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Modelling Intra-Group Relationships

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1.   Introduction

This paper offers a model, calling upon the principles and techniques of input-output analysis, for the management of certain organisational problems within a group of companies. By "group" we mean a set of companies which, although characterised by different legal identities, have a single economic leadership (Azzini 1968; Saraceno 1967, Zattoni, 2000)

In particular, we consider the decisional and operational interactions which develop between a parent company and a subsidiary, with the aim of defining the organisational arrangements of the two companies according to economic criteria. The theme is of particular interest for the groups that have their origins in mergers and acquisitions, since the firms thus acquired often have organisational structures resulting from previous strategies which, after the acquisition, undergo substantial modifications. The restructuring of these acquired firms represents a crucial phase of the post-acquisition process (Colombo 1992; Colombo e Conca 2000; Haspeslagh – Jemison 1991), on which often depends the success of such operations. This in fact involves organisational changes which encounter much resistance, since they are interpreted as the expression of power politics amongst groups of managers. The suggested model aims to tackle the problem in an objective fashion, thus providing evidence for decision-making and negotiation between the parent company and the subsidiary. The model applies above all to the dimensioning of the operational units (Rugiadini 1979) depending on the level of autonomy that is required in the relationship between the parent company and the subsidiary.

The decisional and operational interactions correspond, in the model, to defined "level of control", i.e. to greater or lesser degrees of centralisation of the functions of the parent company and, hence, lesser or greater degrees of autonomy of the subsidiary. By "level of control" we intend to define a concept encapsulating the degree of centralisation together with that of co-ordination, along the lines of ideas drawn from the literature on business strategy in multinational companies organised in group form. (See, among others, Porter 1985 e 1986; Yip 1989, 1992).

The relative importance of the various organisational units in the parent company and the subsidiary are measured in terms of level of control and of human resources involved. The hypothesis adopted is that of a direct relationship between these two elements: a high level of control exercised by the parent company is taken to imply high use of human resources by the parent company and a correspondingly low human resource requirement by the subsidiary.

For greater precision, the level of control of one organisational unit on another should be analysed as a combination of two distinct types of centralisation: decisional and operational. Decisional centralisation involves a limited number of people having strong powers of direction over the whole organisation. Operative centralisation, on the other hand, is necessarily a function of the availability of sufficient human resources to undertake the relevant set of activities. In this paper we hypothesise, for simplicity, coincidence of decisional and operational centralisation, but the model can easily be "split", so as to consider decisional and operational centralisation separately. The fundamental hypothesis is thus that a high level of control is taken to imply a high degree of decisional and operational centralisation and hence a high use of human resources, while a low level of control is taken to be characterised by a low level of decisional and operational centralisation and consequent limited use of human resources.

In reality, cases of asymmetry between the two types of centralisation are not uncommon, with high levels of decisional centralisation being accompanied by low levels of operative centralisation, and vice versa. Service departments provide typical examples of low levels of decisional centralisation with high levels of operative centralisation, while the opposite situation occurs wherever the subsidiary has to request formal authorisation from the parent company before carrying out particular activities. One can thus have decentralised activities which are strictly co-ordinated (that is to say, with a substantial level of decisional centralisation); this is the case in decentralised sales management which responds to a group co-ordinator for the product range.

The objective of the model, and hence of this paper, is to investigate the correspondence between the organisational structure of the parent company and that of the subsidiary, in the sense that the latter should be appropriate, in terms of people employed in various organisational units, to achieve the tasks delegated to it by the parent company.

The main difficulty to be overcome in this process of investigation derives from the fact that, in reality, the organisational structures of the parent company and the subsidiary are not homogeneous. Organisational units within the parent company and the subsidiary do not match up with one another: functions carried out by a particular department or other unit in the parent company may be carried out by more than one unit in the subsidiary, and vice versa. It is therefore necessary to move, initially, towards a standardisation of organisational units. Such standardisation implies analysis of organisational rules (functional and procedural) of the respective structures and the reallocation of all activities into *Standard Organisational Units* (SOU) common to both the parent company and the subsidiary. By "organisational

unit" we mean a department or sub-department or any group of people working in an office or other workplace, effectively operating as a unit and convenient to define as a unit, within the company concerned.

This paper is organised as follows:

After this introduction, in the second section we present the model in the context of the parent company and, in the third, in the context of the subsidiary. The fourth section illustrates the mechanism of alignment of the levels of control of the subsidiary with the demands of the parent company, while the fifth section applies this mechanism to variations of the level of control within the parent company itself. In the sixth section, we present an application of the model to one of the principal Italian banking groups, and, in the seventh, some final remarks.

The reader who looks in this paper for the standard input-output model and for the classical inverse matrix of Leontief will be disappointed. Nevertheless the authors maintain that "their contribution emphasises all characteristic dimensions of the input-output analysis with reference to: its methodological framework (a model is useful if it is successful in organising and interpreting real data); its hypotheses (the fixed coefficients considered as an approximation of the structural characteristics of a given system); its mathematics (matrix algebra)" (Preface of Wassily Leontief to Costa –Marangoni, 1995).

2.   The organisational model applied to the parent company

In this section we present the organisational model applied to the parent company. Its construction requires:

- definition of "Standard Organisational Unit" (SOU)
- reallocation of employee numbers to the SOU;
- determination of the levels of control exercised by the parent company

The organisational structure of the parent company consists of m organisational units, each characterised by a group of activities carried out by a corresponding number of employees. The number of people employed in each of the m units within the parent company, are represented by $(m \times 1)$ column vector $\mathbf{E}$ of *employees per unit* in the parent company:

$$\mathbf{E} = \begin{bmatrix} E_1 \\ E_2 \\ M \\ E_m \end{bmatrix}$$

where E_i represents the number employed in unit i of the parent company. The sum of the numbers in the column represents the total *head count* in the parent company.

With a view to making the structures of the parent company and the subsidiary comparable, we must move towards standardisation, by reallocating all the parent company's employees to n SOUs, as will be done also for the subsidiary.

The SOU is a "virtual" unit, to which we hypothesise allocation of certain activities, in reality performed in various different units, according to reasonable criteria of homogeneity.

This reallocation is achieved by analysing the activities performed by the units, identifying the individuals performing them and reallocating each activity and individual to the corresponding SOU. We thus obtain a $(m \times n)$ matrix **F** of *reallocated employees per activity per SOU* for the parent company:

$$\mathbf{F} = \begin{bmatrix} F_{11} & F_{12} & \Lambda & F_{1n} \\ F_{21} & F_{22} & \Lambda & F_{2n} \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ F_{m1} & F_{m2} & \mathrm{K} & F_{mn} \end{bmatrix}$$

where each element F_{ij} represents the number of employees in unit i of the parent company performing a particular activity, which are reallocated to SOU j of the parent company.

The sums of the numbers in the columns of this matrix, represented by $(1 \times n)$ row vector **S**, show *employees per SOU* for the parent company:

$$\mathbf{S} = \begin{bmatrix} S_1 & S_2 & \mathrm{K} & S_n \end{bmatrix}$$

where each element S_j represents the total number of individuals allocated to the parent company's SOU j.

The need to standardise the organisational units of the parent company and the subsidiary arise from the substantial lack of homogeneity often present within a group of companies as a result of successive acquisitions, mergers, incorporations or consolidations. It may in fact happen that the work of two particular departments in the parent company are in fact carried out by a single department in the subsidiary, or vice versa.

The detailed analysis of the activities to be reallocated to the different SOUs, achieved with reference to job descriptions, permits identification of the level of

control, for each activity, exercised by the parent company as opposed to the subsidiary. On the basis of a conversion table (Table 1) which associates with each word or key expression in the company regulations and job descriptions a particular level of control, it is possible to assign to each activity a value between 0 and k, where 0 represents a zero level of control and k the maximum level of control. High levels of control arise in those situations in which one expects the parent company to manage directly any activity for the group, or where the subsidiary has to request formal authorisation to take action. Whereas low levels of control exist in situations where the parent company delegates fully any activity to the subsidiary or guarantees support on demand.

For instance, from the parent company's regulations one can deduce whether, in the course of the process of budgeting, a departmental manager has to delegate budgetary responsibilities to the subsidiary's management or, by contrast, takes fully centralised control of the relevant budget. Similarly, from the regulations it is possible to discover the rules for purchasing and supply logistics. In some cases, such functions may be fully delegated to the subsidiary; in others, there may be delegation only within certain limits of expenditure; in others there may be complete centralisation.

We define $(m \times n)$ matrix **G** of the *levels of control of activities* by the parent company:

$$\mathbf{G} = \begin{bmatrix} G_{11} & G_{12} & \Lambda & G_{1n} \\ G_{21} & G_{22} & \Lambda & G_{2n} \\ M & M & O & M \\ G_{m1} & G_{m2} & K & G_{mn} \end{bmatrix}$$

where each element G_{ij} represents the level of control (between 0 and k) which, for a particular activity, is exercise by the parent company.

On the basis of matrices **F** and **G** it is possible to construct $(m \times 1)$ vector **M** of the *mean levels of control in the units* of the parent company:

$$\mathbf{M} = \begin{bmatrix} M_1 \\ M_2 \\ M \\ M_m \end{bmatrix}$$

where each M_i represents the weighted mean of the levels of control for the different activities performed by unit i of the parent company:

$$M_i = \frac{\sum_{j=1}^{n} F_{ij} G_{ij}}{E_i} \quad .$$

Similarly, it is possible to construct $(1 \times n)$ vector **T** of the *mean levels of control in the SOUs* of the parent company:

$$\mathbf{T} = \begin{bmatrix} T_1 & T_2 & \mathrm{K} & T_n \end{bmatrix}$$

where each T_j represents the weighted mean of the levels of control of the different activities performed by SOU j of the parent company:

$$T_j = \frac{\sum_{i=1}^{m} F_{ij} G_{ij}}{S_j} \quad .$$

Again, on the basis of matrices **F** and **G,** we may construct $(m \times n)$ matrix **Q** of the *levels of control per employee* of the parent company:

$$\mathbf{Q} = \begin{bmatrix} Q_{11} & Q_{12} & \Lambda & Q_{1n} \\ Q_{21} & Q_{22} & \Lambda & Q_{2n} \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ Q_{m1} & Q_{m2} & \mathrm{K} & Q_{mn} \end{bmatrix}$$

the elements of which express the levels of control exercised by the parent company in relation to each employee in each activity, and are defined thus:

$$Q_{ij} = \frac{G_{ij}}{F_{ij}} \qquad\qquad \text{for all } i, j \text{ such that } F_{ij} \neq 0$$

$$Q_{ij} = 0 \qquad\qquad \text{for all } i, j \text{ such that } F_{ij} = 0 \quad .$$

The levels of control per employee reflect, to some extent, the qualifications of the individuals involved. This calculation can serve also to determine wage levels, skill requirements, and so on, of the personnel added to (or destined for) the organisational units characterised by a given level of control. (Airoldi 1980)

Comparing instead the number F_{ij} of employees in each activity to the mean level of control in the corresponding SOU, we obtain the coefficient:

$$H_{ij} = \frac{F_{ij}}{T_j} \; .$$

Thus we obtain $(m \times n)$ matrix **H** of the *employees per activity required for each level of control* in the parent company:

$$\mathbf{H} = \begin{bmatrix} H_{11} & H_{12} & \Lambda & H_{1n} \\ H_{21} & H_{22} & \Lambda & H_{2n} \\ M & M & O & M \\ H_{m1} & H_{m2} & K & H_{mn} \end{bmatrix} = \mathbf{F} \times (\hat{\mathbf{T}})^{-1} = \begin{bmatrix} F_{11} & F_{12} & \Lambda & F_{1n} \\ F_{21} & F_{22} & \Lambda & F_{2n} \\ M & M & O & M \\ F_{m1} & F_{m2} & K & F_{mn} \end{bmatrix} \times \begin{bmatrix} \dfrac{1}{T_1} & 0 & \Lambda & 0 \\ 0 & \dfrac{1}{T_2} & \Lambda & 0 \\ M & M & O & M \\ 0 & 0 & K & \dfrac{1}{T_n} \end{bmatrix}$$

The direct relationship between level of control and size of an organizational unit is clearly a simplification of the real situation, since this relationship depends in general on the quality of the human resources employed and on the level of information supplied and the technologies used. If the units of the parent company and the subsidiary are relatively homogeneous as regards the variables considered, we can consider the hypothesis of a direct relationship as sufficiently realistic.

The sums of the columns of matrix **H** defines $(1 \times n)$ vector **R** of the *employees per SOU required for each level of control* in the parent company:

$$\mathbf{R} = \begin{bmatrix} R_1 & R_2 & K & R_n \end{bmatrix}$$

where each element R_j represents the number of employees which SOU j of the parent company which must be employed, in total, to exercise one level of control. The elements R_j are thus equal to:

$$R_j = \sum_{i=1}^{m} H_{ij} = \frac{S_j}{T_j} \; .$$

3.   The organisational model applied to the subsidiary

In this section we apply the same process of analysis and standardisation, used for the parent company in the last section, to the subsidiary.

We hypothesise that the organisational structure of the subsidiary consists of r organisational units, each one involved in a range of activities each performed by a number of employees. So as to be able to compare the organisational structures of the parent company and the subsidiary, it is necessary to standardise by reallocating the employees in each organisational unit to the same set of SOUs as we used for the parent company.

In the case of the subsidiary, this may often involve disaggregation to an extent much greater than was the case for the parent company. One often finds, in a subsidiary, a single department performing the activities covered by several distinct departments in the parent company.

As for the parent company, we define the following vectors and matrices:

- $(r \times 1)$ column vector $\mathbf{e}$ of the *employees per unit* in the subsidiary:

$$\mathbf{e} = \begin{bmatrix} e_1 \\ e_2 \\ M \\ e_r \end{bmatrix} ;$$

- $(r \times n)$ matrix $\mathbf{f}$ of r*eallocated employees per activity per SOU* for the subsidiary:

$$\mathbf{f} = \begin{bmatrix} f_{11} & f_{12} & \Lambda & f_{1n} \\ f_{21} & f_{22} & \Lambda & f_{2n} \\ M & M & O & M \\ f_{r1} & f_{r2} & K & f_{rn} \end{bmatrix} ;$$

- $(1 \times n)$ row vector $\mathbf{s}$ of the *employees per SOU* for the subsidiary:

$$\mathbf{s} = \begin{bmatrix} s_1 & s_2 & K & s_n \end{bmatrix} ;$$

- $(r \times n)$ matrix $\mathbf{g}$ of the *levels of control of activities* by the subsidiary:

$$\mathbf{g} = \begin{bmatrix} g_{11} & g_{12} & \Lambda & g_{1n} \\ g_{21} & g_{22} & \Lambda & g_{2n} \\ M & M & O & M \\ g_{r1} & g_{r2} & K & g_{rn} \end{bmatrix} ;$$

- $(r \times 1)$ vector $\mathbf{m}$ of the *mean levels of control in the units* of the subsidiary:

$$\mathbf{m} = \begin{bmatrix} m_1 \\ m_2 \\ M \\ m_r \end{bmatrix} ;$$

- vector $\mathbf{t}$, with dimensions $(1 \times n)$, of the *mean levels of control in the SOUs* of the subsidiary:

$$\mathbf{t} = \begin{bmatrix} t_1 & t_2 & K & t_n \end{bmatrix} ;$$

- $(r \times n)$ matrix $\mathbf{q}$ of the *levels of control per employee* of the subsidiary:

$$\mathbf{q} = \begin{bmatrix} q_{11} & q_{12} & \Lambda & q_{1n} \\ q_{21} & q_{22} & \Lambda & q_{2n} \\ M & M & O & M \\ q_{r1} & q_{r2} & K & q_{rn} \end{bmatrix} ;$$

- $(r \times n)$ matrix $\mathbf{h}$ of *employees per activity required for each level of control* in the subsidiary:

$$\mathbf{h} = \begin{bmatrix} h_{11} & h_{12} & \Lambda & h_{1n} \\ h_{21} & h_{22} & \Lambda & h_{2n} \\ M & M & O & M \\ h_{m1} & h_{m2} & K & h_{mn} \end{bmatrix} = \mathbf{f} \times (\hat{\mathbf{t}})^{-1} = \begin{bmatrix} f_{11} & f_{12} & \Lambda & f_{1n} \\ f_{21} & f_{22} & \Lambda & f_{2n} \\ M & M & O & M \\ f_{m1} & f_{m2} & K & f_{mn} \end{bmatrix} \times \begin{bmatrix} \dfrac{1}{t_1} & 0 & \Lambda & 0 \\ 0 & \dfrac{1}{t_2} & \Lambda & 0 \\ M & M & O & M \\ 0 & 0 & K & \dfrac{1}{t_n} \end{bmatrix} .$$

- $(1 \times n)$ vector $\mathbf{r}$ of the *employees per SOU required for each level of control* in the subsidiary:

$$\mathbf{r} = \begin{bmatrix} r_1 & r_2 & K & r_n \end{bmatrix} .$$

4.   Alignment of the levels of control

The model proposed for the standardisation of the organisational structure and the determination of levels of control for the parent company and the subsidiary provides two homogeneous and comparable frameworks with a view to identifying and overcoming structural divergence within the group.

It may be, and in practice often is, the case that misalignment between the levels of control exercised by the parent company and those which the subsidiary believes are delegated to it. These misalignments should be eliminated to guarantee the effective and efficient operation of the overall organisation. Often, in fact, there will exist a policy to modify business practice progressively and informally as regards the respective ways in which things are done so as to avoid duplication of activities or omission.

The model achieves alignment of the subsidiary's organisation to the levels of control delegated by the parent company through the reorganisation of human resources in the various units, together, if necessary, with new appointments and redundancies. The process of realignment takes as starting-point a review of the (possible) differences between the SOUs of the parent company, based on the levels of control actually exercised, and the SOUs of the subsidiary, based on its presumptions about what is delegated to it. More precisely, we define a level of control as delegated to the subsidiary as the difference between the maximum level of control, *k,* and the level of control exercised by the parent company. Thus we define vector W, with dimensions $(1 \times n)$, of the *mean levels of control in the SOUs delegated* by the parent company to the subsidiary:

$$\mathbf{W} = \begin{bmatrix} W_1 & W_2 & \mathrm{K} & W_n \end{bmatrix}$$

the elements of which are:

$$W_j = k - T_j \ .$$

In the case of perfect perception, on the part of the subsidiary, of the levels of control delegated by the parent company, the values of vector **W** coincide with the value of vector **t**. Otherwise, the subsidiary should align itself to the parent company's intentions, through adjustment of personnel employed in the various units.

The modelling process so far presented allows immediate determination of the number of employees in the various units needed by the subsidiary to achieve the levels of control assigned to it by the parent company.

We simply proceed as follows:

- we consider the relation:

$$\mathbf{h} = \mathbf{f} \times (\hat{\mathbf{t}})^{-1} \ ;$$

- we substitute, for the diagonal vector $\hat{\mathbf{t}}$ of the *mean levels of control in the SOUs* of the subsidiary, the diagonal vector $\hat{\mathbf{W}}$ of the *mean levels of control in the SOUs delegated* by the parent company to the subsidiary and define matrix $\mathbf{f}*$ by the equation:

$$\mathbf{h} = \mathbf{f}* \times (\hat{\mathbf{W}})^{-1}$$

Solving for $\mathbf{f^*}$, we determine the $(r \times n)$ matrix of the *adjusted reallocation of employees* for the subsidiary:

$$\mathbf{f^*} = \begin{bmatrix} f_{11}^* & f_{12}^* & \Lambda & f_{1n}^* \\ f_{21}^* & f_{22}^* & \Lambda & f_{2n}^* \\ M & M & O & M \\ f_{r1}^* & f_{r2}^* & K & f_{rn}^* \end{bmatrix} = \mathbf{h} \times \hat{\mathbf{W}} = \begin{bmatrix} h_{11} & h_{12} & \Lambda & h_{1n} \\ h_{21} & h_{22} & \Lambda & h_{2n} \\ M & M & O & M \\ h_{r1} & h_{r2} & K & h_{rn} \end{bmatrix} \times \begin{bmatrix} W_1 & 0 & \Lambda & 0 \\ 0 & W_2 & \Lambda & 0 \\ M & M & O & M \\ 0 & 0 & K & W_n \end{bmatrix}.$$

Matrix $\boldsymbol{\varphi}$, with dimensions $(r \times n)$, of the *changes in number of employees per activity per SOU* in the subsidiary, defined thus:

$$\boldsymbol{\varphi} = \mathbf{f}* - \mathbf{f} = \begin{bmatrix} \phi_{11} & \phi_{12} & \Lambda & \phi_{1n} \\ \phi_{21} & \phi_{22} & \Lambda & \phi_{2n} \\ M & M & O & M \\ \phi_{r1} & \phi_{r2} & K & \phi_{rn} \end{bmatrix}.$$

This matrix shows the changes in numbers of people employed in various activities necessary to satisfy the levels of control defined by the parent company. Positive elements indicate a need for new appointments; negative elements indicate a need for redundancies.

The sums of the columns of matrix $\mathbf{f^*}$ form a new row $(1 \times n)$ vector $\mathbf{s^*}$ the *adjusted number of employees per SOU* for the subsidiary:

$$\mathbf{s^*} = \begin{bmatrix} s_1^* & s_2^* & \mathrm{K} & s_n^* \end{bmatrix}$$

where each element s_j^* represents the appropriate number of personnel for the subsidiary to allocate to SOU j.

The sums of the rows of matrix $\mathbf{f^*}$ define $(r \times 1)$ column vector $\mathbf{e^*}$ of the *adjusted number of employees per unit* in the subsidiary:

$$\mathbf{e^*} = \begin{bmatrix} e_1^* \\ e_2^* \\ \mathrm{M} \\ e_r^* \end{bmatrix}$$

where each element e_i^* represents the appropriate number of personnel in each unit in the subsidiary. The sum of the elements of this vector represents the new total *head count* for the subsidiary.

To check the alignment between the levels of control exercised by the parent company and the levels of control delegated to the subsidiary, it is necessary to construct the following:

- $(r \times n)$ matrix $\mathbf{g^*}$ of the *adjusted levels of control of activities* by the subsidiary:

$$\mathbf{g^*} = \begin{bmatrix} g_{11}^* & g_{12}^* & \Lambda & g_{1n}^* \\ g_{21}^* & g_{22}^* & \Lambda & g_{2n}^* \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ g_{r1}^* & g_{r2}^* & \mathrm{K} & g_{rn}^* \end{bmatrix}$$

where each element g_{ij}^*, which represents the appropriate level of control (between 0 and *k*) which the subsidiary exercises for each activity, as delegated by the parent company, is obtained from:

$$g_{ij}^* = f_{ij}^* \times q_{ij} \; ;$$

- $(1 \times n)$ vector $\mathbf{t^*}$ of the *adjusted mean levels of control in the SOUs* of the subsidiary:

$$\mathbf{t}^* = \begin{bmatrix} t_1^* & t_2^* & \text{K} & t_n^* \end{bmatrix}$$

where each t_j^* represents the weighted mean of the adjusted levels of control of the various activities performed by SOU j of the subsidiary:

$$t_j^* = \frac{\sum\limits_{i=1}^{r} f_{ij}^* g_{ij}^*}{s_j^*} \quad .$$

When alignment between the levels of control exercised by the parent company and the levels of control delegated to the subsidiary are perfect, we have equality:

$$\mathbf{t}^* = \mathbf{W} \quad .$$

5.   Changes in levels of control for the parent company

Further to the alignment of the subsidiary to the levels of control delegated by the parent company, the proposed model allows analysis of the situation in which the parent company decides to modify its own levels of control. In such circumstances, not only does the parent company need to revise its organisation appropriately but also there will be a knock-on effect on the subsidiary.

Let us suppose that the parent company decides to modify its levels of control, as referred to SOUs, changing them to the values indicated in diagonal vector $\widetilde{\mathbf{T}}$:

$$\widetilde{\mathbf{T}} = \begin{bmatrix} \widetilde{T}_1 & 0 & \Lambda & 0 \\ 0 & \widetilde{T}_2 & \Lambda & 0 \\ \text{M} & \text{M} & \text{O} & \text{M} \\ 0 & 0 & \text{K} & \widetilde{T}_n \end{bmatrix} .$$

On the basis of these new levels of control we may construct, using the same methodology as for the case of the subsidiary:
- $(m \times n)$ matrix $\mathbf{F}^*$ of the *adjusted reallocation of employees* for the parent company:

$$\mathbf{F}^* = \begin{bmatrix} F_{11}^* & F_{12}^* & \Lambda & F_{1n}^* \\ F_{21}^* & F_{22}^* & \Lambda & F_{2n}^* \\ \text{M} & \text{M} & \text{O} & \text{M} \\ F_{m1}^* & F_{m2}^* & \text{K} & F_{mn}^* \end{bmatrix} = \mathbf{H} \times \widetilde{\mathbf{T}} = \begin{bmatrix} H_{11} & H_{12} & \Lambda & H_{1n} \\ H_{21} & H_{22} & \Lambda & H_{2n} \\ \text{M} & \text{M} & \text{O} & \text{M} \\ H_{m1} & H_{m2} & \text{K} & H_{mn} \end{bmatrix} \times \begin{bmatrix} \widetilde{T}_1 & 0 & \Lambda & 0 \\ 0 & \widetilde{T}_2 & \Lambda & 0 \\ \text{M} & \text{M} & \text{O} & \text{M} \\ 0 & 0 & \text{K} & \widetilde{T}_n \end{bmatrix} ;$$

- $(1 \times n)$ row vector **S*** of the *adjusted employees per SOU* for the parent company:

$$\mathbf{S*} = \begin{bmatrix} S_1^* & S_2^* & \mathrm{K} & S_n^* \end{bmatrix} ;$$

- $(m \times 1)$ column vector **E*** of the *adjusted employees per unit* in the parent company:

$$\mathbf{E*} = \begin{bmatrix} E_1^* \\ E_2^* \\ \mathrm{M} \\ E_r^* \end{bmatrix} ;$$

- $(m \times n)$ matrix **G*** of the *adjusted levels of control of activities* by the parent company:

$$\mathbf{G*} = \begin{bmatrix} G_{11}^* & G_{12}^* & \Lambda & G_{1n}^* \\ G_{21}^* & G_{22}^* & \Lambda & G_{2n}^* \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ G_{m1}^* & G_{m2}^* & \mathrm{K} & G_{mn}^* \end{bmatrix} ;$$

- $(1 \times n)$ vector **T*** of the *adjusted mean levels of control in the SOUs* of the parent company:

$$\mathbf{T*} = \begin{bmatrix} T_1^* & T_2^* & \mathrm{K} & T_n^* \end{bmatrix} .$$

It will be apparent that each element of vector **T*** should equal the corresponding element of diagonal vector $\widetilde{\mathbf{T}}$.

On the basis of these values of **T*** it is then possible to construct vector **W**, and adjust the levels of control of the subsidiary accordingly, as already illustrated in section 4.

6. Application of the model to one of the principal Italian banking groups.

The practical application of the model presented in this section refers to the case of one of the principal Italian banking groups, born by the merge of some major banks.

The new group took the form of an operative Holding Company and a collection of other subsidiary institutions, mainly banks, previously part of the original banking companies.

The operational arm of the Holding Company is a Corporate Centre, responsible for controlling the commercial sections (Retail, Private and Corporate) including hundreds of branches distributed throughout Italy.

The setting up of the new Holding Company made it necessary to undertake an internal reorganisation with a view to redefining the organisational roles of management and operational units for the group in the process of merging. This situation made it imperative to draw up rules with a view to regulating the relationship between the new Corporate Centre and the subsidiaries.

The fact that the Holding Company reorganisation was not accompanied by a corresponding reorganisation within the subsidiaries resulted in a misalignment between the levels of control exercised by the Holding Company and those which the subsidiaries believed to be allowed to exercise.

Now let us apply the model to the realignment of organisational units and levels of control of central management of one of the subsidiary banks, according to the directives of the Holding Company.

The Corporate Centre of the Holding Company consists of 22 units with 3308 employees (Table 3a – Vector **E**).

The subsidiary bank, a smaller scale organisation, operates in a market with regional characteristics where there are more than 100 branches. There is a Central Office, under control of the Holding Company, where there are 275 employees distributed over 12 units. (Table 3b – Vector **e**)

An initial quantitative and qualitative analysis of the two organisations indicated substantial lack of homogeneity of scale and organisation.

The Corporate Centre of the Holding Company, responsible for control of the subsidiary, is over ten times the size of the subsidiary, in line with its task of controlling the whole portfolio of subsidiaries.

The organisational structure of the Corporate Centre of the Holding Company is based on a greater number of units involved in central management than is the case in the subsidiary. For instance, Financial Accounting and Management Control are separate units, whilst in the subsidiary these functions are performed by a single unit. In the same way, in the subsidiary there is a single combined unit under the title of General Affairs & Operations, which acts as a general secretariat also covering legal, administrative matters, purchasing, logistics, information systems and back office, whilst in the Holding Company such activities are split up between departments entitled Operations, Organisation and Legal & General Affairs.

The lack of homogeneity between the structures and the activities performed by the two organisations invite application of the process of standardisation proposed in this paper, with the aim of making the two organisations effectively homogeneous and comparable in terms of structure, human resources, activities and levels of control exercised.

Standardisation requires the identification of an appropriate number of SOUs configured so as to permit a homogeneous description of the two organisations. For the case in hand, we identified and used 32 SOUs (Table 2).

To standardise the structures, it was necessary to reallocate the 3308 employees in the 22 units of the Holding Company and the 275 employees in the 12 units of the subsidiary bank to the 32 SOUs indicated. This reallocation was achieved after a careful reading of the job description for each of the two organisations and the matching of human resources to the different activities. The reallocation of employees per activity to the various SOUs is shown in matrix **F** (Table 4a) and **f** (Table 4b).

The sums of the columns of matrices **F** and **f** give vectors **S** (Table 5a) and **s** (Table 5b), of the total numbers of employees per SOU, for the Holding Company and the subsidiary respectively. The largest number of employees in the Holding Company are involved in providing services to the subsidiary, in particular in the SOU called Payment Systems (857.3 employees), Finance Back Office (620.6 employees) and Information Systems (405 employees). The human resources of the subsidiary bank are, instead, concentrated particularly in Operational Marketing (79.6 employees) and Procurement, Logistics and Safety (40.5 employees).

It was then necessary to construct matrices **G** (Table 6a) and **g** (Table 6b) of the levels of control associated with the activities reallocated to the different SOUs. This operation required a careful reading and analysis of the job descriptions and translation of key expressions indicating levels of control into numerical values, between 0 and 5, (according to the conversion chart shown in Table 1).

Tables 7a and 7b show, respectively, the vectors **M** and **m** of the mean levels of control in the units of the Holding Company and the subsidiary.

Of particular interest are vectors **T** and **t** shown in Tables 8a and 8b. These vectors permit homogeneous description of the levels of control which the Holding Company intends to exercise and the levels of autonomy which the subsidiary bank believes it has. Through effective standardisation it is possible to provide comparative analysis and to show the misalignment

The detailed analysis of vector **T** clearly identifies the heavy centralisation, by the Holding Company, of operational services (level of control 5 in the SOUs of Finance Back Office and Payment Systems; 4.4 in Procurement Logistics & Safety) and of

financial management and market access (level of control 5 in the SOU for Trading and 4.9 in the SOU Finance and Treasury).

The further Tables 9a and 9b, 10a and 10b, 11a and 11b show, respectively, matrices **Q** and **q** of the levels of control per employee exercised by the Holding Company in relation to each employee in each activity, the matrices **H** and **h** of the employees per activity required for each level of control, vectors **R** and **r** of the employees per SOU required for each level of control; each pair of vectors or matrices, respectively, being for the Holding Company and the subsidiary bank.

Analysis of the data in matrix **Q** indicates low levels of control by the Holding Company in relation to those engaged in operational services and high levels in the specialist functions (Finance & Treasury and Trading), whilst from vector **R**, read alongside values of vector **T**, we see that high numbers of employees in operational services are required to ensure the high level of control in this area (characterised by high effectiveness), whilst much smaller human resources are needed to achieve high levels of control for those SOUs characterised by greater specialisation (e.g Trading).

On the basis of formalisation and standardisation of the organisational structures of the Holding Company and the subsidiary bank, it is possible to proceed towards alignment of the respective levels of control, through readjustment of the numbers of those employed in the various activities.

Comparison between vector **W** of the mean levels of control in the SOUs as delegated by the Holding Company to the subsidiary bank (shown in Table 12) and vector **t** of the mean levels of control in the SOUs of the subsidiary bank (Table 8b) reveals a substantial misalignment between the intentions of the Holding Company and the effective action of the subsidiary bank. In some areas the subsidiary believes itself able to perform activities with complete autonomy (Corporate Banking, Credit Management, Finance Back Office and Payment Systems), whilst the Holding Company regards these activities as being fully centralised; for each of these SOUs the values in both **T** and **t** are 5.0 (See Tables 8a and 8b). In other situations (e.g. Asset Management, Product & Service Development, Risk Management, Strategic Marketing and Strategic Planning) we see that the opposite applies, such that the subsidiary operates within presumed limits of delegation which, in reality, are less stringent.

In general, we see a prevalence of SOUs in which realignment will imply a reduction of the level of control exercised on the subsidiary and hence a reduction of the number of people employed.

Matrix **f*** (Table 13) provides the adjusted reallocation of employees per activity in the corresponding SOU for the subsidiary. The sums of the columns and rows of this matrix are shown, respectively, in vectors **s*** (of the adjusted number of employees

per SOU for the subsidiary - Table 14) and vector $\mathbf{e}^*$ (of the adjusted numbers of employees per unit in the subsidiary - Table 15). The fact that the subsidiary bank believes itself able to exercise levels of control greater than those which the Holding Company has decided to delegate to it, following restructuring of the group, identifies a need for substantial re-sizing of the organisational structure of the bank, reducing the number of employees by 163, from 275 to 111.

The units most affected by the re-sizing are General Affairs & Operations and Credit Management, consequent upon the total centralisation of operational services, already mentioned above, in the service department of the Holding Company. Some degree of re-sizing is also appropriate in the commercial departments which, in the original organisations, were able to operate autonomously.

Tables 16 and 17 show, respectively, matrix $\mathbf{g}^*$ of the adjusted levels of control of activities by the subsidiary and vector $\mathbf{m}^*$ of the adjusted mean levels of control in the units of the subsidiary.

Finally, Table 18 contains vector $\mathbf{t}^*$ of the adjusted mean levels of control in the SOUs of the subsidiary. Comparison between this vector and vector $\mathbf{W}$ (Table 12) confirms fully the alignment of the levels of control of the subsidiary with those foreseen by the Holding Company, obtained through application of our model.

7. Limitations and implications for future research and for operational applications.

The model presented is based on certain simplifying and limiting assumptions, which could be reduced in effect in subsequent phases of research. The relationship between level of control and optimal unit size could be rendered more realistic through the introduction of other important variables such as the quality of the human resources employed and the extent of adoption of information systems and technologies allowing an increase in automation.

The concept "level of control" encompasses a range of variables among which are centralisation and coordination. In the combination of these variables the parent company chooses its style of management. The model could be redeveloped in various other management contexts, using a situational approach in the style initiated by Lawrence – Lorshe 1967.

As regards managerial implications, the model is a tool for simulation of relationships between a parent company and a subsidiary, stimulating increase of understanding through theoretical experimentation with the consequences of decisions concerning levels of control and unit size. Notwithstanding the limitations discussed above, the

model provides evidence, albeit to a first approximation only, for objective, rational decision-making concerning problems of organisational structure of businesses which form part of a group.

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Table 1 – Conversion chart for definition of levels of control.

Key expressions	Level of Decisional Centralisation	Level of Operational Centralisation	Level of control (mean)
Centralised management	5	5	**5**
Direct management	5	5	**5**
Integrated management	5	5	**5**
Direct carrying out	5	5	**5**
Direct participation	3	5	**4**
Functional responsibility	5	2	**3.5**
Operational management	2	5	**3.5**
Definition of strategic objectives	5	1	**3**
Control	5	1	**3**
Strategic lines	5	1	**3**
Strategy	5	1	**3**
To agree	4	2	**3**
Check	4	2	**3**
Delegation	4	2	**3**
Organisational models	4	2	**3**
Processes	4	2	**3**
Validation	4	2	**3**
Direct intervention	2	4	**3**
Technical specification	2	4	**3**
Technology	2	4	**3**
Service contracts	1	5	**3**
Approval	4	1	**2.5**
Authorisation	4	1	**2.5**
Criteria	4	1	**2.5**
Directive	4	1	**2.5**
Trend	4	1	**2.5**
Instruction	4	1	**2.5**
Norm	4	1	**2.5**
Plans	4	1	**2.5**
Planning	4	1	**2.5**
Policies	4	1	**2.5**
Regulations	4	1	**2.5**
Co-ordination	3	2	**2.5**
Methodology	3	2	**2.5**

Key expressions	Level of Decisional Centralisation	Level of Operational Centralisation	Level of control (mean)
To promote	3	2	**2.5**
Supervision	3	2	**2.5**
Evaluation	3	2	**2.5**
Representation	2	3	**2.5**
Data collection	1	4	**2.5**
Analysis	3	1	**2**
Qualitative description	3	1	**2**
Influence	3	1	**2**
Guidelines	3	1	**2**
Opinion	3	1	**2**
Principles	3	1	**2**
Priority	3	1	**2**
To examine	3	1	**2**
Agreements	2	2	**2**
Involvement	2	2	**2**
Co-operation	2	2	**2**
Interaction	2	2	**2**
Interface	2	2	**2**
Mediation	2	2	**2**
Monitoring	2	2	**2**
Negotiation	2	2	**2**
Proposal	2	2	**2**
Overseeing	2	2	**2**
Capital allocation	2	1	**1.5**
Budget	2	1	**1.5**
Consultation	2	1	**1.5**
Input	2	1	**1.5**
Advice	2	1	**1.5**
Communication	1	2	**1.5**
Contribution	1	2	**1.5**
Information	1	2	**1.5**
Support	1	2	**1.5**
Supply	1	1	**1**
Assistance	1	1	**1**

Table 2 – Standard Organisational Units.

Alliances & Partnerships
Asset Management
Auditing
Bad Loans Management
Budget & Management Control
Corporate Banking
Credit Granting
Credit Management
Credit Policies & Monitoring
Delivery Processes
External Relations
Finance & Treasury
Finance Back Office
Financial Accounting & Tax Management
Human Resources: Operations
Human Resources: Policies
Integrated Channel Management
Investment Banking
Information Services
Legal & General Affairs
Operational Marketing
Organisation
Organisational Development
Payment Systems
Procurement, Logistics & Safety
Product & Service Development
Retail & Private Banking
Risk Management
Strategic Marketing
Strategic Planning
Subsidiary Administration
Trading

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Table 3a – Vector **E** of the *employees per unit* in the Holding Company

E Vector	
Directorate/Division	**Total**
Subsidiaries Management	7
Italian Banks Control	12
Asset Gathering Area	4
Auditing	52
Financial Accounting & Tax Management	42
Communication	43
Fiscal Advisory	10
Legal & General Affairs	26
Management Control	12
Credit	30
Investment Banking Division	185
Private Division	15
Retail Division	320
Stategic Finance	12
Operations	2.363
Organization	29
Partnerships	7
Risk Management	11
Human Resources	78
Representative office	9
Strategic development	42
Asset Management support	1
Total Headcount	3.308

Table 3b – Vector **e** of the *employees per unit* in the subsidiary bank

e Vector	
Directorate/Division	**Total**
Financial Accounting & Management Control	19
Commercial Area 1	12
Commercial Area 2	26
Commercial Area 3	33
Commercial Area 4	12
Auditing	8
Selling & Distribution	59
Credit Department	28
Merchant Banking Division	3
External Relations	4
Human Resources	14
General Affairs & Operations	58
Total Headcount	**275**

Table 4a - Matrix **F** of the *reallocated employees per activity per* SOU for the Holding Company

F Matrix — Standard Organizational Units

Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Subsidiaries Management																															7,0	
Italian Banks Control	0,3		0,5	0,5	2,1							0,5				0,1					6,4	1,4	0,7									
Asset Gathering Area																					4,0											
Auditing			52,0																													
Financial Accounting & Tax Management														42,0																		
Communication				4,0							39,0																					
Fiscal Advisory														9,0														0,5				
Legal & General Affairs																				26,0												
Management Control					12,0																											
Credit				6,0					18,0	6,0																						
Investment Banking Division									80,0	20,0	10,0	10,0					10,0	30,0			15,0						9,0					1,0
Private Division		11,0																									4,0					
Retail Division																											320,0					
Stategic Finance												12,0																				
Operations				30,0					155,1				620,6						405,0					10,0	857,3	285,0						
Organization																								14,5	14,0							
Partnerships	7,0																															
Risk Management																													11,0			
Human Resources												9,0			30,3	38,3						8,0										
Representative office												1,0										8,0										
Strategic development	1,0																												14,0	26,5		
Asset Management support																						1,0										

Table 4b - Matrix **f** of the *reallocated employees per activity per* SOU for the subsidiary bank.

f Matrix — Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control					4,0									14,5																		
Commercial Area 1					1,2	0,4	1,2	1,2		0,3				0,1	0,4						7,0						0,1					
Commercial Area 2					1,1	0,6	2,5	4,9		0,7				0,2	1,1						14,2						0,5					0,2
Commercial Area 3					1,2	0,8	3,4	5,5		1,1				0,3	1,1						19,0						0,4					0,3
Commercial Area 4					0,9	0,1	1,1	2,8							0,9						5,9						0,3					
Auditing			8,0																													
Selling & Distribution	0,6	7,5			3,5						0,1	1,2	0,5				1,0			1,2	33,5	3,2				0,2		0,4	0,1			6,0
Credit Department				5,0			7,5	13,9	1,2												0,4											
Merchant Banking Division																		3,0														
External Relations											4,0																					
Human Resources															10,5	3,0															0,2	0,2
General Affairs & Operations					1,0										0,2				1,5	7,9				4,9	0,6	0,5	40,5				0,2	0,2

Table 5a - Vector **S** of the *employees per SOU* for the Holding Company.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR: Operations	HR: Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
S Vector	8,3	11,0	52,5	6,5	48,1	80,0	38,0	155,1	6,0	10,0	49,0	22,5	620,6	51,0	30,3	38,3	10,0	30,0	405,0	26,0	34,4	25,9	14,7	857,3	285,0	9,0	324,5	11,0	14,0	26,5	7,0	1,0

Table 5b - Vector **s** of the *employees per SOU* for the subsidiary bank.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
s Vector	0,6	7,5	8,0	5,0	13,0	1,9	15,7	28,3	1,2	2,1	4,1	1,2	1,1	14,5	14,1	3,0	1,0	3,0	1,5	9,1	79,6	8,5	0,6	0,5	40,5	0,2	1,3	0,4	0,1	0,2	0,2	6,5

Table 6a - Matrix **G** *of the levels of control of activities* by the Holding Company.

G Matrix / Directorate/Division	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Subsidiaries Management																															1,7	
Italian Banks Control	2,5		2,0	2,0	2,3							2,0				1,5					2,2	2,0	2,2									
Asset Gathering Area																					2,0											
Auditing			2,8																													
Financial Accounting & Tax Management														2,3																		
Communication					1,5						3,5																					
Fiscal Advisory														3,7													1,0					
Legal & General Affairs																				2,2												
Management Control					3,1																											
Credit				3,0				2,2		2,0																						
Investment Banking Division						5,0		3,5			2,0	5,0					1,0	1,5			4,0					2,0						5,0
Private Division		1,0																									1,0					
Retail Division																											1,0					
Strategic Finance												5,0																				
Operations					4,4				5,0						5,0					5,0					5,0	4,4						
Organization																						4,3	2,8									
Partnerships	2,5																															
Risk Management																												2,7				
Human Resources											3,8				3,5	3,3																
Representative office												5,0								1,4												
Strategic development	3,5																												2,7	2,4		
Asset Management support																					2,8											

Table 6b - Matrix **g** *of the levels of control of activities* by the subsidiary bank

Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control					3,4									4,1																		
Commercial Area 1					5,0	5,0	5,0	5,0		5,0			5,0		5,0						5,0						5,0					
Commercial Area 2					5,0	5,0	5,0	5,0		5,0			5,0		5,0						4,9						5,0					5,0
Commercial Area 3					5,0	5,0	5,0	5,0		5,0			5,0		5,0						5,0						5,0					5,0
Commercial Area 4					5,0	5,0	5,0	5,0							5,0						4,9						5,0					
Auditing			3,1																													
Selling & Distribution	2,0	2,3			5,0					5,0	2,2		5,0		5,0					5,0	4,5	4,6				1,5		0,5	0,5			2,0
Credit Department			3,4		5,0			4,7	5,0	2,8											1,5											
Merchant Banking Division																		4,7														
External Relations											2,7																					
Human Resources															3,5	2,7																
General Affairs & Operations					5,0										5,0				1,3	4,3		3,0	5,0	5,0	4,7						0,5	5,0

Table 7a - Vector **M** of the *mean levels of control in the units* of the Holding Company

Directorate/Division	M Vector
Subsidiaries Management	1,7
Italian Banks Control	2,2
Asset Gathering Area	2,0
Auditing	2,8
Financial Accounting & Tax Management	2,3
Communication	3,3
Fiscal Advisory	3,6
Legal & General Affairs	2,2
Management Control	3,1
Credit	2,3
Investment Banking Division	3,7
Private Division	1,0
Retail Division	1,0
Stategic Finance	5,0
Operations	4,9
Organization	3,6
Partnerships	2,5
Risk Management	2,7
Human Resources	3,5
Representative office	1,8
Strategic development	2,6
Asset Management support	2,8

Table 7b - Vector **m** of the *mean levels of control in the units* of the subsidiary bank.

Direzione/Divisione	m Vector
Financial Accounting & Management Control	3,9
Commercial Area 1	5,0
Commercial Area 2	5,0
Commercial Area 3	5,0
Commercial Area 4	5,0
Auditing	3,1
Selling & Distribution	3,9
Credit Department	4,5
Merchant Banking Division	4,7
External Relations	2,7
Human Resources	3,3
General Affairs & Operations	4,4

Table 8a - Vector **T** of the *mean levels of control in the SOUs* of the Holding Company.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
T Vector	2,6	1,0	2,8	2,9	3,7	5,0	2,9	5,0	2,0	2,0	3,6	4,9	5,0	2,6	3,5	3,3	1,0	1,5	5,0	2,2	2,8	4,5	2,7	5,0	4,4	2,0	1,0	2,7	2,7	2,4	1,7	5,0

Table 8b - Vector **t** of the *mean levels of control in the SOUs* of the subsidiary bank.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
t Vector	2,0	2,3	3,1	3,4	4,5	5,0	4,8	5,0	2,8	5,0	2,8	2,2	5,0	4,1	3,9	2,7	5,0	4,7	1,3	4,4	4,8	3,5	5,0	5,0	4,7	1,5	5,0	0,5	0,5	0,5	5,0	2,2

Table 9a - Matrix **Q** of the *levels of control per employee* of the Holding Company.

Directorate/Division	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Subsidiaries Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,2	-
Italian Banks Control	10,0	-	4,0	4,0	1,1	-	-	-	-	-	-	4,0	-	-	-	30,0	-	-	-	-	0,3	1,4	3,1	-	-	-	-	-	-	-	-	-
Asset Gathering Area	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,5	-	-	-	-	-	-	-	-	-	-	-
Auditing	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Financial Accounting & Tax Management	-	-	-	-	-	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Communication	-	-	-	-	0,4	-	-	-	-	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fiscal Advisory	-	-	-	-	-	-	-	-	-	-	-	-	-	0,4	-	-	-	-	-	-	-	-	-	-	-	-	2,0	-	-	-	-	-
Legal & General Affairs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-
Management Control	-	-	-	-	0,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Credit	-	-	-	0,5	-	-	0,1	-	0,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Investment Banking Division	-	-	-	-	-	0,1	0,2	-	-	0,2	-	0,5	-	-	-	-	0,1	0,1	-	-	0,3	-	-	-	-	0,2	-	-	-	-	-	5,0
Private Division	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,3	-	-	-	-	-
Retail Division	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,0	-	-	-	-	-
Strategic Finance	-	-	-	-	-	-	-	-	-	-	-	0,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operations	-	-	-	-	0,1	-	-	0,0	-	-	-	-	0,0	-	-	-	-	-	0,0	-	0,5	-	0,0	0,0	-	-	-	-	-	-	-	-
Organization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,3	0,2	-	-	-	-	-	-	-	-	-	-
Partnerships	0,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Risk Management	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,2	-	-	-
Human Resources	-	-	-	-	-	-	-	-	-	-	0,4	-	-	-	0,1	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Representative office	-	-	-	-	-	-	-	-	-	-	5,0	-	-	-	-	-	-	-	-	-	0,2	-	-	-	-	-	-	-	-	-	-	-
Strategic development	3,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,5	-	0,2	0,1	-
Asset Management support	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,8	-	-	-	-	-	-	-	-	-	-	-

Table 9b - Matrix **q** of the *levels of control per employee* of the subsidiary bank.

q Matrix — Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control	-	-	-	-	0,8	-	-	-	-	-	-	-	-	0,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Area 1	-	-	-	-	4,1	11,6	4,1	4,1	-	19,2	-	-	41,7	-	11,4	-	-	-	-	-	0,7	-	-	-	-	-	41,7	-	-	-	-	-
Commercial Area 2	-	-	-	-	4,5	8,8	2,0	1,0	-	6,7	-	-	28,3	-	4,8	-	-	-	-	-	0,3	-	-	-	-	-	10,8	-	-	-	-	28,3
Commercial Area 3	-	-	-	-	4,0	6,6	1,5	0,9	-	4,7	-	-	17,0	-	4,8	-	-	-	-	-	0,3	-	-	-	-	-	11,4	-	-	-	-	17,0
Commercial Area 4	-	-	-	-	5,3	35,0	4,6	1,8	-	-	-	-	-	-	5,9	-	-	-	-	-	0,8	-	-	-	-	-	17,5	-	-	-	-	-
Auditing	-	-	0,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selling & Distribution	3,3	0,3	-	-	1,4	-	-	-	-	-	50,0	1,8	10,0	-	-	-	5,0	-	-	4,2	0,1	1,4	-	-	-	7,5	-	1,3	5,0	-	-	0,3
Credit Department	-	-	0,7	-	-	-	0,6	0,4	2,4	-	-	-	-	-	-	-	-	-	-	-	-	3,8	-	-	-	-	-	-	-	-	-	-
Merchant Banking Division	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
External Relations	-	-	-	-	-	-	-	-	-	-	0,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,3	0,9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Affairs & Operations	-	-	-	-	5,0	-	-	-	-	-	-	-	-	-	25,0	-	-	-	-	0,9	0,5	0,6	8,3	10,0	0,1	-	-	-	-	2,5	25,0	-

Table 10a - Matrix **H** of the *employees per activity required for each level of control* in the Holding Company.

H Matrix — Directorate/Division	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Subsidiaries Management																															4,2	
Italian Banks Control	0,1		0,2	0,2	0,6							0,1				0,0					2,3	0,3	0,3									
Asset Gathering Area																					1,4											
Auditing			18,5																													
Financial Accounting & Tax Management														16,3																		
Communication					1,1						10,9																					
Fiscal Advisory														3,5													0,5					
Legal & General Affairs																				12,0												
Management Control					3,2																											
Credit				2,1			6,3		3,0																							
Investment Banking Division						16,0	7,0				5,0	2,0					10,0	20,0			5,4						4,5					0,2
Private Division		11,0																									4,0					
Retail Division																											320,0					
Strategic Finance												2,4																				
Operations					8,0			31,0					124,1						81,0			2,2		171,5	65,1							
Organization																						3,2	5,1									
Partnerships	2,7																															
Risk Management																													4,1			
Human Resources											2,5				8,6	11,5																
Representative office											0,3										2,9											
Strategic development	0,4																													5,2	10,8	
Asset Management support																					0,4											

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Table 10b - Matrix **h** of the *employees per activity required for each level of control* in the subsidiary bank.

h Matrix — Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control	-	-	-	-	0,9	-	-	-	-	-	-	-	-	3,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Area 1	-	-	-	-	0,3	0,1	0,3	0,2	-	0,1	-	-	0,0	-	0,1	-	-	-	-	-	1,5	-	-	-	-	-	0,0	-	-	-	-	-
Commercial Area 2	-	-	-	-	0,2	0,1	0,5	1,0	-	0,1	-	-	0,0	-	0,3	-	-	-	-	-	3,0	-	-	-	-	-	0,1	-	-	-	-	0,1
Commercial Area 3	-	-	-	-	0,3	0,2	0,7	1,1	-	0,2	-	-	0,1	-	0,3	-	-	-	-	-	4,0	-	-	-	-	-	0,1	-	-	-	-	0,1
Commercial Area 4	-	-	-	-	0,2	0,0	0,2	0,6	-	-	-	-	-	-	0,2	-	-	-	-	-	1,2	-	-	-	-	-	0,1	-	-	-	-	-
Auditing	-	-	2,6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selling & Distribution	0,3	3,3	-	-	0,8	-	-	-	-	-	-	0,0	0,6	0,1	-	-	0,2	-	-	0,3	7,0	0,9	-	-	-	0,1	-	0,8	0,2	-	-	2,7
Credit Department	-	-	-	1,5	-	-	1,5	2,8	0,4	-	-	-	-	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-	-	-	-	-	-
Merchant Banking Division	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
External Relations	-	-	-	-	-	-	-	-	-	-	1,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,7	1,1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Affairs & Operations	-	-	-	-	0,2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,1	1,8	-	1,4	0,1	0,1	8,6	-	-	-	-	0,4	0,0

Table 11a - Vector **R** of the *employees per SOU required for each level of control* in the Holding Company.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR: Operations	HR: Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
R Vector	3,1	11,0	19,7	2,2	12,9	16,0	13,2	31,0	3,0	5,0	13,6	4,6	124,1	19,8	8,6	11,5	10,0	20,0	81,0	12,0	12,3	5,8	5,4	171,5	65,1	4,5	324,5	4,1	5,2	10,8	4,2	0,2

Table 11b - Vector **r** of the *employees per SOU required for each level of control* in the subsidiary bank.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
r Vector	0,3	3,3	2,6	1,5	2,9	0,4	3,2	5,7	0,4	0,4	1,5	0,6	0,2	3,5	3,6	1,1	0,2	0,6	1,1	2,1	16,7	2,4	0,1	0,1	8,6	0,1	0,3	0,8	0,2	0,4	0,0	2,9

Table 12 - Vector **W** of the *mean levels of control in the SOUs delegated* by the Holding Company to the subsidiary bank

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
W vector	2,4	4,0	2,2	2,1	1,3	-	2,1	-	3,0	3,0	1,4	0,1	-	2,4	1,5	1,7	4,0	3,5	-	2,8	2,2	0,5	2,3	-	0,6	3,0	4,0	2,3	2,3	2,6	3,3	-

Table 13 - Matrix **f*** of the *adjusted reallocation of employees* for the subsidiary bank

f* Matrix — Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control	-	-	-	-	1,1	-	-	-	-	-	-	-	-	8,6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Area 1	-	-	-	-	0,3	-	0,5	-	-	0,2	-	-	-	-	0,2	-	-	-	-	-	3,2	-	-	-	-	-	0,1	-	-	-	-	-
Commercial Area 2	-	-	-	-	0,3	-	1,1	-	-	0,4	-	-	-	-	0,4	-	-	-	-	-	6,6	-	-	-	-	-	0,4	-	-	-	-	-
Commercial Area 3	-	-	-	-	0,3	-	1,5	-	-	0,6	-	-	-	-	0,4	-	-	-	-	-	8,8	-	-	-	-	-	0,3	-	-	-	-	-
Commercial Area 4	-	-	-	-	0,3	-	0,5	-	-	-	-	-	-	-	0,3	-	-	-	-	-	2,7	-	-	-	-	-	0,2	-	-	-	-	-
Auditing	-	-	5,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selling & Distribution	0,7	13,3	-	-	1,0	-	-	-	-	-	0,1	0,0	-	-	-	-	0,8	-	-	0,8	15,5	0,5	-	-	-	0,4	-	1,9	0,5	-	-	-
Credit Department	-	-	-	3,1	-	-	-	3,3	-	1,3	-	-	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-	-	-	-	-	-	-
Merchant Banking Division	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
External Relations	-	-	-	-	-	-	-	-	-	-	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,1	1,9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Affairs & Operations	-	-	-	-	0,3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,1	-	0,8	0,3	-	5,4	-	-	-	-	-	1,0	0,1

Table 14 - Vector **s*** of the *adjusted number of employees per SOU* for the subsidiary bank.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR Operations	HR Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
s* vector	0,7	13,3	5,7	3,1	3,7	-	6,9	-	1,3	1,2	2,1	0,0	-	8,6	5,4	1,9	0,8	2,3	-	5,9	36,7	1,3	0,3	-	5,4	0,4	1,0	1,9	0,5	1,0	0,1	-

Table 15 - Vector **e*** of the *adjusted number of employees per unit* in the subsidiary bank.

e* vector		
Directorate/Division	Total	Delta
Financial Accounting & Management Control	10	(9)
Commercial Area 1	5	(7)
Commercial Area 2	9	(17)
Commercial Area 3	12	(21)
Commercial Area 4	4	(8)
Auditing	6	(2)
Selling & Distribution	35	(24)
Credit Department	8	(20)
Merchant Banking Division	2	(1)
External Relations	2	(2)
Human Resources	6	(8)
General Affairs & Operations	13	(44)
Total Headcount	**111**	**(163)**

Table 16 – Matrix **g*** of the *adjusted levels of control of activities* by the subsidiary bank.

g* Matrix — Direzione/Divisione	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR. Operations	HR. Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
Financial Accounting & Management Control	-	-	-	-	1,0	-	-	-	-	-	-	-	-	2,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Commercial Area 1	-	-	-	-	1,4	-	2,2	-	-	3,0	-	-	-	-	1,9	-	-	-	-	-	2,3	-	-	-	-	-	4,0	-	-	-	-	-
Commercial Area 2	-	-	-	-	1,4	-	2,2	-	-	3,0	-	-	-	-	1,9	-	-	-	-	-	2,3	-	-	-	-	-	4,0	-	-	-	-	-
Commercial Area 3	-	-	-	-	1,4	-	2,2	-	-	3,0	-	-	-	-	1,9	-	-	-	-	-	2,3	-	-	-	-	-	4,0	-	-	-	-	-
Commercial Area 4	-	-	-	-	1,4	-	2,2	-	-	-	-	-	-	-	1,9	-	-	-	-	-	2,3	-	-	-	-	-	4,0	-	-	-	-	-
Auditing	-	-	2,2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selling & Distribution	2,4	4,0	-	-	1,4	-	-	-	-	-	2,5	0,1	-	-	-	-	-	-	-	4,0	3,2	2,1	0,7	-	-	-	3,0	-	2,3	2,3	-	-
Credit Department	-	-	-	2,1	-	-	2,1	-	3,0	-	-	-	-	-	-	-	-	-	-	-	0,2	-	-	-	-	-	-	-	-	-	-	-
Merchant Banking Division	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
External Relations	-	-	-	-	-	-	-	-	-	-	1,4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,4	1,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Affairs & Operations	-	-	-	-	1,4	-	-	-	-	-	-	-	-	-	1,9	-	-	-	-	2,8	0,5	2,3	-	-	-	0,6	-	-	-	-	2,6	3,3

Table 17 - Vector **m*** of the *adjusted mean levels of control in the unit* of the subsidiary bank

m* vector	
Financial Accounting & Management Control	2,25
Commercial Area 1	2,26
Commercial Area 2	2,32
Commercial Area 3	2,32
Commercial Area 4	2,28
Auditing	2,20
Selling & Distribution	2,87
Credit Department	2,21
Merchant Banking Division	3,50
External Relations	1,38
Human Resources	1,45
General Affairs & Operations	1,70

Table 18 – Vector **t*** of the *adjusted mean levels of control in the SOU* of the subsidiary bank.

	Alliances & Partnership	Asset Management	Auditing	Bad Loans Management	Budget & Management Control	Corporate Banking	Credit	Credit Management	Credit Policy & Monitoring	Delivery Processes	External Relations	Finance & Treasury	Finance Back Office	Financial Accounting & Tax Management	HR: Operations	HR: Policies	Integrated Channel Management	Investment Banking	IS	Legal & General Affairs	Operational Marketing	Organization	Organizational Development	Payment Systems	Procurement, Logistics & Safety	Product & Service Development	Retail & Private Banking	Risk Management	Strategic Marketing	Strategic Planning	Subsidiaries Administration	Trading
t* vector	2,4	4,0	2,2	2,1	1,3	-	2,1	-	3,0	3,0	1,4	0,1	-	2,4	1,5	1,7	4,0	3,5	-	2,8	2,2	0,5	2,3	-	0,6	3,0	4,0	2,3	2,3	2,6	3,3	-