this relation to be exact. Part of the deviation is caused by the score used for a_{ij} , but the main part of the deviation is caused by the inability of a human being to be precisely knowledgeable and consistent. For example, if one prefers object 1 to object 2 by 2:1, and object 2 to object 3 by 3:1, consistency means that one should prefer object 1 to object 3 by 6:1, otherwise the comparison is inconsistent. Saaty (1994) provides some measures for evaluating the degree of inconsistency.

When the objects i and j are compared in a pairwise manner, one hopes that the final values derived from the paired comparisons of the objects are better than those obtained by direct assignment of numbers to all objects at once. How good the estimates are for value scores depends on the scale used to interpret verbal descriptions referring to the ratios of the value scores.

To estimate the value scores w_i , $i = 1, 2, \dots, n$, on the basis of the pairwise comparison matrix, Saaty (1980, pp. 49–53) proposed the use of the eigenvalue method. As discussed in Saaty and Vargas (1984), other estimation criteria, such as least squares or logarithmic least squares, are also proposed in the literature.

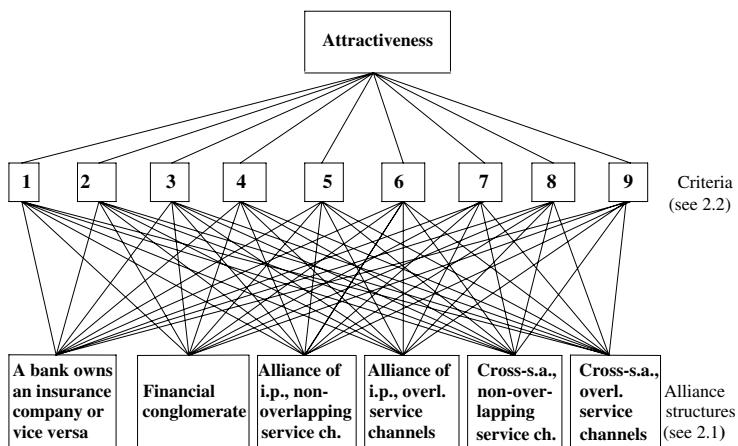


Fig. 1. Alliance structure evaluation hierarchy.

An ultimate goal in the AHP, is to estimate a vector $w = (w_1, w_2, \dots, w_n)$, $w_i > 0$, $i = 1, 2, \dots, n$, which usually is scaled such that $\sum_i w_i = 1$ whereby w_i represents the relative value score of object i . The positivity condition $w_i > 0$ on the components of the vector w require that the objects be comparable on a ratio scale.

The objects to be compared may be for instance forces, actors, criteria (objectives) or alternatives (scenarios). In the AHP, the evaluation problem is presented in a hierarchy. At each hierarchy level, we have the objects of the same type. For instance, at the criterion level, we compare the criteria. At the lower level in the hierarchy, we may have the alternatives which are compared on each criterion.

3.2. Alliance structure evaluation hierarchy

The hierarchy of our problem is simple. In addition to the top level “Attractiveness”, we have only two levels. In many problems, the criteria have a hierarchical structure as well, but in our problem, the criteria C1, C2, ..., C9 are all at the same level. The numbers in the hierarchy below refer to the criteria and the alliance structure alternatives are at the lowest level in the order CBO1, FC, AIP1, AIP2, CSA1, and CSA2 (see Fig. 1).

4. Evaluation process and results

4.1. First meeting

Our expert panel consisted of eight experts from banks and insurance companies. Those experts were a subgroup of the group which we interviewed in structuring the problem. The participants did not know the method beforehand, therefore an example on the areas of some geometric figures was used as an introduction to the AHP. After the short introduction, we agreed about the decision making process. When a group is a decision maker, there are two different methods to be applied. Each group member can make his/her own evaluations, and then an external facilitator makes a synthesis of the evaluations. Another way is to ask the group to make comparisons as a group. To find the joint opinion, the group may apply a majority rule or a consensus principle. Our group decided to negotiate until reaching a consensus.

The group had a preliminary discussion about the semantics of the criteria to ensure a common perception. The members of the group were experienced professionals, and thus there were no difficulties in interpreting the criteria. As mentioned above, we discussed the criteria beforehand with each member.

Table 2
The pairwise comparisons of the criteria

Criteria	C1	C2	C3	C4	C5	C6	C7	C8	C9
C1 Product development	1	0.333	0.143	0.167	0.125	0.143	0.143	3	0.167
C2 One-door-principle	3	1	0.2	0.143	0.125	0.2	0.2	5	0.2
C3 Earnings logics	7	5	1	2	0.2	4	3	9	4
C4 Customer relationship management	6	7	0.5	1	0.143	0.333	0.25	8	1
C5 Cost and revenue synergies	8	8	5	7	1	5	7	9	6
C6 Channel conflicts	7	5	0.25	3	0.2	1	2	9	3
C7 Solvency capital	7	5	0.333	4	0.143	0.5	1	9	0.333
C8 Investor power	0.333	0.2	0.111	0.125	0.111	0.111	0.111	1	0.111
C9 Sales management	6	5	0.25	1	0.167	0.333	3	9	1

The group started the evaluation process by comparing pairwise the mutual importance of the criteria (see Table 2). The importance was interpreted as a strength of the focus. (Unfortunately, the more precise definition is difficult to give.)

By solving the eigenvalue problem of the matrix consisting of the pairwise comparisons to evaluate the mutual importance of the criteria, we will find the value score (priority) vector for the criteria. We standardize the vector by summing its elements to one:

$$w = (0.018, 0.028, 0.180, 0.073, 0.384, 0.122, 0.092, 0.012, 0.090)^T.$$

The consistency ratio CR (cf. Saaty, 1994, pp. 84–85) was 0.138. According to Saaty's recommendations, if the consistency ratio is below 0.10, it is fully acceptable. However, the value 0.138 is clearly less than the unacceptable level 0.20. The recommendation is based on simulated results with randomly generated pairwise comparison matrices, see Saaty (1980, p. 21).

Next the group compared the various alliance models on each criterion. Because the value scores of criterion C1 = 0.018 (*Product development*) and C8 = 0.012 (*Investor power*) were very low, their effect is very insignificant to the final composite score. That's why we drop them from further analysis. The results of pairwise comparisons and the corresponding value scores are given below:

C2	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	3	7	4	8
FC	1	1	3	7	4	8
AIP1	0.333	0.333	1	5	3	6
AIP2	0.143	0.143	0.200	1	0.333	3
CSA1	0.250	0.250	0.333	3	1	3
CSA2	0.125	0.125	0.167	0.333	0.333	1

$$v_2 = (0.334, 0.334, 0.170, 0.047, 0.086, 0.030)^T, \text{CR} = 0.042$$

C3	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.200	5	7	6	8
FC	5	1	7	9	8	9
AIP1	0.200	0.143	1	3	3	5
AIP2	0.143	0.111	0.333	1	0.333	2
CSA1	0.167	0.125	0.333	3	1	3
CSA2	0.125	0.111	0.200	0.500	0.333	1

$$v_3 = (0.251, 0.531, 0.097, 0.036, 0.059, 0.026)^T, \text{CR} = 0.093$$

C4	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	6	6	7	7
FC	1	1	6	6	7	7
AIP1	0.167	0.167	1	1	3	3
AIP2	0.167	0.167	1	1	3	3
CSA1	0.143	0.143	0.333	0.333	1	1
CSA2	0.143	0.143	0.333	0.333	1	1

$$v_4 = (0.375, 0.375, 0.086, 0.086, 0.039, 0.039)^T, \text{CR} = 0.032$$

C5	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.500	6	8	7	9
FC	2	1	7	9	8	9
AIP1	0.167	0.143	1	3	2	4
AIP2	0.125	0.111	0.333	1	2	4
CSA1	0.143	0.125	0.500	0.500	1	3
CSA2	0.111	0.111	0.250	0.250	0.333	1
$v_5 = (0.331, 0.448, 0.091, 0.059, 0.047, 0.026)^T$, CR = 0.068						

C6	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	1	7	1	9
FC	1	1	1	7	1	9
AIP1	1	1	1	7	1	9
AIP2	0.143	0.143	0.143	1	0.143	2
CSA1	1	1	1	7	1	9
CSA2	0.111	0.111	0.111	0.500	0.111	1
$v_6 = (0.235, 0.235, 0.235, 0.036, 0.235, 0.024)^T$, CR = 0.004						

C7	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.333	6	6	8	8
FC	3	1	7	7	9	9
AIP1	0.167	0.143	1	1	3	3
AIP2	0.167	0.143	1	1	3	3
CSA1	0.125	0.111	0.333	0.333	1	1
CSA2	0.125	0.111	0.333	0.333	1	1
$v_7 = (0.301, 0.483, 0.075, 0.075, 0.033, 0.033)^T$, CR = 0.042						

C9	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.333	5	7	6	8
FC	3	1	6	8	7	9
AIP1	0.200	0.167	1	4	2	5
AIP2	0.143	0.125	0.250	1	0.333	2
CSA1	0.167	0.143	0.500	3	1	3
CSA2	0.125	0.111	0.200	0.500	0.333	1
$v_9 = (0.292, 0.470, 0.105, 0.038, 0.068, 0.028)^T$, CR = 0.064						

A composite value scale for the alliance structure alternatives is found by computing the weighted sums for each alternative. The separate value scores are multiplied by the re-scaled scores of the criteria. After dropping two criteria, the rest elements are scaled to sum up to one (see Table 3).

We performed a sensitivity analysis of the results on the change of the criterion weights. It turned out that one can give (separately) each criterion whatever value from the interval [0; 1] and FC still remains

C2	0	FC	1
C3	0	FC	1
C4	0	FC	1
C5	0	FC	1
C6	0	FC	1
C7	0	FC	1
C9	0	FC	1

Fig. 2. The most preferred model when each criterion is allowed to have all the weights from 0 to 1.

Table 3
The composite priority vector for the alliance structure models

	C2	C3	C4	C5	C6	C7	C9	\sum
	0.029	0.186	0.075	0.396	0.126	0.095	0.093	
CBO1	0.334	0.251	0.375	0.331	0.235	0.301	0.292	0.301
FC	0.334	0.531	0.375	0.448	0.235	0.483	0.47	0.433
AIP1	0.17	0.097	0.086	0.091	0.235	0.075	0.105	0.112
AIP2	0.047	0.036	0.086	0.059	0.036	0.075	0.038	0.053
CSA1	0.086	0.059	0.039	0.047	0.235	0.033	0.068	0.074
CSA2	0.03	0.026	0.039	0.026	0.024	0.033	0.028	0.028

the most preferred alliance model (see Fig. 2). This is due to the fact that as we can see from Table 3 FC is alone or together with CBO1 or AIP1 the most preferred model according to all six remaining criteria.

Control by ownership is strongly preferred on all chosen criteria. It can also be observed that in other models separate service channels yield higher priority values than cross-ownership or joint ownership: AIP1 > CSA1 > AIP2 > CSA2.

4.2. Second meeting

The group of experts experienced the approach very useful and interesting and expressed their wish to re-consider the problem in a later session. In the second session about a month later on, we reported the results of the first meeting and continued discussions. Especially, the group further discussed the reasons why the priorities of criterion C1 = 0.018 (*Product development*), C2 = 0.028 (*One Door-Principle*) and C8 = 0.012 (*Investor power*) were very low, even if they initially seemed to be important. We already dropped C1 and C8 from further analysis, but the group discussed what to do with criterion C2. The group decided to drop it as well. Even if it is important, it is redundant. The same aspects are considered with the other criteria.

Furthermore, after re-consideration the group concluded that some of the important evaluation criteria were still missing from the criterion set. The Finnish financial corporations seek for economies of scale or critical mass to be able to defend themselves against the liberalized EU competition. Of course, they also want to strengthen their market position against their domestic competitors. The group decided to introduce two new criteria:

10. *Economies of scale*: The criterion refers to the scale benefits of the business processes.
11. *Economies of scope*: This criterion speaks about effectivizing the customer management and enlarging the product portfolio and thereby maximizing “share of wallet” by, for example, effective cross-selling.

The group also noticed that risk management aspects were totally overlooked and decided to take risk into considerations as well:

12. *Risk*: Different alliance structure models have different possibilities to fail. The objective of business generally is to find the alternative to minimize the negative effects caused by risk.

The pairwise comparisons with the revised set of criteria are given in Table 4.

The value scale for the criteria is as follows:

$$w = (0.094, 0.023, 0.169, 0.054, 0.033, 0.027, 0.172, 0.383, 0.046)^T.$$

C10	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	5	7	7	9
FC	1	1	5	7	7	9
AIP1	0.200	0.200	1	3	3	5
AIP2	0.143	0.143	0.333	1	1	3
CSA1	0.143	0.143	0.333	1	1	3
CSA2	0.111	0.111	0.200	0.333	0.333	1

$$v_{10} = (0.374, 0.374, 0.117, 0.054, 0.054, 0.027)^T, \text{CR} = 0.036$$

C11	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	3	6	4	7
FC	1	1	3	6	4	7
AIP1	0.333	0.333	1	3	3	5
AIP2	0.167	0.167	0.333	1	1	3
CSA1	0.250	0.250	0.333	1	1	3
CSA2	0.143	0.143	0.200	0.333	0.333	1

$$v_{11} = (0.335, 0.335, 0.157, 0.066, 0.075, 0.034)^T, \text{CR} = 0.028$$

C12	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.333	0.333	0.200	0.200
FC	1	1	0.333	0.333	0.200	0.200
AIP1	3	3	1	1	0.333	0.333
AIP2	3	3	1	1	0.333	0.333
CSA1	5	5	3	3	1	1
CSA2	5	5	3	3	1	1

$$v_{12} = (0.052, 0.052, 0.129, 0.129, 0.318, 0.318)^T, \text{CR} = 0.012$$

The consistency ratio CR was 0.101. The model prioritizations corresponding to the new criteria became

The composite priority vector of the model alternatives is shown in Table 5. One can give each criterion except C12 (“Risk”) whatever value from the interval [0; 1] and FC still remains the most preferred alliance model. FC is alone or together with CBO1 or AIP1 the most preferred alliance model according to all the criteria except C12. As for C12, the most preferred solution is FC, if the weight of C12 lies in the interval [0; 0.54], and it is CSA1, if the weight of C12 lies in the interval [0.54; 1], see Fig. 3.

Table 4
Pairwise comparison of the revised set of criteria

Criteria	C3	C4	C5	C6	C7	C9	C10	C11	C12
3. Earnings logics	1	2	0.25	4	3	4	0.333	0.167	5
4. Customer relationship management	0.5	1	0.143	0.333	0.25	1	0.167	0.111	0.333
5. Cost and revenue synergies	4	7	1	5	7	6	0.5	0.2	4
6. Channel conflicts	0.25	3	0.2	1	2	3	0.2	0.143	3
7. Solvency capital	0.333	4	0.143	0.5	1	0.5	0.25	0.125	0.5
9. Sales management.	0.25	1	0.167	0.333	2	1	0.2	0.111	0.25
10. Economy of scale	3	6	2	5	4	5	1	0.25	4
11. Economy of scope	6	9	5	7	8	9	4	1	7
12. Risk	0.2	3	0.25	0.333	2	4	0.25	0.143	1

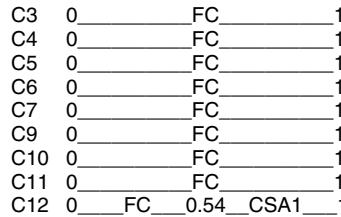


Fig. 3. The most preferred model when each criterion is allowed to have all the weights from 0 to 1.

Table 5
The composite priority vector

	C3	C4	C5	C6	C7	C9	C10	C11	C12	\sum
CBO1	0.094	0.023	0.169	0.054	0.033	0.027	0.172	0.383	0.046	0.314
FC	0.251	0.375	0.331	0.235	0.301	0.292	0.374	0.335	0.052	0.371
AIP1	0.531	0.375	0.448	0.235	0.483	0.47	0.374	0.335	0.052	0.131
AIP2	0.097	0.086	0.091	0.235	0.075	0.105	0.117	0.157	0.129	0.061
CSA1	0.036	0.086	0.059	0.036	0.075	0.038	0.054	0.066	0.129	0.083
CSA2	0.059	0.039	0.047	0.235	0.033	0.068	0.054	0.075	0.318	0.043

All the criteria but risk describe financial aspects of business. When risk is evaluated together with other criteria, its weight is only 4.6% of the total sum of weights. In fact, its weight is about 12% of the weight of the most important financial criterion *Economies of scope*. For this reason, we extract risk from the set of the criteria, and rescale the criteria. The composite priority vector is in Table 6.

We present the final results as a two-criteria evaluation model (see Table 7) and the alternatives as a two-dimensional figure (see Fig. 4) we see that alternative CSA1 dominates CSA2, alternative AIP1 dominates AIP2, and alternative FC dominates CBO1. Because dominated solutions are not rational alternatives, we do not need to further consider them.

Assume a manager likes to introduce the final priority vector by weighting these two criteria. If a manager emphasizes the risk by giving a weight which is higher than 0.54 for risk and value less than 0.46 for the composite financial criterion, then the choice is always *Cross-selling agreement, no overlapping service channels* (CSA1). In the other case, the choice is *Financial conglomerate* (FC). Other choices are said to be convexly dominated, i.e. CSA1 or FC is always best no matter which weights are used. A risk-averse manager

Table 6
The composite priority vector without the risk criterion

	C3	C4	C5	C6	C7	C9	C10	C11	Σ
	0.084	0.025	0.176	0.05	0.037	0.032	0.18	0.415	
CBO1	0.251	0.375	0.331	0.235	0.301	0.292	0.374	0.335	0.327
FC	0.531	0.375	0.448	0.235	0.483	0.47	0.374	0.335	0.384
AIP1	0.097	0.086	0.091	0.235	0.075	0.105	0.117	0.157	0.130
AIP2	0.036	0.086	0.059	0.036	0.075	0.038	0.054	0.066	0.058
CSA1	0.059	0.039	0.047	0.235	0.033	0.068	0.054	0.075	0.070
CSA2	0.026	0.039	0.026	0.024	0.033	0.028	0.027	0.034	0.030

Table 7
The two-criteria final model

	Financial aspects	Risk
CBO1	0.327	0.052
FC	0.384	0.052
AIP1	0.130	0.129
AIP2	0.058	0.129
CSA1	0.070	0.318
CSA2	0.030	0.318

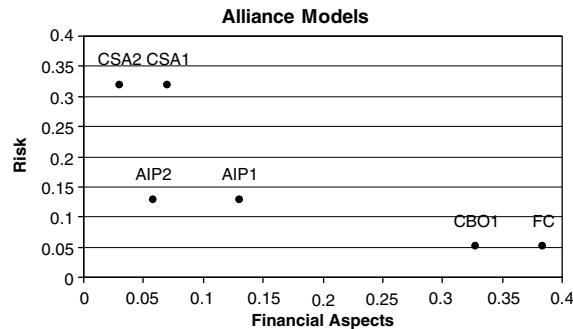


Fig. 4. Alliance models in the two-dimensional criterion space.

would prefer CSA1, while the choice of a risk-taker is FC. However, in case the value function is not linear, alternative AIP1 might be a feasible solution as well. Finally, if the decision-maker uses a max–min criterion, AIP1 is clearly the best alternative.

5. Conclusion

We have shown that the expert panel assisted by the AHP was a successful approach in searching for the most preferred alliance structure between banks and insurance companies. The use of the AHP focused the discussions on pairwise comparisons. The panel was also willing to consider its evaluations in case the inconsistency was too high. The second meeting was the initiative of the panel. The panel members felt that the problem required more considerations.

During the second meeting the panel first evaluated critically original criteria and revised some of them. In addition, they realized that the risk was not considered at all. The panel preferred the control by ownership models (FC, CBO1). Actually, the FC (*Financial conglomerate*) was the most preferred. On the other hand, a risk-averse manager might also prefer CSA1 (*Cross-selling agreement, no overlapping service channels*) or even AIP1 (*Alliance of independent partners, no overlapping service channels*) to FC.

Even if the alliance models FC and CBO1 are preferable, they are not always feasible. It might be difficult to find partners, who are willing to develop these alliance structures. Furthermore, consolidation is impossible for most local banks and mutual insurance companies.

The presented computation model can be used by various financial companies in their alliance strategic development. The criteria can be prioritized at different levels of a company. It can be seen from Tables 3 and 5 that the alliance models FC and CBO1 are dominant with respect to all the financial criteria. Therefore, they shall retain their status as the two most preferable alliance models whatever priorities the criteria are given.

A natural way to broaden the analysis would be to start considering the general area of business portfolio management, where a host of other issues arise. These include the general area formulating management goals and measuring performance, where different schools of thought exist.

We have not found similar international studies, but there is evidence of the international validity of the results in the sense that consolidation has been a strong trend among the international financial industry for at least a decade. The hierarchical structure presented here gives a basis for international use of our model. The concrete results depend on the decision makers and national circumstances.

In this paper, our point of view was that of the top management of a company considering an alliance. However, these problems are not only managerial. The perspectives of clients and supervisory authorities might also be investigated. These perspectives are topics for further research.

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Interfaces with Other Disciplines

A financial alliance compromise between executives and supervisory authorities [☆]

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Abstract

In this paper, we are looking for the best financial alliance compromise structure between the executives of the banks and insurance companies and the bank and insurance supervisory authorities in Finland. First, we studied alternative alliance structures between banks and insurance companies from the point of view of supervisory authorities. Together with leaders and experts of the supervisory authorities, we introduced eight criteria for the evaluation of the six alternative alliance structures. The evaluation was carried out by an expert panel consisting of the representatives of the supervisory authorities.

In our earlier research, the financial conglomerate was preferred by bank and insurance executives to the other alternatives. The alliance models based on plain cross-selling agreements received the highest ranks in the evaluation of supervisory authorities. Under certain conditions, the financial conglomerate might be an acceptable compromise alternative for the supervisory authorities as well.

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Keywords: Financial alliances; Financial conglomerates; Multiple criteria decision making; Analytic hierarchy process; Bank and insurance supervision

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1. Introduction

The existing literature on financial alliances is strongly concentrated around alliances created by cross-sector ownership (See, for the survey, [Voutilainen \(2005\)](#)). We are interested in the alliance structures, where one or several banks and one or several insurance companies collaborate. Furthermore, we concentrate on the retail market. [Korhonen and Voutilainen \(in press\)](#) examined various alliance structures from the point of view of the executives of the Finnish banks and insurance companies. According to the study, the tight ownership models were most preferred, provided that risk was not strongly emphasized.

In this paper, we have further studied alternative alliance structures between banks and insurance companies from the point of view of supervisory authorities. Our ultimate goal is to search for the alternative which bank and insurance supervisory authorities and bank and insurance executive management might accept as a solution to the alliance problem.

The problem is formulated as a multiple criteria decision problem. In the first phase, we defined eight criteria to be used to evaluate six different financial alliance alternatives. The criteria were introduced together with supervisory officers. The alliance models were the same as in [Korhonen and Voutilainen \(in press\)](#), but the criteria became totally different. Each officer was interviewed individually. In the second phase, the same officers were used as a panel to find the most preferred model for a financial alliance. As a decision support system we used the Analytic Hierarchy Process (AHP) developed by [Saaty \(1980\)](#).

Various aspects of financial services integration are covered by e.g. [Smith \(2000\)](#), [Berger \(2000\)](#), [Daniel \(2000\)](#) and [Skipper \(2000\)](#). The merger trend among life insurance companies is studied by [SIGMA \(1999\)](#). Prudential supervision of financial conglomerates is discussed by [Thom \(2000\)](#), and prudential supervision of insurance companies is covered by [Sharma \(2002\)](#).

The paper is organized as follows. Section 2 describes our decision alternatives and criteria. Section 3 presents a decision making process and the results of the experts' meetings. In Section 4, we search for the solution which could be accepted by both executives and supervisors if certain conditions are met. Section 5 concludes the paper with general remarks and ideas for further research.

2. Structure models for financial alliances and evaluation criteria

2.1. Alliance structures

Alliance structures were classified in three main categories depending on the degree of co-operation of the partners. The categories were derived together with representatives of the executive management of Finnish banks and insurance companies. (see, for more details, [Voutilainen \(2005\)](#).) The alternative alliance structures are

- Cross-selling agreement, no overlapping service channels (abbreviated CSA1).
- Cross-selling agreement, overlapping service channels (CSA2).
- Alliance of independent partners, no overlapping service channels (AIP1).
- Alliance of independent partners, overlapping service channels (AIP2).
- Control by ownership, when a bank owns an insurance company or vice versa (CBO1).
- Control by ownership (financial conglomerate): a holding company owns one or several banks and one or several insurance companies (FC).

2.2. Evaluation criteria

The evaluation criteria for assessing the alliance models were introduced by co-operating with the leaders and experts of the Finnish bank and insurance supervisory authorities.

We introduced the following eight criteria:

1. Equality of the member companies of the alliance.
2. System risk management.
3. The capability of the authorities to supervise the alliance as well as possible.
4. The flexibility of the alliance with respect to changes in its environment.
5. Optimal functioning of insurance and finance markets.
6. Synergies brought about by the alliance.
7. Sufficiency of capital.
8. Dependency of the alliance on the competence of executive management.

A brief explanation of the criteria is given as follows:

1. *Equality of the member companies of the alliance*: It should be found out how different alliance structure alternatives support various moral and ethical principles especially in the decision making of the member companies of the alliance. An underlying risk can be e.g. discrimination of one alliance member in the division of costs and revenues. This can violate the interests of the clients of this member. In tight co-operation, an alliance member may also be forced to undesirable business transactions.

2. *System risk management*: The finance supervisory authorities are generally concerned about system risks which can threaten both individual companies and the whole industry. It has to be evaluated how safe the alternative alliance models are considering the system risks. The most serious system risks can cause a “too big to fail” situation where a financial institution must be saved by the society, or even a “too big to save” situation where the resources of the society are not sufficient to do so. A possible trigger for a system risk is reputation risk: One can ask how different alliance alternatives prevent the escalation of reputation risk.

3. *The capability of the authorities to supervise the alliance as well as possible*: The critical issue here is, how the various alliance alternatives enable the efficient supervision of the target companies. The supervision of an alliance should be as efficient and unambiguous as possible. Supervision includes evaluation of risk positions, evaluation of the sufficiency of risk management and ensuring the sufficient solvency margin. There shall always be mutual understanding between the bank and insurance supervisors. In CSA and AIP models there is only one supervisor, in CBO models the principal supervisor can bring efficiency to the supervision. On the other hand, there are differences between supervision cultures and methods. In CBO models the supervision is maximized while its efficiency is minimized. Finally, the possible international dimension of an alliance brings more complexity to supervision.

4. *The flexibility of the alliance with respect to changes in its environment*: Which alliance models are most flexible concerning changes in the operational environment?

5. *Optimal functioning of insurance and finance markets*: Optimizing this criterion is supported above all by increased competition. This, in turn, is realized when cross-selling is as efficient as possible.

6. *Synergies brought about by the alliance*: Which alliance structure alternatives are best in contributing to the achievement of cost and revenue synergies? This is the only criterion which is essentially the same as one of the criteria in the [Korhonen and Voutilainen \(in press\)](#) study, where the executive perspective was adopted.

7. *Sufficiency of capital*: Different alliance models permit different kinds of capital strategies. It is essential to ask, how easy it is to obtain fresh capital in different alliance models. According to one risk scenario a subsidiary eats up wealth of an “upper” company in a supervisory hierarchy—the group solvency may be threatened by acquiring a new subsidiary or a capital injection required by a subsidiary. (In the earlier study by [Korhonen and Voutilainen \(in press\)](#) there was a solvency criterion which referred to, on the one hand, minimizing the required solvency capital by adjusting the product assortment, and, on the other hand, minimizing the long term fluctuations in business profitability by diversifying the business portfolio.)

8. *Dependency of the alliance on the competence of executive management*: Are there differences between the various alliance models regarding their vulnerability to incompetence of the top management?

3. Evaluation process and results

3.1. Basic evaluation

For the evaluation of those six alliance structure alternatives with eight criteria introduced in the previous sub-section, we used the Analytic Hierarchy Process ([Saaty \(1980\)](#)) as a research tool in the same way as in [Korhonen and Voutilainen \(in press\)](#).

Our expert panel consisted of six experts from the Finnish financial supervisory authorities, three from the banking supervision and three from the insurance supervision. It was decided that the decision making method was to be the same as in [Korhonen and Voutilainen \(in press\)](#), i.e. group decision making with the attempt to reach a consensus. The ultimate goal was to find a compromise between the supervisors' decision and the previously reported executives' decision.

The group had a preliminary discussion about the semantics of the criteria to ensure a common perception. In that occasion the initial interpretation of certain criteria was adjusted. As mentioned above, we discussed the criteria beforehand with each member. The group started the evaluation process by comparing pairwise the mutual importance of the criteria. In the spirit of the Analytic Hierarchy Process, the importance was interpreted as a strength of the focus.

It turned out that it would be very difficult if not impossible to reach a consensus about the comparison of the criteria. To be more exact, the insurance supervisors and the bank supervisors had clearly different opinions about the mutual importance of especially the first and the third criteria. It was agreed that the pairwise comparison of the criteria was first carried out according to the bank supervisors' decisions, then the alliance models were prioritized by the whole group according to each criterion and the overall ranking of the models was thereby obtained. After that the insurance supervisors adjusted the criterion comparisons to suit their opinions, and an analysis of its effect on the model ranking was carried out. The latter part of the research is reported in Section 3.2 (Table 1).

By solving the eigenvalue problem of the matrix consisting of the pairwise comparisons to evaluate the mutual importance of the criteria, we found the value score (priority) vector for the criteria. We standardize the vector by summing its elements to one. The consistency ratio CR (cf. [Saaty \(1980\)](#) pp. 84–85) 0.043 is fully acceptable.

Next the group compared the various alliance models on each criterion. The value scores of the criteria C1 (*equality of the members of the alliance*) and C6 (*synergies*) are so low (0.025 and 0.027) that their effect on the final composite score is insignificant. Therefore we dropped them from further analysis.

The results of the pairwise comparisons and the corresponding value scores for the various alliance models are given below:

Table 1
The original pairwise comparisons of the criteria

C2	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.200	0.200	0.125	0.125
FC	1	1	0.200	0.200	0.125	0.125
AIP1	5	5	1	1	0.333	0.333
AIP2	5	5	1	1	0.333	0.333
CSA1	8	8	3	3	1	1
CSA2	8	8	3	3	1	1

$$v_2 = (0.034, 0.034, 0.136, 0.136, 0.331, 0.331)^T, \text{CR} = 0.014$$

C3	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.250	0.143	0.143	0.111	0.111
FC	4	1	0.200	0.200	0.143	0.143
AIP1	7	5	1	1	0.500	0.500
AIP2	7	5	1	1	0.500	0.500
CSA1	9	7	2	2	1	1
CSA2	9	7	2	2	1	1

$$v_3 = (0.024, 0.048, 0.169, 0.169, 0.295, 0.295)^T, \text{CR} = 0.028$$

C4	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.250	0.333	0.143	0.167
FC	1	1	0.250	0.333	0.143	0.167
AIP1	4	4	1	2	0.333	0.500
AIP2	3	3	0.500	1	0.333	0.500
CSA1	7	7	3	3	1	2
CSA2	6	6	2	2	0.500	1

$$v_4 = (0.043, 0.043, 0.164, 0.117, 0.383, 0.250)^T, \text{CR} = 0.013$$

C5	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.500	5	6	7	8
FC	2	1	5	6	7	8
AIP1	0.200	0.200	1	3	2	3
AIP2	0.167	0.167	0.333	1	2	4
CSA1	0.143	0.143	0.500	1	1	2
CSA2	0.125	0.125	0.333	0.500	0.500	1

$$v_5 = (0.332, 0.420, 0.103, 0.055, 0.055, 0.035)^T, \text{CR} = 0.029$$

C7	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.333	5	5	6	6
FC	3	1	5	5	6	6
AIP1	0.200	0.200	1	1	3	3
AIP2	0.200	0.200	1	1	3	3
CSA1	0.167	0.167	0.333	0.333	1	1

CSA2	0.167	0.167	0.333	0.333	1	1
$v_7 = (0.296, 0.435, 0.092, 0.092, 0.042, 0.042)^T$, CR = 0.053						

C8	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.167	0.200	0.125	0.143
FC	1	1	0.167	0.200	0.125	0.143
AIP1	6	6	1	2	1	2
AIP2	5	5	0.500	1	0.500	1
CSA1	8	8	1	2	1	2
CSA2	7	7	0.500	1	0.500	1
$v_8 = (0.035, 0.035, 0.279, 0.163, 0.302, 0.186)^T$, CR = 0.014						

A composite value scale for the alliance structure alternatives was found by computing the weighted sums for each alternative. The separate value scores were multiplied by the re-scaled scores of the criteria. After dropping two criteria, the remaining elements were scaled to sum up to one (Table 2).

It can be observed that the differences between the value scores of the alliance models are much smaller than in the study with the executives (Korhonen and Voutilainen (in press)). Here the ratio between the highest and the lowest score is 1.89, while in the previous study it was 15.8 in the first meeting and 8.63 in the second meeting with the revised criteria. Thus, there is no such absolute favourite as FC was in the previous study (if the risk is not strongly emphasized). However, the loosely connected CSA models were most preferred by the supervisors partly because they received high scores according to the “heavy” criteria C2 and C3. The tightly connected models FC and CBO1 could significantly compensate this by receiving high scores, for example, according to the important criterion C5. This explains the relatively small differences between the scores. It can also be observed that in both CSA and AIP models separate service channels were slightly preferred to overlapping service channels.

When analyzing the sensitivity of the optimal solution to a change of the weight (=value score) of each criterion, it turned out that the new solution was always FC instead of the present best solution CSA1, if the optimum changed in the first place. The following list gives the best solution when every criterion in turn is given all the weights from the interval [0; 1] and the change in its weight from the optimal situation (see Table 2) is added to/subtracted from the weights of the other criteria proportionally:

C2:	[0; 0,02] : FC,	[0, 02; 1] : CSA1
C3:	[0; 0,03] : FC,	[0, 03; 1] : CSA1
C4:	[0; 1] : CSA1	
C5:	[0; 0,38] : CSA1,	[0, 38; 1] : FC
C7:	[0; 0,21] : CSA1,	[0, 21; 1] : FC
C8:	[0; 1] : CSA1	

As expected, if one of the criteria (C5 or C7), which strongly favour FC and CBO1 is emphasized sufficiently, FC becomes the most preferred solution.

3.2. Adjusted criterion weights

As stated in Section 3.1, the presented results depend on the criteria ranking of the bank supervisors, with which the insurance supervisors could not completely agree. Therefore, after achieving the above re-

Table 2

The composite priority vector for the alliance structure models for the bank supervisors

	C2	C3	C4	C5	C7	C8	
	0.255	0.307	0.063	0.255	0.063	0.057	\sum
CBO1	0.034	0.024	0.043	0.332	0.296	0.035	0.124
FC	0.034	0.048	0.043	0.420	0.435	0.035	0.162
AIP1	0.136	0.169	0.164	0.103	0.092	0.279	0.145
AIP2	0.136	0.169	0.117	0.055	0.092	0.163	0.123
CSA1	0.331	0.295	0.383	0.055	0.042	0.302	0.233
CSA2	0.331	0.295	0.250	0.035	0.042	0.186	0.213

sults, the insurance supervisors were asked to adjust the pairwise comparisons of the criteria as they wished. The following modified comparison matrix (Table 3) was obtained. The most important results of these adjustments are the dramatic reduction of the score of C3 ($0.269 \Rightarrow 0.131$) and the increase of the score of C2 ($0.232 \Rightarrow 0.302$). The value scores of the criteria C1 (*equality of the members of the alliance*) and C6 (*synergies*) are again so low (0.025 and 0.025) that we can drop them from further analysis.

The value scores of the alliance models with respect to each criterion remain unchanged, and we obtain the new composite priority vector (Table 4).

The changes in the composite priority vector are not very essential: The greatest relative change of the score is 16.1% for CBO1 and the average change is 9.2%. The only change in the ranking is that CBO1 now outweighs AIP1 with a narrow margin. Here the score of CSA2 is only 6.5% higher than the score of FC, whereas this difference was 31.5% in the previous session. In any case, the adjustment of the criteria comparisons did not have a very significant effect on the solution.

When analyzing the sensitivity of the optimal solution to a change of the weight of each criterion, it turns out that the new alternative solution is again always FC instead of the present best solution CSA1, if the optimum changes in the first place. The following list illustrates the sensitivity in the same way as previously in connection with Table 2:

C2:	[0; 0, 25] : FC,	[0, 25; 1] : CSA1
C3:	[0; 1] : CSA1	
C4:	[0; 1] : CSA1	
C5:	[0; 0, 36] : CSA1,	[0, 36; 1] : FC
C7:	[0; 0, 16] : CSA1,	[0, 16; 1] : FC
C8:	[0; 1] : CSA1	

Table 3

The adjusted pairwise comparisons of the criteria carried out by the insurance supervisors

Criteria	C1	C2	C3	C4	C5	C6	C7	C8
C1 Equality of the members of the alliance	1	0.143	0.200	0.333	0.143	1	0.200	0.200
C2 System risk management	7	1	5	3	1	7	4	5
C3 Capability to supervise the alliance	5	0.200	1	6	0.333	5	1	1
C4 Flexibility of the alliance in changing env.	3	0.333	0.167	1	0.250	3	1	1
C5 Optimal functioning of the markets	7	1	3	4	1	7	3	5
C6 Synergies	1	0.143	0.200	0.333	0.143	1	0.200	0.200
C7 Sufficiency of capital	5	0.250	1	1	0.333	5	1	1
C8 Dep. on the competence of mgmt.	5	0.200	1	1	0.200	5	1	1

Table 4

The new composite priority vector for the alliance structure models for the insurance supervisors

	C2	C3	C4	C5	C7	C8	\sum
	0.342	0.133	0.067	0.298	0.084	0.075	
CBO1	0.034	0.024	0.043	0.332	0.296	0.035	0.144
FC	0.034	0.048	0.043	0.420	0.435	0.035	0.185
AIP1	0.136	0.169	0.164	0.103	0.092	0.279	0.139
AIP2	0.136	0.169	0.117	0.055	0.092	0.163	0.113
CSA1	0.331	0.295	0.383	0.055	0.042	0.302	0.221
CSA2	0.331	0.295	0.250	0.035	0.042	0.186	0.197

The most important difference between these results and those connected with the solution in ch. 3.1 is that FC becomes the most preferred solution with the weights of C2 which are much closer to its actual weight resulting from the pairwise comparisons of our group. The reason is that the weight of C3 has dropped dramatically from the previous session, and it cannot discriminate FC or CBO1 as strongly as before, when the weight of C2 is decreased.

4. Searching for a compromise solution

Since the insurance and banking industries are exceptionally heavily regulated, it is necessary to find an alliance structure acceptable for both executives and supervisors. It does not mean that the solution is best for both parties. It is natural to start to search for a possible compromise solution from the point of view of the executives. However, to be feasible for supervisors, it is necessary that the most important supervisory criteria are satisfied to an acceptable degree.

In the paper of [Korhonen and Voutilainen \(in press\)](#) representatives of the top management of Finnish banks and insurance companies prioritized the same alliance models as presented here. The criteria were

- Earnings logics (avoid conflicts).
- Customer relationship management (maximize efficiency).
- Cost and revenue synergies (maximize).
- Channel conflicts (minimize).
- Solvency capital (optimize the balance).
- Sales management (maximize efficiency).
- Economies of scale (maximize).
- Economies of scope (maximize).
- Risk (minimize).

The value scores of the models became the following:

FC	0.371
CBO1	0.314
AIP1	0.131
CSA1	0.083
AIP2	0.061
CSA2	0.043

The differences between the value scores were essentially bigger than in the case of the supervisors ([Tables 2 and 4](#)).

The preferences of the executives and the supervisors look quite different, but we wanted to try to find a compromise between them. Therefore we gathered the results together in Figs. 1 and 2.

In both cases, either FC or CSA1 dominates the other solutions. Assuming that the executives and supervisory authorities would like to end up with a Pareto optimal solution, only those two can be considered as a possible compromise solution. Actually, FC is also quite high in the ranking list of the supervisory authorities. FC could also be the best solution in their list, provided that they could be sure that system risk could be made better controllable (C2) and supervision remained manageable (C3).

In other words, financial conglomerate could be a feasible compromise for the insurance supervisors, if *system risk management* and *capability to supervise the alliance as well as possible* could be improved in that alliance model in a credible way.

It can also be concluded from the latter diagram that the condition for the financial supervisors to approve FC is that *system risk management* and *capability to supervise the alliance as well as possible* should be improved relatively more than in the case of the insurance supervisors.

CSA1 does not seem to be a feasible compromise solution since its priority in the executives' assessment is clearly lower than the priority of FC in the supervisors' assessment.

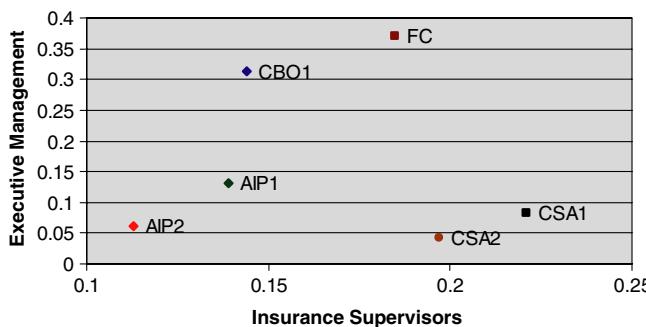


Fig. 1. Illustration of executive management's and insurance supervisors' preference order.

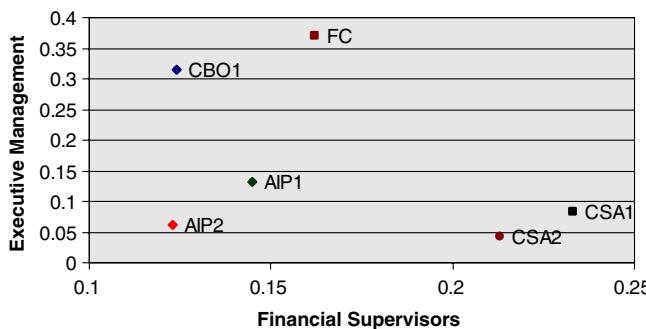


Fig. 2. Illustration of executive management's and financial supervisors' preference order.

5. Conclusion

We have shown that the expert panel assisted by the AHP was a successful approach in searching for the most preferred alliance structure between banks and insurance companies. In the study by [Korhonen and Voutilainen \(in press\)](#), the experts were executives of Finnish banks and insurance companies. In this study, they were representatives of the Finnish bank and insurance supervisory authorities. The use of the AHP focused the discussions on pairwise comparisons. The authorities could not agree about all comparisons of the criteria, but it was decided that the insurance authorities could adjust the comparisons, when the first AHP session was completed. It turned out that these adjustments had only minor effects on the value scores of the alliance models.

Summarizing the results, the loosely connected alliance models CSA1 and CSA2 received the highest overall value scores largely because they got very high scores according to the important criteria *system risk management* and *the capability of the authorities to supervise the alliance as well as possible*. In other words, the control by ownership models were considered far from desirable with respect to these criteria. The difference between the overall value scores of the alliance models CSA2 and FC was much smaller in the insurance supervisors' opinion than in the bank supervisors' opinion.

The result differs sharply from the prioritization made by the bank and insurance executives which favoured very clearly the control by ownership models (if the risk factor was not specially emphasized). The executive point of view is in many ways opposite to the supervisory point of view. Also the criteria were different in seven cases out of eight. Business-driven consolidation seems to be in conflict with the supervisory intresses. Brought synergies do not outweigh the risk that enters into large and complex financial institutions.

However, the differences between the value scores of the alliance models in this study are essentially smaller than in the previous study with the executives. Therefore it would be definitely interesting to obtain a compromise solution acceptable for both the executives and the supervisors. We conclude that financial conglomerate could be a possible compromise for the insurance supervisors if *system risk management* and *capability to supervise the alliance as well as possible* could be improved in that alliance model in a credible way.

We also conclude that the condition for the financial supervisors to approve FC is that *system risk management* and *capability to supervise the alliance as well as possible* should be improved relatively more than in the case of the insurance supervisors. In various EU countries the latter criterion has been recently taken into consideration by new legislation on the co-operation between the supervisory authorities in financial conglomerates. Moreover, it should also be important to emphasize the *system risk management* criterion.

The previous study and this paper have covered the points of view of the corporate management and the supervisory authorities to the problem of finding the most preferred alliance structure between banks and insurance companies. There is still at least one relevant perspective to this question: the clients'. We plan to return to that point of view in one way or another.

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A CUSTOMER VIEW ON THE MOST PREFERRED
ALLIANCE STRUCTURE BETWEEN BANKS AND
INSURANCE COMPANIES

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Abstract

In this paper, we have studied alternative alliance structures between banks and insurance companies from the point of view of Finnish customer representatives. Seven criteria were introduced for the evaluation of six alternative structure models for such alliances. The evaluation was carried out by an expert panel consisting of customer representatives. As a supporting tool, we used the Analytic Hierarchy Process (AHP). The alliance models based on plain cross-selling agreements were considered most preferred.

We also studied how familiar the customer representatives were with the alliance problem from the point of view of the bank and insurance executives and that of the supervisory authorities. We observed that the customer representatives did not recognize the problem as well from the point of view of the supervisors as that of the executives. In addition, it was interesting to note that the customer representatives did not consider a risk aspect in the control by ownership alternatives as critical as the executives.

Comparing the results in this study to our previous studies, we may conclude that the best compromise model from all three points of view could be the financial conglomerate on the condition that certain supervisory and customer criteria are satisfied to a sufficient degree.

Keywords: Financial alliances, financial conglomerates, multiple criteria decision making, Analytic Hierarchy Process, customer perspective

1. Introduction

Alliance formation in the financial industry has been a growing trend during the last decade. Insurers in an alliance between banks and insurance companies are most often life insurance companies, but also non-life companies can be found. Financial alliances often include units like mutual fund managing companies, asset management companies, securities brokerages and corporate finance companies. In most European countries, banks are allowed to be "universal". It is customary that they include the above mentioned functions. The same holds more and more often for insurance companies as well (see eg. Skipper [2000]). That's why the various types of alliances on the retail market between banks and insurance companies are of special interest.

In our previous papers (Voutilainen [2005], Korhonen and Voutilainen [2005] and Korhonen, Koskinen, and Voutilainen [2005]), we have studied alliance structure alternatives from different perspectives. In Voutilainen [2005], we introduced six different alliance structure alternatives and nine criteria relevant for evaluating those alternatives from the perspective of the executives of the banks and insurance companies. The alternatives and the criteria were introduced together with bank and insurance experts. Each expert was

interviewed individually. The experts were representatives of the top management of Finnish banks and insurance companies.

In the second paper (Korhonen and Voutilainen [2005]), the same group of experts were used as a panel to find the most preferred model for a financial alliance. As a decision support system we used the Analytic Hierarchy Process (AHP) developed by Saaty [1980]. The problem was a typical AHP-problem: few alternatives and few qualitative criteria. The use of the AHP focused the discussions on the relevant aspects of the choice problem. The final solution was found in two meetings. The second meeting was the initiative of the panel. The panel felt that the problem required more considerations. The panel preferred the Control by ownership models. On the other hand, a risk-averse manager might also prefer looser alliance alternatives.

In the third paper (Korhonen et al. [2005]), our aim was to find the best financial alliance compromise structure between the executives of the banks and insurance companies and the bank and insurance supervisory authorities in Finland.¹ First, we searched for the best alliance structure from the point of view of supervisory authorities. Together with leaders and experts of the supervisory authorities, we introduced eight criteria for the evaluation of the previously defined six alternative alliance structures. The evaluation was carried out by an expert panel consisting of the representatives of the supervisory authorities.

The alliance alternatives based on plain cross-selling agreements received the highest ranks in the evaluation of supervisory authorities. Under certain conditions, the financial conglomerate might be an acceptable compromise alternative for the supervisory authorities as well.

In this paper, we have approached our problem from the point of view of customers. The importance of this perspective has been emphasised by e.g. Belth [2000]. Customer perspective to mergers is taken in Bank Marketing International [2004]. We did not take a sample from the population of customers, because most customers are not familiar with the problem at all. We were interested in the opinions of "advanced or well informed" customers. To represent those customers, we used leaders and experts of Finnish customer organizations and labour market organizations (see, Acknowledgements at the end of the paper). As before, each customer representative was interviewed individually. Based on the interviews, we initially introduced seven relevant criteria. The final evaluation was carried out with four criteria. In the evaluation meeting, three out of those seven criteria turned out to be insignificant.

We have also studied how well the customer representatives know the alliance problem from the point of view of the bank and insurance executives and that of the supervisory authorities. We asked them to play the role of

¹ The role of supervisory authorities is very significant in the financial industry. All banks and insurance companies in Finland are constantly supervised. No structural decisions concerning the financial industry can be made without involving the supervisory authorities in the decision process.

executives and supervisory authorities and to make the evaluations by using their most important criteria. We also asked them which they would think were the most important executive and supervisory criteria. This provided us with interesting information about the knowledge of the problem of the customer representatives from the perspectives of the other parties. The analysis revealed us which aspects are not yet well known to the customer representatives. Finally, we compare the prioritizations of all three decision maker groups considered in this and the earlier papers.

The paper is organized as follows. Section 2 reviews our main previous results. In Section 3, we provide a brief introduction to the theory of the AHP. The decision criteria from the customer point of view are given in Section 4, and in Section 5, the results are given and discussed. In Section 6, we present the results obtained when asking the experts to assume the roles of executives and supervisors. In section 7, we compare the criteria and the prioritizations of all three decision maker groups. Finally, in Section 8, we conclude the paper with general remarks.

2. Review of our earlier research on alliance structures

Since this paper is founded on our earlier research on alliance structures, we summarize here our key results.

2.1. Structuring the problem

Voutilainen [2005] studied alliances between banks and insurance companies. His perspective was that of the top management of a financial enterprise in the retail market. Alliance structures were classified into three main categories depending on the degree of co-operation of the partners. These categories were derived together with representatives of the executive management of Finnish banks and insurance companies. The categories in the increasing order of closeness of the partners were

Cross-selling agreements. The parties agree to sell each other's products to their own customers. The cross-selling is frequently one-sided. Most often a bank sells an insurance company's products to its customers. In principle, it could be vice versa as well. The alliance category can still be divided into two subcategories depending on whether the parties' service channels are overlapping or not. Non-overlapping service channels can be achieved, for example, if the parties actively try to organize cross-selling in such a way that there is no competition between the parties.

Here a service channel can be a branch office network, but also a contact center, website etc. Especially in the case of overlapping branch networks one easily faces channel conflict: the alliance members do not co-operate effectively in the fear of losing their customers to the other party and consequently the sales provisions etc. Non-overlapping service channels often means that the other party has no service channel at all.

Thus the two different sub-models are

- Cross-selling agreement, no overlapping service channels (abbreviated CSA1)
- Cross-selling agreement, overlapping service channels (CSA2)

Alliance of independent partners. The alliance type is a special case of a cross-selling agreement where the alliance is tightened by cross-ownership and/or joint ownership in third parties. Cross-ownership means a minority stake of the other party's shares. If the ownership were one-sided, it would probably be a sign of asymmetry and one party's dominance of the alliance. An example of joint ownership is a mutual fund management company owned jointly by a bank (banks) and an insurance company (insurance companies). One could also think about cross-ownership/joint ownership without a cross-selling agreement, but such a model seldom occurs in practice.

The degree of overlapping is also used to divide this category into two different sub-models:

- Alliance of independent partners, no overlapping service channels (AIP1)
- Alliance of independent partners, overlapping service channels (AIP2)

Control by ownership. In both the previous models, earnings and costs are divided. The third category means the model, where all the control is in the hand of one party: a bank can simply own (a control of) an insurance company or vice versa, or a third party owns the both ones.

This category is divided into two sub-models depending on the controller:

- Control by ownership, when a bank owns an insurance company or vice versa (CBO1)
- Control by ownership (financial conglomerate): a holding company owns one or several banks and one or several insurance companies (FC)

We can notice that the classification of the different alternatives is based on the closeness of the alliance and the degree of the overlapping of the service channels.

Criteria. The alliance models were compared and eventually prioritized according to the following criteria (the choice of the criteria was also based on the management views).

1. Product development (maximize efficiency),
2. One-door-principle (implement as effectively as possible),
3. Earnings logics (avoid conflicts),
4. Customer relationship management (maximize efficiency),
5. Cost and revenue synergies (maximize),
6. Channel conflicts (minimize),

7. Required solvency capital (optimize the balance),
8. Investor power (maximize),
9. Sales management (maximize efficiency).

According to the interviews the overall importance of earnings logics, synergies and channel conflicts was the greatest.

2.2. Evaluating with management criteria

Korhonen and Voutilainen [2005]) studied the above defined six different possible structure models for alliances and the nine criteria. Searching for the most preferred alliance model is a multiple criteria decision making (MCDM) problem. To solve the problem, the Analytic Hierarchy Process (AHP) was used, see Saaty [1980].

The use of the AHP focused the discussions on pairwise comparisons. The panel (the same members as in Voutilainen [2005]) was also willing to consider its evaluations in case the inconsistency was too high. The second meeting was the initiative of the panel. The panel members felt that the problem required more considerations.

During the second meeting the panel first evaluated critically the original criteria and revised some of them. The resulting criteria were

1. Earnings logics (avoid conflicts),
2. Customer relationship management (maximize efficiency),
3. Cost and revenue synergies (maximize),
4. Channel conflicts (minimize),
5. Required solvency capital (optimize the balance),
6. Sales management (maximize efficiency).
7. Economies of scale (maximize)
8. Economies of scope (maximize)
9. Risk

The panel preferred the Control by ownership models. Actually, the Financial conglomerate was the most preferred. On the other hand, a risk-averse manager might also prefer Cross-selling agreement with no overlapping service channels or even Alliance of independent partners with no overlapping service channels to Financial conglomerate.

2.3. Compromise with supervisors

In the third paper, Korhonen et al. [2005] broaden the analysis to include the search for the best alliance compromise structure between the executives of the banks and insurance companies and the bank and insurance supervisory authorities. First, the alternative alliance structures were studied from the point of view of supervisory authorities. The leaders and experts of the supervisory

authorities introduced eight criteria for the evaluation of the above presented alternative alliance structures.

1. Equality of the member companies of the alliance,
2. System risk management,
3. The capability of the authorities to supervise the alliance as well as possible,
4. The flexibility of the alliance with respect to changes in its environment,
5. Optimal functioning of insurance and finance markets,
6. Synergies brought about by the alliance,
7. Sufficiency of capital,
8. Dependency of the alliance on the competence of executive management.

The ultimate goal was to search for the alternative which bank and insurance supervisory authorities and bank and insurance executive management might accept as a solution to the alliance problem. The Analytic Hierarchy Process (AHP) was again used.

The loosely connected alliance models Cross-selling agreements received the highest overall priorities largely because they got very high priorities according to the important criteria *System risk management* and *The capability of the authorities to supervise the alliance as well as possible*. The control by ownership models were not considered desirable with respect to these criteria.

The result differs sharply from the prioritization made above by the bank and insurance executives. They favoured very clearly the control by ownership models (if the risk factor was not specially emphasized). The executive point of view is in many ways opposite to the supervisory point of view. Also the criteria were different in seven cases out of eight.

Business-driven consolidation seems to be in conflict with the supervisory interests. Supervisors seem to think that brought synergies do not outweigh the risk that enters into large and complex financial institutions.

However, the differences between the priorities of the different alliance models in this study were essentially smaller than in the previous study with the executives. Therefore it would be definitely interesting to obtain a compromise solution acceptable for both the executives and the supervisors.

Korhonen et al. [2005] conclude that Financial conglomerate could be a possible compromise for the insurance supervisors if *System risk management* and *Capability to supervise the alliance as well as possible* could be improved in that alliance model in a credible way.

They also conclude that the condition for the financial supervisors to approve FC is that *System risk management* and *Capability to supervise the alliance as well as possible* should be improved relatively more than in the case of the insurance supervisors.

3. Analytic hierarchy process

Choosing the most preferred alliance structure is a typical multiple criteria evaluation problem. Six alternatives described in Section 2 are compared using seven criteria to be introduced in section 4. We shall use the Analytic Hierarchy Process (AHP) by Saaty [1980] as a decision support system to assist the customer representatives to compare those alternatives. The AHP provides us with a simple tool first to evaluate the mutual importance of the criteria, then to compare the alternative alliance structures on each criterion, and finally to synthesize the results onto one scale.

The basic assumption in the Analytic Hierarchy Process (AHP) is that a human being makes comparisons between objects on a ratio scale (see, e.g. Saaty [1980]). For instance, the expression: A is “twice better” than B means that the utility (value) $v(A)$ of A is two times higher than the utility (value) $v(B)$ of B. Even a “softer” expression like A is “much better” than B is interpreted in the AHP to mean that $v(A) = kv(B)$, where $k >> 1$. The concept “better” can be replaced e.g. by the concept “more important”. Then function v describes the intensity of focus. A is more important than B means that we have to pay more attention to A than B. In the AHP, the objects to be compared can be concrete or abstract.

A central element in the AHP is a full set of $n(n - 1)/2$ pairwise comparisons, where n is the number of objects. Because it is difficult for a person to distinguish simultaneously more than 7-9 different levels of preference, Saaty (see, e.g. Saaty [1980, p. 54]) has proposed the use of the following verbal descriptions and the corresponding scores in making comparison:

Table 1: Verbal descriptions and the corresponding original numerical scores

Score	Description	Explanation
1	equal importance	Two activities contribute equally to the objective
3	moderate importance of one over another	Experience and judgement slightly favour one activity over another
5	essential or strong importance	Experience and judgement strongly favour one activity over another
7	demonstrated importance	An activity is favoured very strongly over another; its dominance is demonstrated in practice
9	Extreme importance	The evidence favouring one activity over another is of the highest possible order of affirmation.
2,4,6,8	Intermediate values between adjacent values	When compromise is needed

If object i has one of the above nonzero numbers assigned to it, when compared with object j , then j has the reciprocal value when compared with i . Intermediate scores of 2, 4, 6, and 8 are used, if a person thinks that for example object i is at least moderately better than object j , but (s)he is not comfortable with saying that i is strongly better than j . Then his or her view

might be represented by the score 4. If object j is at least moderately but not necessarily strongly better than object i , then the score $1/4$ would be assigned to the comparison of i with j . As a result of pairwise comparisons, the following matrix is obtained:

$$A = \begin{pmatrix} 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \dots & \dots & \dots & \dots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1 \end{pmatrix}$$

Having recorded the quantified comparisons on pairs i and j as numerical entries in the matrix A , the problem now is to find numerical value scores w_i , $i = 1, 2, \dots, n$, for objects such that $a_{ij} \approx w_i/w_j$. However, in practice, it is unrealistic to expect this relation to be exact. Part of the deviation is caused by the score used for a_{ij} , but the main part of the deviation is caused by the inability of a human being to be precisely knowledgeable and consistent. For example, if one prefers object 1 to object 2 by 2:1, and object 2 to object 3 by 3:1, consistency means that one should prefer object 1 to object 3 by 6:1, otherwise the comparison is inconsistent. Saaty [1994] provides some measures for evaluating the degree of inconsistency.

When the objects i and j are compared in a pairwise manner, one hopes that the final values derived from the paired comparisons of the objects are better than those obtained by direct assignment of numbers to all objects at once. How good the estimates are for value scores depends on the scale used to interpret verbal descriptions referring to the ratios of the value scores.

To estimate the value scores w_i , $i = 1, 2, \dots, n$, on the basis of the pairwise comparison matrix, Saaty [1980, pp. 49-53] proposed the use of the eigenvalue method. As discussed in Saaty and Vargas [1984], other estimation criteria, such as least squares or logarithmic least squares, are also proposed in the literature.

An ultimate goal in the AHP, is to estimate a vector $w = (w_1, w_2, \dots, w_n)$, $w_i > 0$, $i = 1, 2, \dots, n$, which usually is scaled so that $\sum_i w_i = 1$ whereby w_i represents the relative value score of object i . The positivity condition $w_i > 0$ on the components of the vector w require that the objects be comparable on a ratio scale.

The objects to be compared may be for instance forces, actors, criteria (objectives) or alternatives (scenarios). In the AHP, the evaluation problem is presented in a hierarchy. At each hierarchy level, we have the objects of the same type. For instance, at the criterion level, we compare the criteria. At the lower level in the hierarchy, we may have the alternatives which are compared on each criterion.

4. Customer view on the alliance problem

4.1. Evaluation criteria

Here the evaluation criteria for assessing the alliance models were introduced by co-operating with the leaders and experts of Finnish consumer organizations and labour market organizations. All the persons in the "Acknowledgements" section were interviewed for this purpose. To find the relevant criteria is an important task and crucial for the success of the decision making. Keeney and Raiffa [1976, p. 50], present the following desirable properties of the set of criteria:

- complete, it covers all the important aspects of the problem,
- operational, it can be meaningfully used in the analysis,
- decomposable, all aspects of the evaluation process can be simplified by breaking it down into parts,
- non redundant, so that the double counting of impacts can be avoided, and
- minimal, so that the problem dimension is kept as small as possible

Keeping these properties in our minds, the following seven criteria were introduced:

1. Equal treatment of customers,
2. Sustainability and reliability of the operations,
3. Transparency and comparability of the products,
4. Understandable division of risks between a customer and the financial corporation,
5. System risk management,
6. Economies of scale,
7. Availability of services.

A brief explanation of the criteria is given as follows:

1. *Equal treatment of customers*

One should be worried about, for example, whether a regular customer in an insurance company receives better treatment in claims handling than ordinary customers. By denying such a claim the company has, obviously, more to lose in the form of a lost customer relation.

2. *Sustainability and reliability of the operations*

The interviewed experts' opinion was that changing domicile of a financial enterprise is problematic in this respect. Quarter-thinking typical in publicly listed companies also contradicts sustainability. Sufficiency of capital, and, more generally, solvency and solidity are very important factors from a customer's point of view.

3. *Transparency and comparability of the products*

Product brand often overshadows product properties in marketing and this does not promote comparability. Benefits for regular customers may also prevent competition and comparison. Bundling products and tie-in sale

prevent transparency and comparability. Lack of transparency is a besetting sin in insurance and, for example, in mutual funds business.

4. Understandable division of risks between a customer and the financial corporation

Customers often do not recognize the risks associated with the products they are offered. In Finland, they may think, for example, that insurance products are covered by a security similar to deposit insurance. For example, in unit linked pension insurance risks are transferred to the weaker party who is the customer. An idea has been presented about “green products” where the capital is guaranteed, and “red products” with typically large fluctuations of return without any capital guarantee. Some of the interviewed experts referred to the Modigliani principle according to which risks should be loaded on the party which is specialized in bearing risks. However, it should be remembered that without risks it is generally impossible to receive good returns.

5. System risk management

It is characteristic to system risks that if one business operator fails, so happens to a second and a third one, etc. It was stated that efficient supervision is the way to prevent the realization of system risks.

6. Economies of scale

Efficient and proper functioning of a financial business operation requires a critical mass. It will ultimately show in better quality. In an alliance it is possible, for example, to rationalize service network.

7. Availability of services

Does the customer reach the services he/she needs conveniently through different channels? There were different opinions whether this criterion separates the models well or not. Alliances are needed because they are a way to keep the branch network as large as possible.

4.2. Evaluation hierarchy of Alliance structure

The hierarchy of our problem is simple. In addition to the top level “Attractiveness”, we have only two levels. In many problems, the criteria have a hierarchical structure as well, but in our problem, the criteria C1, C2, ..., C7 are all at the same level. In the hierarchy below the alliance structure alternatives are at the lowest level in the order CBO1, FC, AIP1, AIP2, CSA1, and CSA2.

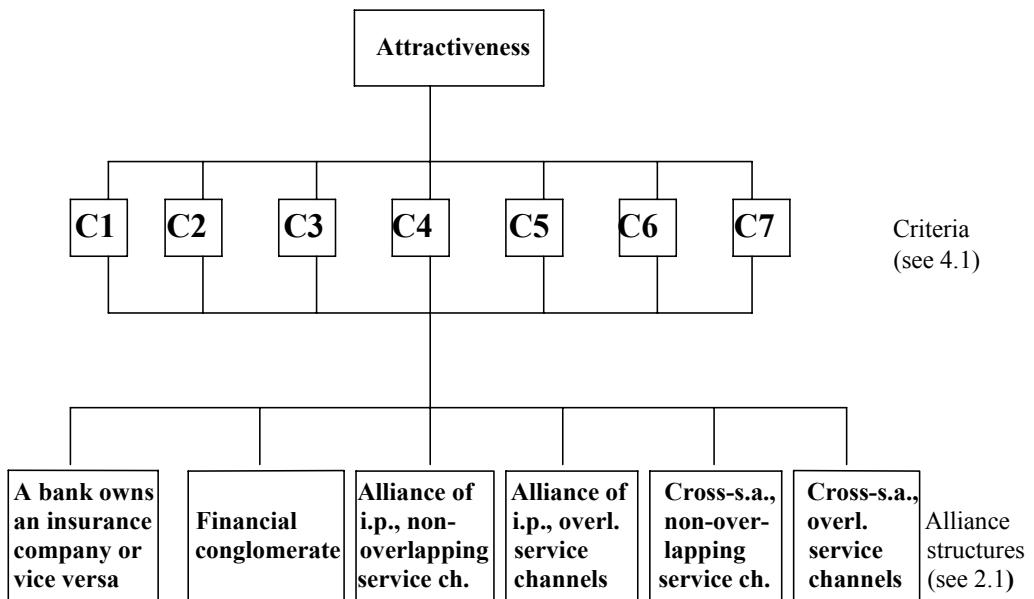


Figure 1: The evaluation hierarchy

5. Evaluation Process and Results with the Customers' Criteria

In the final evaluation meeting, the expert panel consisted of three experts from Finnish labour market organizations. The participants did not know the method beforehand. Therefore a brief introduction to the AHP was provided. Next, we discussed the decision making process. When a group is a decision maker, there are two different methods to be applied. Each group member can make his/her own evaluations, and then an external facilitator or a model makes a synthesis of the evaluations. Another way is to ask the group to make comparisons as a group. To find the joint opinion, the group may apply a majority rule or a consensus principle. Our group decided to try to negotiate until reaching a consensus.

The group had a preliminary discussion about the semantics of the criteria to ensure a common perception. In that occasion the initial interpretation of certain criteria was adjusted. As mentioned above, we discussed the criteria beforehand with each member. The group started the evaluation process by comparing pairwise the mutual importance of the criteria. The importance was interpreted as a strength of the focus.

Table 2: The pairwise comparisons of the criteria

Criteria	C1	C2	C3	C4	C5	C6	C7
C1 <i>Equal treatment of customers</i>	1	0.167	0.167	0.200	0.167	0.200	0.143
C2 <i>Sustainability and reliability of the oper.</i>	6	1	1	5	3	7	4
C3 <i>Transparency and comparability</i>	6	1	1	3	0.250	5	4
C4 <i>Understandable division of risks</i>	5	0.200	0.333	1	0.200	3	1
C5 <i>System risk management</i>	6	0.333	4	4	1	5	5
C6 <i>Economies of scale</i>	5	0.143	0.200	0.333	0.200	1	0.200
C7 <i>Availability of services</i>	7	0.250	0.200	1	0.200	5	1

By solving the eigenvalue problem (Saaty [1980, pp. 49-52]) of the matrix consisting of the pairwise comparisons to evaluate the mutual importance of the criteria, we will find the value score (priority) vector for the criteria. We standardize the vector by summing its elements to one:

$$w = (0.023, 0.309, 0.186, 0.075, 0.276, 0.042, 0.089)^T.$$

The consistency ratio CR (cf. Saaty [1994], pp. 84-85) was 0.128. If the consistency ratio is below 0.10, it is fully acceptable. However, the value 0.128 is clearly less than the unacceptable level 0.20.

Next the group compared the various alliance models on each criterion. The value scores of the criteria C1 (*Equal treatment of customers*) and C6 (*Economies of scale*) are so low (0.023 and 0.042) that their effect to the final composite score is insignificant. Therefore we drop them from further analysis.

The results of the pairwise comparisons and the corresponding value scores for the various alliance models are given below:

C ₂	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	2	4	4	7	8
FC	0.500	1	4	4	6	7
AIP1	0.250	0.250	1	2	4	5
AIP2	0.250	0.250	0.500	1	3	4
CSA1	0.143	0.167	0.250	0.333	1	2
CSA2	0.125	0.143	0.200	0.250	0.500	1

$$v_2 = (0.394, 0.302, 0.133, 0.095, 0.044, 0.031)^T, CR = 0.043.$$

C_3	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.200	0.200	0.143	0.143
FC	1	1	0.200	0.200	0.143	0.143
AIP1	5	5	1	1	0.333	0.333
AIP2	5	5	1	1	0.333	0.333
CSA1	7	7	3	3	1	1
CSA2	7	7	3	3	1	1

$$v_3 = (0.036, 0.036, 0.139, 0.139, 0.325, 0.325)^T, CR = 0.021.$$

C_4	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	0.250	0.250	0.167	0.167
FC	1	1	0.250	0.250	0.167	0.167
AIP1	4	4	1	1	0.333	0.333
AIP2	4	4	1	1	0.333	0.333
CSA1	6	6	3	3	1	1
CSA2	6	6	3	3	1	1

$$v_4 = (0.043, 0.043, 0.135, 0.135, 0.322, 0.322)^T, CR = 0.017.$$

C_5	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.500	0.200	0.200	0.125	0.125
FC	2	1	0.250	0.250	0.143	0.143
AIP1	5	4	1	1	0.167	0.167
AIP2	5	4	1	1	0.167	0.167
CSA1	8	7	6	6	1	1
CSA2	8	7	6	6	1	1

$$v_5 = (0.028, 0.039, 0.095, 0.095, 0.372, 0.372)^T, CR = 0.064.$$

C_7	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	1	1	1	1
FC	1	1	1	1	1	1
AIP1	1	1	1	1	1	1
AIP2	1	1	1	1	1	1
CSA1	1	1	1	1	1	1
CSA2	1	1	1	1	1	1

$$v_7 = (0.167, 0.167, 0.167, 0.167, 0.167, 0.167)^T, CR = 0.$$

When using the criterion C2, the most preferred models were CBO1 and FC, whereas the CSA models were strongest according to the criteria C3, C4 and C5. The criteria C3 and C4 were found to be strongly overlapping, and they yield very similar model priorities. Understandable division of risks between a customer and the company is clearly a consequence or an aspect of transparency of products. Thus, the criterion C4 was considered redundant (cf. the recommendations for criteria in section 2.2), and it was deleted. When considering the criterion C7, the group could not differentiate the alliance models at all.

A composite value scale for the alliance structure alternatives is found by computing the weighted sums for each alternative. The separate value scores are multiplied by the re-scaled scores of the criteria. After dropping three criteria (C1, C4 and C6), the remaining elements are scaled to sum up to one.

Table 3: The composite priority vector for the alliance structure models for the customer representatives

Models	C2	C3	C5	C7	Σ
	0.401	0.200	0.339	0.060	
CBO1	0.394	0.036	0.028	0.167	0.185
FC	0.302	0.036	0.038	0.167	0.152
AIP1	0.133	0.139	0.095	0.167	0.123
AIP2	0.095	0.139	0.095	0.167	0.108
CSA1	0.044	0.325	0.372	0.167	0.219
CSA2	0.031	0.325	0.372	0.167	0.213

It can be observed that the differences between the value scores of the alliance models are much smaller than in the study with the executives (Korhonen and Voutilainen [2005]). Here the relation between the highest and the lowest score is 2.03, while in the executive study it was 15.8 in the first meeting and 8.63 in the second meeting with the revised criteria. In the supervisory study (Korhonen et al. [2005]) the ratios were 1.89 for bank supervisors and 1.96 for insurance supervisors. There is no such absolute favourite here as FC was in the executive study (if the risk was not strongly emphasized).

The scores in table 3 resemble considerably the scores of the supervisory study. The CSA models were most preferred, but the difference of scores between CSA models and CBO1 is not very significant. In comparison with the earlier studies, it is perhaps somewhat surprising that CBO1 received a higher score than FC. The reason is that it was preferred to FC with respect to the sustainability criterion C2. The AIP models were considered least attractive. It does not make much difference whether the alliance partners have overlapping service channels or not.

When analyzing the sensitivity of the optimal solution for a change of the weight (=value score) of each criterion, it turns out that the new solution is always CBO1 instead of the currently best solution CSA1, if the optimum changes in the first place. The following list gives the best solution when

every criterion in turn is given all the weights from the interval [0;1] and the change in its weight from the optimal situation (see table 3) is added to/subtracted from the weights of the other criteria proportionally:

C2:	[0;0,47] : CSA1,	[0,47;1] : CBO1
C3:	[0;0,10] : CBO1,	[0,10;1] : CSA1
C5:	[0;0,27] : CBO1,	[0,27;1] : CSA1
C7:	[0;1] : CSA1.	

If the weight of the criterion C2 is increased sufficiently, or the weight of any of the criteria C3 and C5 is decreased sufficiently, CBO1 becomes the most preferred solution.

6. Customers in the roles of the management and the supervisors

When the customer representatives accomplished the evaluation of the alliance models by using their own criteria, we were interested to study how well they know the alliance choice problem from the perspectives of the executives and supervisors. In case we recognize a big gap in the evaluations of the executives and/or supervisors, it indicates that there is a communication problem between those parties and customers. The analysis may also point out, where the communication problem appears.

6.1. Evaluation in the executives' role

The customer representatives were asked to evaluate the alliance models by the most important executive criteria (see Korhonen and Voutilainen [2005]):

- C1. Economies of scope
- C2. Economies of scale
- C3. Cost and revenue synergies.

The group compared pairwise the mutual importance of the criteria:

	C1	C2	C3
C1	1	0.333	0.333
C2	3	1	0.500
C3	3	2	1

$$w = (0.140, 0.333, 0.528)^T, CR = 0.052.$$

It is worth noticing that these priorities differ very clearly from the priorities given by the executives: (0.538, 0.233, 0.228). The executives emphasized

the important strategic criterion *Economies of scope*, but the customer representatives' view was more operational.

The results of the pairwise comparisons and the corresponding value scores for the various alliance models are given below:

C ₁	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	3	5	5	7	7
FC	0.333	1	4	4	5	5
AIP1	0.200	0.250	1	1	3	3
AIP2	0.200	0.250	1	1	3	3
CSA1	0.143	0.200	0.333	0.333	1	1
CSA2	0.143	0.200	0.333	0.333	1	1

$$v_1 = (0.454, 0.262, 0.098, 0.098, 0.043, 0.043)^T, CR = 0.037.$$

C ₂	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	1	5	5	7	7
FC	1	1	5	5	7	7
AIP1	0.200	0.200	1	1	4	4
AIP2	0.200	0.200	1	1	4	4
CSA1	0.143	0.143	0.250	0.250	1	1
CSA2	0.143	0.143	0.250	0.250	1	1

$$v_2 = (0.361, 0.361, 0.102, 0.102, 0.036, 0.036)^T, CR = 0.040.$$

C ₃	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	3	5	5	6	6
FC	0.333	1	4	4	5	5
AIP1	0.200	0.250	1	3	4	4
AIP2	0.200	0.250	0.333	1	3	3
CSA1	0.167	0.200	0.250	0.333	1	2
CSA2	0.167	0.200	0.250	0.333	0.500	1

$$v_3 = (0.434, 0.262, 0.135, 0.083, 0.048, 0.038)^T, CR = 0.081.$$

The composite priority vector for the alliance structure models and the corresponding vector from the executives' study (Korhonen and Voutilainen [2005]) (using the same three criteria) are given in Table 4:

Table 4: Comparison of the views of customers and executives on the executives' problem

Models	Customers	Executives
CBO1	0.413	0.343
FC	0.295	0.371
AIP1	0.119	0.132
AIP2	0.091	0.062
CSA1	0.043	0.063
CSA2	0.038	0.030

Although the customer representatives gave totally different weights to the criteria compared to the executives' assessment, the model priorities according to each criterion were very similar. The overall assessment was roughly the same: The control by ownership models were most preferred, and the CSA models were considered least attractive. The comparison is illustrated in Fig. 2. We may conclude that the holistic view of the customer representatives on the management problem was quite good.

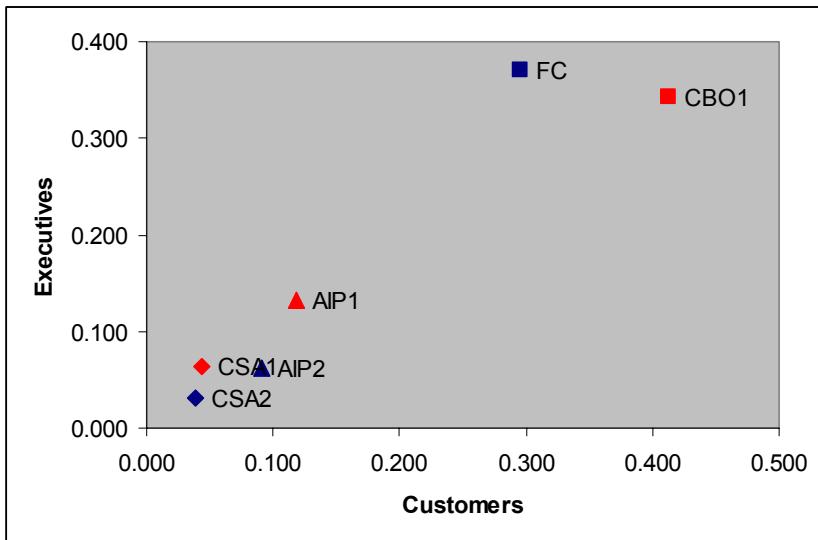


Figure 2: Illustration of customers' and executives' views on the executives' problem

The group was further asked to consider the risk from the executives' perspective. The customer representatives gave the following pairwise comparisons:

	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	2	3	3	5	5
FC	0.500	1	3	3	4	4
AIP1	0.333	0.333	1	1	3	3
AIP2	0.333	0.333	1	1	3	3
CSA1	0.200	0.250	0.333	0.333	1	1
CSA2	0.200	0.250	0.333	0.333	1	1

$$v_5 = (0.362, 0.270, 0.129, 0.129, 0.054, 0.054)^T, CR = 0.024.$$

The model priority vector for the risk differed from the vector obtained from the executives': $(0.052, 0.052, 0.129, 0.129, 0.318, 0.318)^T$. The vectors almost provide mirror images. Unlike executives, the customer representatives believed that tight ownership helps in avoiding various alliance risks. It is probable that the executives have considered mostly concentration risks, whereas the customer representatives have taken into account e.g. risks resulting from inefficiency. This is an interesting result.

6.2. Evaluation in the supervisors' role

Next, the customer representatives were asked to evaluate the alliance alternatives in the supervisors' role by using the three most important supervisory criteria (see Korhonen et al. [2005]):

- C1. Capability to supervise the alliance
- C2. System risk management
- C3. Optimal functioning of the insurance and finance markets.

The group compared pairwise the mutual importance of the criteria:

	C1	C2	C3
C1	1	5	4
C2	0.200	1	4
C3	0.250	0.250	1

$$w = (0.672, 0.230, 0.098)^T, CR = 0.283.$$

The priorities given by the bank/insurance supervisors were $(0.376, 0.312, 0.312) / (0.172, 0.442, 0.386)$ scaled to sum up to one. The customer

representatives have given C1 a much higher and C3 a much lower weight than the supervisors.

The results of the pairwise comparisons and the corresponding value scores for the various alliance models are given below:

C ₁	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.333	0.200	0.200	0.125	0.125
FC	3	1	0.250	0.250	0.143	0.143
AIP1	5	4	1	1	0.200	0.200
AIP2	5	4	1	1	0.200	0.200
CSA1	8	7	5	5	1	1
CSA2	8	7	5	5	1	1

$$v_1 = (0.027, 0.044, 0.105, 0.105, 0.360, 0.360)^T, CR = 0.059.$$

C ₂	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	0.333	0.200	0.200	0.125	0.125
FC	3	1	0.250	0.250	0.143	0.143
AIP1	5	4	1	1	0.200	0.200
AIP2	5	4	1	1	0.200	0.200
CSA1	8	7	5	5	1	1
CSA2	8	7	5	5	1	1

$$v_2 = (0.027, 0.044, 0.105, 0.105, 0.360, 0.360)^T, CR = 0.059.$$

C ₃	CBO1	FC	AIP1	AIP2	CSA1	CSA2
CBO1	1	3	5	5	6	6
FC	0.333	1	4	4	5	5
AIP1	0.200	0.250	1	2	3	3
AIP2	0.200	0.250	0.500	1	2	3
CSA1	0.167	0.200	0.333	0.500	1	2
CSA2	0.167	0.200	0.333	0.333	0.500	1

$$v_3 = (0.442, 0.265, 0.114, 0.083, 0.054, 0.041)^T, CR = 0.053.$$

The model priority vectors for criteria C1 and C2 are identical, because the customer representatives did not see any difference between comparisons. However, we used the both criteria in synthesizing the results, because those criteria are different.

The composite priority vector for the alliance structure models and the corresponding vectors for the bank and insurance supervisors (Korhonen et al. [2005]) (using the same three criteria) are in Table 5:

Table 5: Comparison of the views of customers and (bank and insurance) supervisors on the supervisors' problem

Models	Customers	Bank Supervisors	Insurance Supervisors
CBO1	0.068	0.123	0.147
FC	0.066	0.160	0.185
AIP1	0.105	0.138	0.129
AIP2	0.102	0.123	0.110
CSA1	0.330	0.231	0.218
CSA2	0.328	0.225	0.211

In all results, the CSA models are most preferred. It means that the customer representatives recognized, which alternative the supervisors preferred. Figures 3 and 4 illustrate clearly that the customer representatives did not see that the tight ownership models (CBO1 and FC) might be preferable to the supervisors. The priorities for the CSA models with respect to the most important criteria C1 and C2 are higher than in the supervisors' study. In the supervisors' evaluations, all criteria received almost the same weights. Instead, in the customer representatives' evaluations, the criterion C3 (*Optimal functioning of the markets*) favouring the tight ownership models, received a much lower weight than the supervisors assigned it. Thus FC as a possible compromise between the executives and the supervisors is not so understandable to the customer representatives.

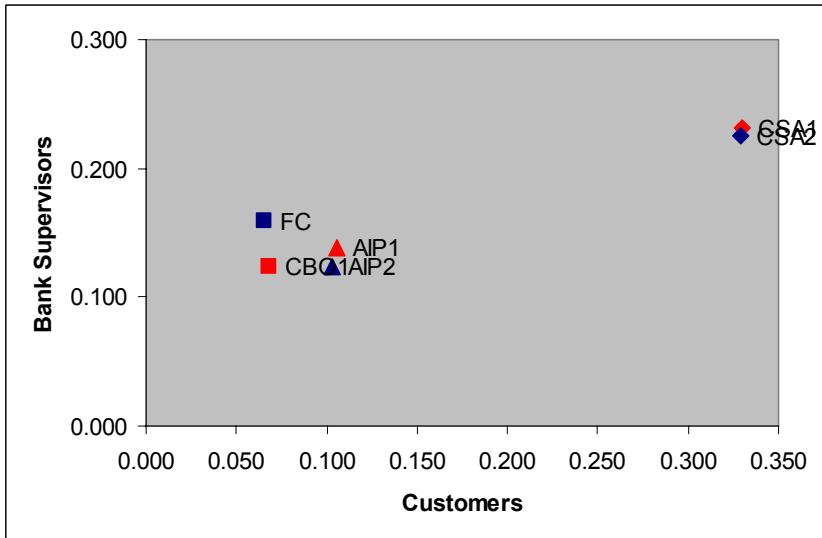


Figure 3: Illustration of customers' and bank supervisors' views on the supervisors' problem

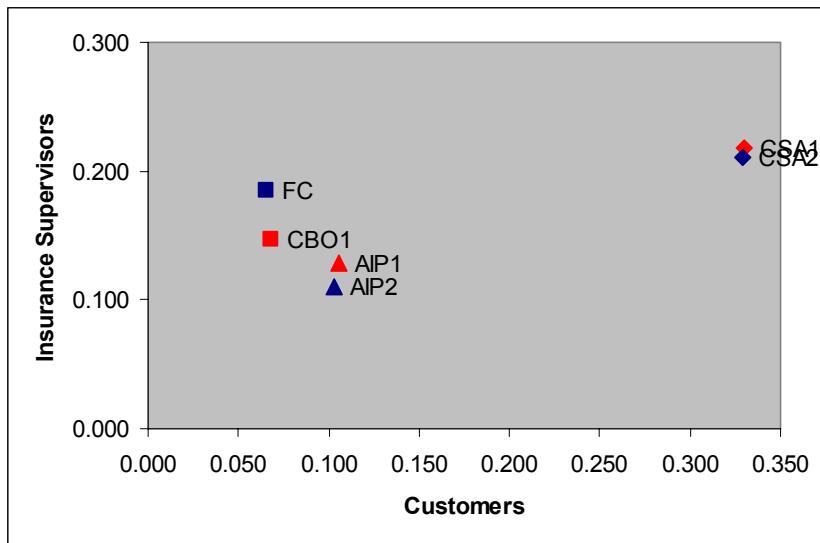


Figure 4: Illustration of customers' and insurance supervisors' views on the supervisors' problem

6.3. Inventing criteria for the management and the supervisors

In sub-sections 6.1 and 6.2, we asked the customer representatives attended the evaluation meeting to use in the evaluations the criteria, which the executives and supervisors considered the most important ones. However, during the interviews, all the customer representatives listed in the "Acknowledgements" section, were asked to think what criteria they considered most important from the executives' and from the supervisors' points of view. The complete lists are given in Appendix 1 and 2.

The list of the criteria for executives shows quite clearly that the customer representatives think that the executives prefer to use the criteria favouring tight ownership models. The criteria cover seven out of twelve actual executive criteria. The criteria which the customer representatives did not suggest were *Minimizing channel conflicts*, *Optimizing the required solvency capital*, *Maximizing investor power*, *Maximizing economies of scope* and *Minimizing risk*. These criteria are more or less technical or structural in nature. Only the *Economies of scope* criterion appeared to be very significant in the executives' evaluation. The customer representatives seem to understand quite well the problem from the perspective of the executives.

The list in Appendix 2 consists of criteria for supervisors invented by customer representatives. Even if the interviewed persons were asked to think about evaluation criteria for alliance models, many of the persons presented here more like opinions about the development of financial and insurance supervision in Finland. The only actual supervisory criterion which these criteria cover is *Capability to supervise the alliance*. That was touched by several above mentioned criteria. It seems to be more difficult for the

customer representatives to understand the views and perspectives of supervisors than those of the executives. The persons interviewed think a lot about transparency (a customer's point of view !) and keeping the money in the right place and make actively suggestions how to improve supervision. Even if supervisors express themselves in different terms most of these ideas are included in their criteria.

It seems to be more difficult for the customer representatives to adopt the supervisory role than the executives' role. One reason might be that labour market organizations communicate a lot with the representatives of executive management and are, therefore, aware of their attitudes and views. The objectives and preferences of the supervisors do not seem to be so well known, which may be a challenge for financial and insurance supervision as public authorities.

7. Comparison of the alliance structures from the executives', supervisors', and customers' perspectives

Among the three sets of criteria there are four pairs of criteria which are common to two decision maker groups. No criterion appears in all three sets of criteria. Of course, this is very understandable, because the different groups approach the problem from different perspectives.

Synergies appeared in both executives' and supervisors' criteria. The executives considered it as the third most important among the nine final criteria. Instead the supervisors did not regard it important at all, and dropped it from further considerations.

Solvency capital also appeared in both executives' and supervisors' criteria, although the groups had a slightly different formulation of the criterion: the executives wanted to optimize the capital while the supervisors were concerned about the fulfilment of the minimum capital requirements. However, it was not weighed high by the executives or the supervisors. The both groups ranked FC higher than CBO1 on that criterion.

Economies of scale was a criterion which appeared in both executives' and customer representatives' list. It was the second most important criterion of the executives among the nine final criteria. The customer representatives considered it insignificant and dropped it from further analysis.

System risk management also appeared on both supervisors' and customer representatives' criterion list. It was among two most important criteria for the both supervisor groups. It was the second most important one for the customer representatives as well. Both supervisors and customer representatives ranked CSA models the best ones on this criterion.

It can be observed that in case of the common criteria (*Solvency capital* and *System risk management*) that two decision maker groups have included in the actual model evaluation the prioritization results have been very similar.

The overall priorities of the alliance models given by the executives, the bank and insurance supervisors and the customer representatives are given earlier in this article in sections 6.1, 6.2 and 5, respectively. The executives gave FC the highest priority, while the other decision maker groups preferred CSA1.

Searching for a compromise alliance model that could be accepted by both the executives and the supervisors was discussed in Korhonen et al. [2005], who concluded that FC could be a valid compromise provided that the criteria *System risk management* and *Capability to supervise the alliance as well as possible* could be improved in FC in a credible way.

If we compare the overall model priorities of all three groups and try to find a compromise model between them, we first see that the CSA models are most preferred by the customer representatives and the supervisors, but least preferred by the executives. FC is the most preferred alliance structure by the executives. If certain conditions are fulfilled, the supervisors and the executives may accept FC as a possible compromise solution, but the model CBO1 is more desirable for the customer representatives than FC. Obviously, more discussions between all parties are needed. The financial conglomerate model FC might be acceptable to customers as well provided that some conditions are fulfilled.

8. Discussion and Concluding Remarks

In this study, we have searched for the customers' view on finding the most preferred alliance structure between banks and insurance companies. The experts from labour market and customer organizations represented "advanced" customers who were supposed to be familiar with the alliance problem. As a group decision support system, we used the Analytic Hierarchy Process. It turned to be a successful approach in searching for the joint opinion of the whole group. In our earlier studies, we explored the opinions of the executives of Finnish banks and insurance companies (Voutilainen [2005], Korhonen and Voutilainen [2005]), and the representatives of the Finnish bank and insurance supervisory authorities (Korhonen, Koskinen, and Voutilainen [2005]). In this paper, we have synthesized all these three perspectives in the following way.

A) CUSTOMER REPRESENTATIVES - ALLIANCE

The customer representatives preferred the loosely connected *cross-selling agreement* alliance models CSA1 (*no overlapping service channels*) and CSA2 (*overlapping service channels*). The control by ownership models CBO1 (*a bank owns an insurance company or vice versa*) and FC (*a holding company owns one or several banks and one or several insurance companies*) were not so preferable. The *alliance of independent partners* models AIP1 and AIP2 were least preferred.

The rank order of these three groups of the models was the same as that of the *supervisors*. The only difference in the rank order of evaluations was that the customer representatives preferred CBO1 to FC.

The result differs sharply from the evaluations made by the bank and insurance *executives* who favoured very clearly the control by ownership models CBO1 and FC (if the risk factor was not specially emphasized). The other models were far behind. In their rank order, *no overlapping service*

channels principle was more important than the alliance model types: *cross-selling agreement* and *alliance of independent partners*. Business-driven consolidation seems to be in conflict with both the supervisory and the customer's interest.

B) PERSPECTIVE OF OTHER PARTIES - ALLIANCE

We also studied how well the customer representatives were able to recognize the alliance problem from the perspectives of the other parties. We asked them to evaluate the models by using the most important *executive criteria* the other party used. Although the criteria prioritizations differed from the executives' evaluations, the overall model assessment was roughly the same: The control by ownership models were most preferred. The group was further asked to consider the risk in the executives' study. Unlike executives, the customer representatives believed that tight ownership helps to avoid various alliance risks.

When the customer representatives evaluated the models from the *supervisors' perspective*, so the most significant difference was that they did not recognize that the control by ownership models – especially FC – might be quite an acceptable alternative to the supervisors provided some conditions could be fulfilled.

C) PERSPECTIVE OF OTHER PARTIES - CRITERIA

During the interviews, the customer representatives were asked to think what criteria they considered most important from the executives' and from the supervisors' point of view. The interviewed persons clearly think that tight ownership is beneficial from the executive point of view. It seems to be more difficult for them to understand supervisors than executives. The persons interviewed here think a lot about transparency and keeping the money in the right place and make actively suggestions how to improve supervision. This lays claim to supervisors since transparency and market discipline will play an essential role in the future banking and insurance regulation systems Basel II and Solvency II (see e.g. Basel Committee on Banking Supervision [2002] and European Commission [2004]). Hence there seems to be a need to inform customers more efficiently on regulatory aspects.

Finally, we compared the criteria and the model preferences between all three decision maker groups. Among the three sets of criteria there are four pairs of criteria which are common to two decision maker groups. In case of common criteria that two groups included in the actual model evaluation the prioritization results were very similar. By analyzing the overall priorities given by all decision maker groups we came to the conclusion that FC could be a possible common compromise on the condition that the criteria *System risk management*, *Capability to supervise the alliance as well as possible* and *Transparency and comparability of the products* can be satisfied to an acceptable degree. *System risk management* appears in both supervisors' and customer representatives' criteria and should be given special attention.

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Appendix 1

Executive criteria invented by customer representatives:

- As tight a model as possible;
- Steady income all the time (incl. nonlife insurance);
- Bank and insurance products close to each other (synergies);
- Synergies on personnel, IT, purchases;
- One-door principle (one stop shopping);
- Readiness to common investments in marketing, customer service and product development;
- Explicit profit division mechanism;
- Acting on a wide front in developing and selling financial products;
- Ability to utilize one's own customer base as much as possible in these sectors;
- Product development from various service providers' point of view;
- Fitting together earnings logics;
- Ability to sell with a higher price because of comprehensive customer relation;
- Ability to keep customers and protect customer relationship;
- Both insurance and financial business must be profitable – using scale benefits;
- It makes life easier to own! ;
- Comprehensive customer relationship;
- Efficiency, rationality, productivity;
- Cost savings (for example, personnel);
- Sales with lower costs;
- Customer must be reached as well as possible;
- What kind of foreign competition do I face ? ; and
- What kind of customers should I get from my partner ? .

Appendix 2

Supervisory criteria invented by customer representatives:

- Transparency towards both customer and supervisor;
- Preventing cartels;
- A bank and an insurance company should not be entangled with each other too much, especially a bank and a mandatory pension insurance company;
- Clear responsibilities and roles of both supervisors;
- Keeping aside the earmarked money of mandatory insurance;
- The giant risks of insurance must not hit the banking sector;
- There should be only one supervisory authority ! ;
- The supervisor should have better resources ! ;
- Separation of the risks, risks and profits should not flow from one company to another;
- Transparency of products;
- Risk control;
- The products resemble too much each other, this causes accidental overlapping;
- It is not sensible to merge the supervisors ! ;
- Solvency control sufficiently early with sufficient resources;
- Transparency of the system;
- The insurance supervision has modest resources;
- More resources for the banking supervision ! ;
- The moneys must stay separate; and
- Internordic and –baltic supervision should be developed.

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