

Notes

Chapter 1 Why Study Shareholder Value Creation in European Banking?

1. For example, see Biddle et al. (1997, 1999), Charreaux and Desbrières (2001), Fernández (2002), Weaver and Weston (2003).
2. For example, see Stewart (1991), Schuster (2000), Copeland et al. (2000), Black et al. (1998), Rappaport (1986, 1998), Weissenrieder (1997), Schroeck (2002) and Belmont (2004)

Chapter 2 Economic Objectives of Banks

1. The conflict of interest among stakeholders has been analysed by some authors in terms of contracting costs. Companies have been in fact considered as a 'nexus of contracts': contracts between shareholders and managers, contracts between managers and employees, contracts between firms and supplier, contracts between different business unit within the firms, etc. For further details, see Jensen and Meckling (1976) and Glassman (1997).
2. The literature dealing with corporate governance problems in financial institutions is extensive. For further details, see the fundamental contributions of Fama (1980), Fama and Jensen (1983) and Jensen and Meckling (1976). For more recent research, see Prowse (1997), Carretta (1998), Carretta et al. (1998), Forestieri (1998) and Schwizer (1998).
3. For further details on this debate, see Hall and Hitch (1939), Lester (1946, 1947), Machlup (1946, 1947), Stigler (1947) and Gordon (1948).
4. For example, March and Simon (1958), Cyert and March (1963) and Jensen and Meckling (1976).
5. See Dacrema and De Sury (1986).
6. The valuation ratio is the ratio of share price to the total asset per share.
7. For further details on the relationship between rationality and maximising behaviour, see Becker (1962, 1976).
8. For further details on the limits of the perfect rationality assumption, see Koopmans (1957), Ansoff (1965) and Salvati (1967).
9. See Dalborg (1999) and Rappaport (1998).
10. This is not a model in the sense of a theoretically defined approach to management.
11. The word *Prosumer*, which is composed of two words (*pro-ducer* and *con-sumer*), expresses a characteristic of many services: consumers do not simply receive services: they play an active role in the production process as well. For example, in a bank branch office, the presence of 'too many' customers (or an inexperienced consumer) makes the queue longer and decreases the satisfaction of the other consumers.
12. For further details, see Dalborg (1999).
13. See Copeland et al. (2000), Hörter (2000), Venanzi and Fidanza (2005).
14. For further details, see Rappaport (1998).

15. For further details, see Stewart (1996), Al Ehrbar (1998), Regalli (2003).
16. These measures are analysed in detail in Chapter 3.
17. For further details, see Lehen and Makhija (1996), Uyemura et al. (1996) and Black et al. (1998).
18. Rappaport (1998).
19. The concepts of 'economic management' (*economicità*), 'efficiency' (*efficienza*) and 'effectiveness' (*efficacia*) are taken from Cavalieri (2000).
20. For further details, see Anderson et al. (1997), AISM (1990) and AISM-Galgano (1994).
21. See Dalborg (1999), who reports the results of a questionnaire submitted to the group of Institut International d'Etudes Bancaire (IIEB) banks in February 1999.
22. The idea is taken from the service value chain proposed by Heskett et al. (1994).
23. For further details, see Dalborg (1999).
24. Source of data: Tylecote and Tarhan (2000: 11) reporting estimates from consultants Booz, Allen and Hamilton.
25. One may reach a different conclusion for web-based services. However, it is worthwhile to note that web-based services are complementary (rather than substitutes) to traditional banking services. In contrast, web-based services appear to be an alternative to traditional brokerage services.
26. Mike O'Neill, Chief Financial Officer of BankAmerica noted 'we are also working on pushing these incentives into lower levels of the organisation'. For further details, see Stewart (1996).
27. Jim Hatch is senior vice president of First Union Corporation. For further details, see Stewart (1996).
28. See Dalborg (1999), who reports the results of a questionnaire submitted to the group of Institut International d'Etudes Bancaire (IIEB) banks in February 1999.
29. Remarks by Alan Greenspan at the annual convention of the American Bankers Association, Honolulu, Hawaii, 5 October 1996.

Chapter 3 Shareholder Value: a Literature Review

1. See Hamilton (1777) and Marshall (1890).
2. For example, this is the case for measures such as 'Economic Value Added', i.e. the surplus value created by a company in a given period measured as the firm's profit net of the cost of all capital, and 'Market Value Added', i.e. the current market value of all capital elements minus the historical amount of capital invested in the company. The word 'added' joins 'value' to emphasise that company's return (for EVA) or valuation (for MVA) implies a comparison with an appropriate measure of the opportunity cost of capital.
3. To avoid any confusion, it is worthwhile to note that the definition of 'shareholder return' proposed above differs slightly from the 'Total Shareholder Return (TSR)' proposed in the FT's European Company performance survey, which is the percentage gain (or loss) received by a shareholder over the period, assuming that all dividends distributed by the company are immediately reinvested in its shares. For further details on TSR, see <http://specials.ft.com/europerformance/>.
4. This section summarises the Modigliani and Miller (M&M) dividend propositions. In a previous seminal work in 1958 (see Miller and Modigliani 1958), M&M proposed three propositions dealing with corporate capital structure. The first proposition (labelled the invariance proposition) states that the value of a

firm (i.e. the total value of its securities) is unrelated to its capital structure (i.e. the debt/equity composition of the liabilities), but it depends only on the earning power and risk of operating assets. The second proposition states that, if proposition 1 is met, the expected return on leveraged shares will be a linear increasing function of leverage. The third proposition states that the cost of capital (i.e. the minimum expected rate of return required for undertaking a project) is unrelated to the securities used to finance the project, but it depends on the project and its risk.

5. Without aiming to be exhaustive, we report some of these measures and its proponents: Economic Value Added (Stern Stewart), Cash Flow Return on Investment (Holt), Total Business Return (Boston Consulting Group), Economic Profit (McKinsey), Shareholder Value Added (LEK/Alcar).
6. MVA is considered by many consultants (such as Al Ehrbar 1998, Uyemura et al., 1996) as the most accurate measure of shareholder value.
7. For further details, see Lehen and Makhija (1997: 90).
8. For further details, see Santorum (2002).
9. Rappaport was the first to develop this metric. For further details on this approach, see Rappaport (1986, 1998).
10. CFROI was originally supported by Boston Consulting Group (BCG) and HOLT Value Associates, a Chicago firm that advises asset managers on questions of valuation (see Economist 1997).
11. The examination of statistical models developed in risk management would require a detailed assessment, which is outside of the scope of this text. For a detailed review of these methods, see Credit Suisse Financial Products (1997), Crosbie (1999), Saita (2000) and De Laurentis (2001).
12. Research and Development (R&D) expenses, amortisation of goodwill and inflation are some examples of economic distortions derived by the application of GAAP.
13. See, for example, Al Ehrbar (1998), McTaggart and Gillis (1998) and (in banking) Uyemura et al. (1996).
14. Stock market prices are expectational because investors value stock depending on future expected company's profits.
15. For unlisted companies, MVA can be estimated only using a proxy of the market value of capital.
16. This investigation is based on the Stern Stewart Performance 1000 database, which contains EVA and MVA estimates for the top 1000 US value-creator firms. Results presented above are taken from Al Ehrbar (1998: 78).
17. Peterson and Peterson (1996) and Biddle et al. (1997).
18. 'Goodwill refers to the capacity of the company to generate abnormal returns in the future, because it represents the expected earnings power of a collection of assets, combined with a given set of managerial skills' (Barker 2001: 135).
19. For a complete review of these studies, see Holthausen and Watts (2001) and Kothari (2001).
20. For example, Uyemura et al. (1996) propose a rank for the first 100 US banks (in the years 1995, 1994 and 1990) in terms of EVA and MVA.
21. The latest publicly available Stern Stewart MVA Performance rankings are the 2001 and 2000 ranks (concerning 2000 and 1999, respectively). Stern & Stewart MVA performance ranking changed the currency between 1999 (GBP) and 2000 (USD).
22. It is important to note that the cost of capital invested for all banks in the UK sample is the same (i.e. 11.2 per cent in 1999 and 10.0 per cent in 2000). It

seems therefore that Stern & Stewart applied a common estimated cost of capital invested to all British banks, rather than calculating the cost of capital for each individual bank (as Stern & Stewart does in the ranking for Italian banks).

23. For further details, see Kothari (2001) and Lee (2001).
24. The coefficient r -square allows one to evaluate the proportion of the variability of the dependent variable that is explained by the selected explanatory variables. This coefficient ranges between 0 and 1 and the closer the model to 1, the better the model. The adjusted coefficient of determination (or adjusted R^2) is expressed as:

$$\text{adj } R^2 = \frac{(n-1)R^2 - p}{n-p-1}$$

where n is the number of observations and p the number of explanatory variables.

25. Raw rate of return expresses the increase of equity market value in terms of rate of return. This can be expressed as:

$$\text{Raw Return} = \frac{P_t}{P_{t-1}} - 1.$$

26. Several studies (such as Easton, 1998, Easton and Sommers 2003) empirically demonstrated the distortion generated in value relevance studies by 'scale effects'.
27. E.g. in Hirschey (1985).
28. E.g. in Rees (1997), Hand and Landsman (1998).
29. E.g. in Lo and Lys (2000) and Brown et al. (1999).
30. E.g. in Easton (1998).
31. E.g. in Easton and Sommers (2003).
32. Easton and Sommers (2003) proposed a model on US data where: (1) market capitalisation (i.e total equity market value) is the dependent variable; (2) closing book value of common equity and net income are the dependent variables.

Chapter 4 How Banks Create Shareholder Value

1. Beta is calculated as the co-variance (Cov) between the market price of the share (i) and the market portfolio (m) standardised for the Variance (Var) of the market portfolio.
2. For further details, see Di Antonio (2002). Olson (1977) was the first to postulate a trade-off between price and service quality: for example, a low price contributes positively to the product selection, but it affects negatively the quality of services expectations. Tse (2001) investigates the relationship between 'quality of the service' and 'price' in the service sector.
3. The average length of the relationship between a bank and its customers is positively related to customer retention rate.
4. Data reported in Hesselink and Van der Wiele (2003).
5. See Fornel and Wernerfelt (1987), Peters (1988) and Reichheld and Sasser (1990).
6. This example follows the procedure described in Munari (2000).
7. For an interesting statistical test of the relationship between TQM and customer satisfaction, see Forza and Filippini (1998).
8. Allocative Efficiency is the terminology currently adopted by the most recent literature, whilst Farrell (1957) originally labelled this measure as 'Price Efficiency'.
9. For further details, see Schroeck (2002) and Cohen (2004a).
10. See also Cohen (2004b) and Belmont (2004).
11. Source: Davis and Lee (1997).

12. Source: Resti (1999).
13. For example see Carretta (2002).
14. ABI (2004).
15. BIS (2004).
16. The Glass-Steagall Act, passed by the US Congress in 1933, prohibited commercial banks from collaborating with full-service brokerage firms or participating in investment banking activities.
17. For further details, see Group of Ten (2001: 65).
18. See, for example, Berger and Hannan (1997, 1998).
19. See also Berger et al. (2004) for a discussion of this point.
20. See, for example, Veld and Veld-Merkoulova (2004).
21. Such as Peristiani (1997), Akhavein et al. (1997), Resti (1998) and Focarelli and Pozzolo (2001).

Chapter 5 Bank Performance Measures and Shareholder Value

1. Raw rate of return expresses the increase of equity market value in term of rate of return. This can be expressed as:

$$\text{Raw Return} = \frac{P_t}{P_{t-1}} - 1.$$

2. A period of four months is selected since financial reports are usually published within four months after the firm's fiscal year.
3. See, for example, Stewart (1991), Uyemura et al. (1996), Rappaport (1998), Al Ehrbar (1998).
4. Al Ehrbar (1998) recognises that there may be several EVA values according to the number of accounting adjustments. As a result, it is possible to identify a spectrum of EVA values: the 'basic EVA' is obtained using unadjusted GAAP operating profit and GAAP balance sheet capital; the 'disclosed EVA' is obtained making some standard adjustments to publicly available accounting data. This measure, which improves the basic EVA by solving the main GAAP problems, is usually adopted by external analysts; the 'true EVA' can be calculated using 'all' internal data that reflect the true economic condition of the company; the 'tailored EVA' is obtained using specific internal information (e.g. organisation structure, business mix, strategies, accounting mix) to adjust accounting figures. Internal analysts use a part of all internal data that balances the trade-off between simplicity and precision.
5. For further details on standard adjustments in EVA calculation, see Santorum (2002).
6. Stern Stewart publishes annually a performance report for the 1000 largest companies (see Stewart, 1991).
7. Since data availability limitation does not allow us to evaluate the present value of expected lease commitments over time, the present value of expected future lease commitments capitalised (in every year between 1995 and 1999) is assumed to be equal to the overall amount of operating leases expenses over the period 1995–9. The amount amortised every year (i.e. from 1995 to 1999) is near to the overall amount of R&D expenses over the period 1995–9.
8. Otherwise, it would be necessary to distinguish between borrowed funds assigned to finance banking operations and those representing a productive input. Since our data set does not enable us to make this differentiation, we prefer to focus only on equity capital.

9. This point is also supported by Uyemura et al. (1996: 102) and Di Antonio (2002: 103).
10. See, for example, Damodaran (1999d).
11. Fama and French (2002) propose a different model using dividend and earnings growth rates to measure the expected rate of capital gain and estimate the equity risk premium: this model is the earning growth model.
12. Regarding the US risk premium, the estimation provided by Damodaran (1999c) has been adopted: 6.10 per cent.
13. Since one would expect the country equity risk premium to be larger than the country default risk spread, the country equity spread is obtained by adjusting the country bond spreads as follows:

$$\text{Country Equity Risk Premium} = \text{Country Bond Spread} \times \frac{\sigma_{\text{equity}}}{\sigma_{\text{bond}}}$$

Where: (1) the volatility of the equity market (σ_{equity}) has been estimated focusing on *CAC 40*, *DAX 30*, *MIBTEL storico*, *FTSE 100*: 2, the volatility of the bond market (σ_{bond}) has been estimated focusing on the French-, Italian-, German-, UK- J. P. Morgan Government Bond return indices.

14. Namely: Beta = Regression Beta (0.67) + 1.00 (0.33).
15. These models with one-year lag are equivalent to the levels of changes specification proposed by Easton and Harris (1991). Since the equity markets are assumed efficient (at least in the weak form), one year lag seems to be reasonable: it is unlikely that two-year-old accounting information has explanatory power of variation in market values.
16. Hayn (1995), Burgstahler and Dichev (1997) and Collins et al. (1997) found that firms that make losses have smaller earning response coefficients than do profitable firms.
17. This model is, of course, inappropriate for those performance measures having only positive values.
18. A period of four months is selected since financial reports are usually published within four months after the firm's fiscal year.
19. The values for DW tests are very close and generally slightly higher than 2, showing a slight negative autocorrelation (a common problem in time-series data).
20. On average, the estimated opportunity cost of capital is 6.87 per cent for France, 6.40 per cent for Germany, 12.7 per cent for Italy and 14.31 per cent for the UK. Italian and UK banks have higher levels since we found that these countries have higher risk-free rates, country bond spreads and average betas over the period analysed.

Chapter 6 Measuring Shareholder Value Drivers in Banking

1. The choice of the use of translog is motivated by two reasons: first, Altunbas and Chakravraty (2001) identified some problems associated with using the Fourier functional form, especially when dealing with heterogeneous data sets. Secondly, Berger and Mester (1997) observe that the translog functional form and Fourier flexible form are substantially equivalent from an economic viewpoint and both rank individual bank efficiency in almost the same order.
2. Since linear homogeneity is assumed, TC, w_1 and w_2 are standardised by the price of capital w_3 .
3. For further details, see Ali and Seiford (1993).

4. Such as, for example, the two-stages DEA suggested in Ali and Seiford (1993).
5. Although steps 1 and 2 are carried out in the standard two-stage method (proposed by Ali and Seiford 1993), the projected points obtained in this second step are not used in the method. The second step aims simply to identify the 'Koopmans' efficient set' and to 'have slack set'.
6. Potential slacks exist in that input when the contraction is achieved.
7. For a proof of the Units Invariance Theorem, see Cooper et al. (2000).
8. It is also possible to consider revenue maximisation and allocative inefficiency in output mix selection in a similar manner. For further details, see Lovell (1993: 33).
9. For the DEA model used to measure allocative efficiency, see Cooper et al. (2000).
10. This selection of inputs and outputs follows the studies by Sathye (2001) and Dietsch and Lozano-Vives (2000), Aly et al. (1990) and Hancock (1986), where a methodology based on user costs is used to determine the outputs and inputs of a banking firm.
11. We use unconsolidated balance-sheet information.
12. In Italy and France, the number of savings banks is quite small. In order to have enough degrees of freedom in estimating the SFA models, we prefer to pool savings and cooperative banks in a unique sample and estimate a common frontier for both categories of banks. In the UK, there are only three savings banks that have been included in the sample of commercial banks.
13. For both DEA and SFA, we estimate an annual cross-section frontier for eight years (1995–2002), for two bank categories (firstly, commercial banks and, secondly, cooperative and savings banks) and for three countries (France, Italy and Germany). For the UK, we estimate an annual cross-section efficient frontier for eight years (1995–2002) for only commercial banks (although the sample comprises three savings banks).
14. Technical efficiency is estimated by assuming Variable Returns to Scale, allocative efficiency is estimated by assuming Variable Return of Scale, cost efficiency is obtained by multiplying technical efficiency, allocative efficiency and scale efficiency estimates obtained assuming variable returns to scale (i.e. equivalent to estimates of cost efficiency under constant return of scale).
15. It is worthwhile remembering that mean cost efficiency measures express the mean distance of inefficient banks from an efficient frontier, i.e. estimated using a cross-sectional sample and, as such, it changes every year. As such, all comparison among mean efficiency levels obtained for different countries or by different kinds of bank (for example) focus on the mean distance of inefficient banks from their own efficient frontier. As such, the expression 'more/less cost efficient' means that the mean distance of inefficient banks from their own efficient frontier is smaller/larger than the mean distance of inefficient banks of another category/country. A lower/superior mean cost efficiency does not supply any evidence of lower/superior Total Factor Productivity.
16. This mean value mostly accounts for technical efficiency levels.
17. It is worthwhile noting that most of the studies summarised by Berger and Humphrey (1997) focus on the US banking system, on different time periods and use various bank input and output definition than used in our analysis.
18. This selection of inputs and outputs follows the studies by Sathye (2001) and Dietsch and Lozano-Vives (2000), Aly et al. (1990) and Hancock (1986), where they develop a methodology based on user costs to determine the outputs and inputs of a banking firm.

19. Since we assume linear homogeneity, π , w_1 and w_2 are standardised by the price of capital w_3 .
20. The UK sample also comprises three savings banks. Firstly, we choose to include these three banks in the UK sample since the number of banks in the UK sample is smaller than for the other three countries. Secondly, we decide to label our UK sample as 'commercial banks' since three savings banks represent less than 5 per cent of the sample.
21. In Italy and France, the number of savings banks is quite small. In order to have enough degrees of freedom for estimating the SFA models, we prefer to pool savings and cooperative banks and estimate a common frontier for both categories of banks. In the UK, there are only three savings banks that have been included in the sample for commercial banks.
22. We estimated 16 profit efficient frontiers (i.e. 8 years \times 2 bank categories) for France, Germany and Italy. For the UK, we estimated 8 frontiers since we have only one type. As such, we estimated 56 frontiers (i.e. 16 \times 3 + 8).
23. When a firm uses more than one input, it is necessary to adopt a method for aggregating these inputs into a single index of inputs. The same problem occurs for multiple outputs.
24. A recent study of Casu et al. (2004: 2538) measured productivity change in European banking between 1994 and 2002 using both parametric and non-parametric methodologies (namely, DEA) and found that 'overall, we find that the competing methodologies do not yield markedly different results in terms of identifying the main components of productivity growth'.
25. For further details, see Brown (1996).
26. Casu et al. (2004) define bank inputs and outputs using the intermediation approach (while we use the value-added approach) and their sample comprises only large banks (over Euro 450 million) from France, Germany, Italy, Spain and the UK (while we use a larger sample comprising commercial banks, cooperative banks and savings banks and estimate different Malmquist indices according to bank specialisation).
27. We prefer to use the geometric mean as an average measure of the change that occurred in the period analysed.
28. Mean values of loans (and of deposits) net growth rates are not weighted to the total amount of loans (and of deposits) at time $t-1$ (i.e. deposits at $t-1$ and loans at $t-1$).

Chapter 7 Determinants of Shareholder Value in European Banking and Shareholder Efficiency

1. In both samples, we use dummy variables to capture the impact due to: (1) bank specialisation (namely, commercial, cooperative and savings banks); (2) time periods; and (3) different domestic economic conditions.
2. R-squared change is the change in the R-squared statistic that is produced by adding or deleting an independent variable. If the R^2 change associated with a variable is large, that means that the variable is a good predictor of the dependent variable.
3. We do not report the estimated coefficients on all the dummy variables.
4. Following the Berger and Mester (1997) findings and considering our research aims, the translog functional form is preferred to the Fourier-flexible since it is substantially equivalent from an economic viewpoint and both rank individual bank efficiency in a similar order.

5. This selection of inputs and outputs follows Sathye (2001), Dietsch and Lozano-Vives (2000), Aly et al. (1990) and Hancock (1986).

Chapter 8 Conclusions

1. See Basel Committee (2004) and International Accounting Standards Board (2004) for technical details relating to Basel 2 and the implementation of IAS 39 on 'fair value' accounting, respectively.

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SHV = shareholder value

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