



Value creation and the impact of corporate real estate assets

An empirical investigation with French listed companies

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Abstract

Purpose – The purpose of this paper is to investigate the impact of corporate real estate (CRE) ownership on value creation for non-financial French listed companies.

Design/methodology/approach – Using a pool sample composed of SBF 250 companies over the period 1999-2004, this paper investigates the association between economic value added (EVA) and market value added (MVA) as proxies for the value generated by French listed companies and the proportion of real estate in their asset portfolio.

Findings – The empirical results show that an increase in the proportion of real estate assets (over total assets) is negatively associated with EVA, but only for firms in service industries exhibiting low real estate intensity. The regression on MVA shows a negative association with the increase in the proportion of real estate for firms outside the service industries.

Research limitations/implications – Recent trends show that many large companies have sold a significant portion of their CRE assets. The underlying motives for such behaviour are yet to be examined (at least for the French context). If real estate has any influence, an association should be observable between proxies of value creation and the change in the proportion of real estate assets, owned by a company. The results suggest that sales of CRE assets may be driven by value maximizing behaviour.

Practical implications – In order to maximize the value of their firm, managers should apparently take value creation into consideration in their decisions to invest in or dispose of real estate assets.

Originality/value – The paper suggests that in a French context, CRE disposals may generate value added in certain industries with specific CRE intensity.

Keywords Economic value added, Market value, Real estate, France

Paper type Research paper



1. Introduction

Rational managers should invest in assets that maximize the value of their firm. Corporate real estate (CRE), i.e. land and buildings owned by companies not primarily in the real estate business, is part of the overall investment portfolio that executives must manage in order to maximize shareholders' wealth. Managers need to examine

Responsibility for any errors remains entirely with the authors.

the relevance of owning CRE. Many companies that are not real estate firms have invested in CRE assets instead of leasing them. Ownership of CRE is significant for many companies in countries such as the USA (Seiler *et al.*, 2001), Singapore (Liow, 1999) and European countries (Laposa and Charlton, 2001). In France, CRE accounts for a significant portion of the tangible assets of large French listed companies. At the end of 2005, the average value of gross real estate assets owned by the top 225 non-financial, non-property firms was €781.4 million[1]. On average, gross real estate assets represent around 31 per cent of gross total tangible assets for those companies (Figures 1 and 2).

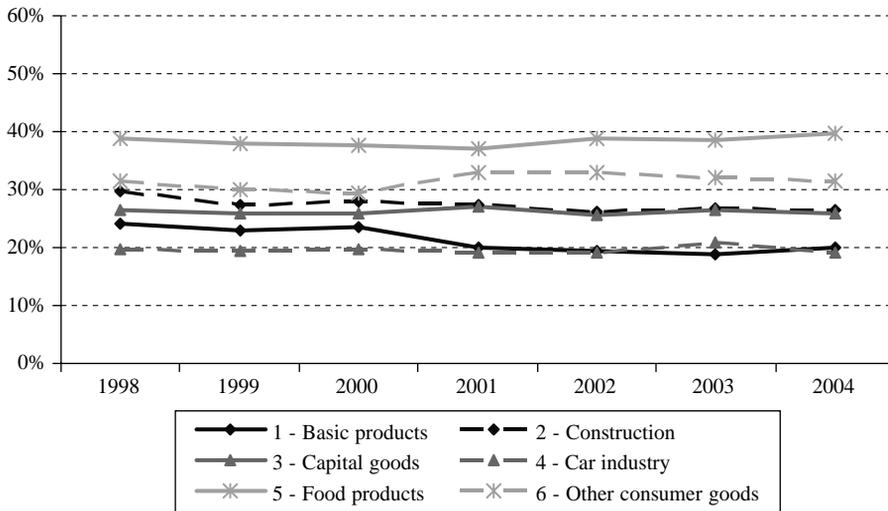


Figure 1.
Sample average
proportion of real estate
in gross tangible assets,
industrial sector

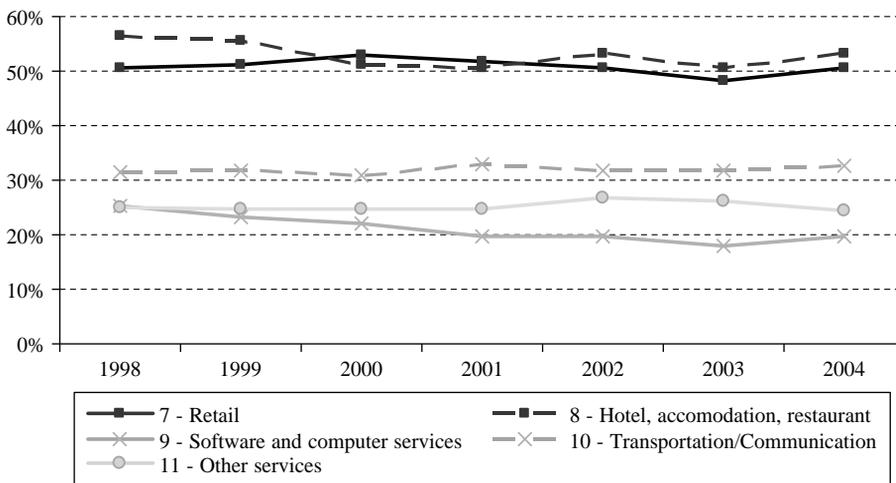


Figure 2.
Sample average
proportion of real estate in
gross tangible assets,
service sectors

From a financial point of view, it can be considered that non-property companies have a significant amount of cash locked up in CRE, which if available could be used to pay dividends to shareholders, reduce financial debts or invest in other profitable investments. Prior studies have provided evidence that CRE divestiture may be positively perceived by stock markets (Liow, 1997; Ting, 2006). Yet, Ting (2007) finds a significant positive price reaction to announcements of property acquisitions by listed non-property companies in Malaysia before the Asian financial crisis (supporting the argument in Ting (2008) that CRE acquisitions are positive net present value transactions, for example because of the business synergy CRE may generate), but a significant negative price effect for property acquisition announcements during a recession period. This highlights the importance of the economic context. Recent trends show that many large companies have sold off most of their CRE assets. The underlying motives for such behaviour are yet to be examined, at least for the French context. If tangible assets in general and CRE in particular have an influence on firm value, for example through the impact on the firm's cost of debt or its perceived risk, an association should be observable between the amount of CRE owned by a company and the value it generates for the company.

Value creation can be measured via several approaches, but two economic proxies are commonly used: economic value added (EVA) and market value added (MVA). This paper investigates the association between proxies of value creation – i.e. EVA and MVA – by French listed companies and the proportion of real estate in their asset portfolio. This research contributes to the existing literature on two points. First, it uses a pool sample drawn from the SBF 250 companies over the period 1999-2004, i.e. covering the beginning of the European real estate bubble (and the end of the “internet bubble”). Second, the association between value creation and CRE has been investigated in a Singaporean setting, but there is no *ex ante* reason to believe the same association would be observed in a different institutional environment such as France. It is common to issue secured debt in the French environment, i.e. with tangible assets (including CRE) as collateral[2]. The empirical results show that an increase in the proportion of CRE assets is negatively associated with EVA, but only for firms in service industries with low real estate intensity. The regression on MVA shows a negative association with the increase in the proportion of real estate for firms outside the service industries. These results suggest that in the long run, sales of CRE assets may generate value for the industrial sector only, and bring benefits for the service sectors only during the short periods when real estate prices are high.

The remainder of the paper is organised as follows: Section 2 briefly reviews the empirical literature. Section 3 describes the research design and addresses methodological issues related to the sampling procedure and data description. Section 4 presents the empirical results, and the final Section 5 summarizes the main findings and concludes.

2. Review of prior literature

CRE is defined as corporate property – industrial, office and retail space – used for business purposes, as an input into the production process by companies not primarily in the real estate business. The first research on CRE management by firms took place in the USA in the late 1980s and early 1990s (Noha, 1993; Nourse and Roulac, 1993). Nourse and Roulac (1993) noted that most US corporate managers did not have a

formal real estate strategy, and ignored or lacked interest in the role of their property assets in the overall strategy.

Although the CRE function is generally not considered a strategic field of corporate management within the organization (which explains the relative ignorance regarding real estate costs), more than 25 per cent of corporate assets consist of real estate, and occupancy and property costs are the company's second-largest expense item after wages and human resources (Rodriguez and Sirmans, 1996). In continental Europe, CRE management seems to be underdeveloped, and these assets are under-managed by the vast majority of companies, as exhibited in Germany by Schaefer (1999). This field of management is not considered a priority or a discipline, and receives little attention in business education, particularly in European business schools (Nappi-Choulet, 2003b), leading to ignorance of CRE costs and facilities. In short, although CRE assets represent significant portions of corporate balance sheets and operating expenses, their role in corporate strategy is relatively underdeveloped in Europe and Asia compared to the USA (Roulac, 2001; Tay and Liow, 2006). An extensive review of existing literature on CRE management can be found in Manning and Roulac (2001).

The surge in institutional investment and financial globalisation, at a time when macroeconomic fundamentals were favourable, created a new context for CRE strategy and real estate financing decisions (Nappi-Choulet, 2003a; Louko, 2004a). More recent research identifies the ways in which CRE management adds value to the firm (Lindhholm *et al.*, 2006).

With the recovery of CRE markets in Europe, cost reduction through real estate outsourcing became a strategic lever for increasing shareholder value for companies whose core business was not real estate. Growth in the European institutional real estate market raised the issue of CRE ownership. In the last decade, companies seem to have rediscovered an interest in their real estate assets, although studies by real estate companies, such as DTZ, estimate that approximately 70 per cent of European businesses are owner-occupiers, in contrast with 30 per cent of US firms. International comparisons have been conducted and find similar results (Laposa and Charlton, 2001; Brounen and Eichholtz, 2005). Booth (1999) studied the way CRE can help to improve shareholder value. Many in the real estate industry anticipate that the trend in Europe will be towards the US model, with large portfolios of CRE offered on the market for sale-and-leaseback or similar transactions, taking real estate off the occupiers' balance sheet (Hill, 2003). The effects of real estate outsourcing decisions on the risk and returns to shareholders remained unexamined until very recently.

Deng and Gyourko (2000) and Seiler *et al.* (2001) look at the relationship between CRE ownership and firm performance for the USA. They document a negative relationship between real estate ownership and the firm's β , but find no significant relationship with firm performance. Louko (2004b) investigate the effects of CRE disposals on corporate performance ratios in Europe between the years 1998 and 2002, particularly for the retail and telecom sectors in which some corporations conducted large CRE asset sale-and-leaseback operations. Liow and Ooi (2004) examine the influence of CRE on shareholder value using two value-based measures: EVA and MVA. They find that for non-real estate Singapore listed firms, CRE had a negative impact on firms' EVA and MVA in the period 1997-2001. Their results suggest that higher real estate intensity (defined as the proportion of property in total tangible assets) is associated with lower EVA and MVA. In the same vein, Brounen and

Eichholtz (2005) explore how CRE ownership affects the stock performance of non-real estate companies internationally. They find a negative (but not statistically significant) relationship between relative real estate holdings and risk-adjusted stock performance, with a sector-by-sector analysis showing that the effect of CRE ownership on performance is to a large extent driven by the sector the company operates in. Brounen *et al.* (2005) show that, in general, CRE ownership is associated with a strong relative performance for retail companies, in marked contrast to the negative performance effects found for other industrial sectors.

3. Research design

3.1 Research sample and data characteristics

The sample consists of non-financial, non-property French listed companies from the SBF 250 index – the largest Paris stock exchange index – during the period 1999-2004. In France, listed companies were required to comply with IAS/IFRS reporting standards from 2005. Asset, liability and performance measurement follow different principles under IAS/IFRS and local French standards. The time period 1999-2004 thus allows us to use values measured under the same accounting rules (French accounting standards), and therefore avoids potential bias.

Annual book values and financial data were obtained from the *Thomson One Banker* and *DataStream* databases, and completed when necessary from the firms' annual reports and *Diane* French database. After elimination of certain companies due to a lack of data or because they are not included in the index over the entire period of the study, the final sample contains 131 companies (41 per cent of the total number of companies) over six years, giving 786 firm-year observations (see Appendix for a list of company names).

The total book value of CRE assets held by the sample companies increased from €106.648 billion in 1999 to €122.021 billion in 2004. The average CRE value increased from €814.11 million in 1999 to €931.5 million in 2004. The company's activity is a variable of major interest in the analysis, as the average value of gross real estate assets varies depending on business segments. Therefore, we use a classification that can distinguish between industrial production and service activities, and comprises 11 non-financial sectors. Table I reports the distribution of the sample companies by sector. Industry production represents 55.7 per cent of our sample, with 73 companies out of 131. It covers six business sectors: basic products; construction; capital goods; car industry; food products and other consumer goods. Services represent 44.3 per cent of the sample, with 58 companies out of 131. There are five service sectors: retail; hotel-accommodation-restaurant; software and computer services; transportation and communication and other services. The sectors with the highest average gross real estate asset values over the period are retail (€1,848.66 million), car industry (€1,813.77 million) and construction (€1,805.73 million). The sectors with the lowest average gross real estate asset values over the period are software and computer services (€62.20 million), other services (€274.12 million) and capital goods (€344.10 million).

3.2 Value creation variables

The "Residual Income" concept which measures economic profit (also known as EVA) is the main approach taken in this paper to estimate value creation. It considers that an asset creates wealth when it generates more income than costs, i.e. where the NOPAT

Sector	No. of companies	%	Average gross real estate assets over the 1999-2004 period (€ million)
<i>Industry</i>			
1. Basic products	10	7.6	939.10
2. Construction	8	6.1	1,805.73
3. Capital goods	19	14.5	344.10
4. Car industry	6	4.6	1,813.77
5. Food products	6	4.6	666.45
6. Other consumer goods	24	18.3	377.19
Total	73	55.7	743.95
<i>Services</i>			
7. Retail	13	9.9	1,848.66
8. Hotel-accommodation-restaurant	9	6.9	778.11
9. Software and computer services	9	6.9	62.20
10. Transportation/communication	16	12.2	1,564.49
11. Other services	11	8.4	274.12
Total	58	44.3	1,028.32
Total	131	100	869.86

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Table I.
Distribution by sector
and average gross CRE
over the period 1999-2004
(€ million)

Source: Thomson One Banker

(net operating profit after tax) is higher than the average cost of capital multiplied by the capital employed (descriptive statistics are given in Table II). Hence: [Economic profit (EVA) = NOPAT – WACC × capital employed], where WACC is the weighted average cost of capital. The other proxy is the MVA, defined as the difference between the market value of the firm minus the book value of assets, i.e. the total value generated in excess of the book value. There is a relationship between economic profit and MVA, as MVA is also the present value of forecasted economic profits (EVA), formally expressed as follows: (MVA = market value of equity – book value of equity = present value of future EVAs). EVA thus measures the economic

Variables	Measures	Mean	SD
NOPAT	Net income + net interest expenses (1 – tax rate)	372 € million	1,298 € million
Capital employed	Non-current assets + working capital	3,507 € million	8,681 € million
WACC	$(V^E / (V^E + V^D)) \times k_E$ $+(V^D / (V^E + V^D)) \times k_D$	8.65%	0.075
Net financial debt (V^D)	(LT debt + current portion of LT debt) – (cash equivalent + marketable securities)	1,901 € million	5,210 € million
Cost of debt (k_D)	Net interest expenses (1 – tax rate)/net financial debt	7.91%	0.1371
Cost of equity (k_E)	Datastream	9.58%	0.1279
Market value of equity (V^E)	Datastream	5,579 € million	15,550 € million
Total sales	Annual report	5,402 € million	12,330 € million
Net income	Annual report	146 € million	1,043 € million

Table II.
Descriptive statistics

profit (or value creation) the firm has generated for a given period, whereas MVA measures the present value of all future economic profits.

3.3 Empirical models

It is clear from the data that there are significant differences in real estate asset intensity among the different business sectors (Figures 1 and 2). Although it may be considered as an empirical question, the issue of value creation and CRE may vary in importance for firms with relatively low vs high CRE intensity. CRE intensity is the proportion of gross real estate assets over gross total tangible assets (Liow, 1999). There are marked differences, especially in the service sector, where two sub-groups can be clearly distinguished (in addition to the industry sector). In order to take this information into consideration, three groups of sectors are defined (with associated dummy variables). The first group consists of retail and hotel-accommodation-restaurant, which are real estate intensive compared to all the other service sectors, which form the second group (low real estate intensity). The last group comprises the industry sector companies (the six industry production sectors).

A panel regression model is used to measure the impact of the change in the proportion of CRE owned by companies on the value they generate, for each of these groups (industry, services with high real estate intensity, and services with low real estate intensity). Several control variables are also included in the analysis: the percentage change in gross tangible assets (excluding CRE) and the percentage change for all other assets (both variables multiplied by each of the dummies representing the three groups, giving a different coefficient for the percentage change in real estate assets variable for each group). The regression on MVA also includes the total sales/total assets of a company and its WACC. To control for company size effects on value creation, the proxies of value creation (EVA or MVA) are scaled by the value of total assets at the beginning of the period. Regressions are then run with the set of explanatory variables.

4. Empirical results

Tables III and IV present the six-year average economic profit (EVA) and MVA, respectively, for industry and service sectors (computed every year). If economic profit is considered as the measure of value creation, the sectors with the highest average value created over the whole period are food products (668.45 million) and car industry (€63.49 million), and the sectors with the highest average loss of value over the whole period are transportation and communication (–€1,367.60 million), capital goods (–€555.88 million) and software and computer services (–€174.92 million). These

	Basic products	Construction	Capital goods	Car industry	Food products	Other consumer goods
<i>EVA</i>						
Average	– 70.97	– 104.16	– 555.88	63.49	68.45	– 83.93
Median	– 13.26	9.74	– 23.48	– 3.07	26.05	1.83
<i>MVA</i>						
Average	6,733.00	1,529.28	2,745.35	214.84	2,285.13	2,909.19
Median	80.30	408.84	277.67	28.92	74.88	109.49

Table III. Average/median EVA and MVA in industrial sectors over the period 1999-2004 (€ million)

negative EVAs may be explained (at least partly) by the stock market crisis of 2001. Results relative to the MVA measure show that sectors with the highest average value added are basic products (€6,733.00 million) and retail (€3,258.03 million). The sectors with the lowest average value added are car industry (€214.84 million), other services (€418.52 million) and hotel-accommodation-restaurant (€817.99 million).

Tables III and IV show that EVA and MVA may display contrasting signs within a particular industry or service sector: for example, the transportation-communication service sector has a negative EVA and a positive MVA. As MVA is based on future EVAs over an indefinite horizon, the significant differences observed between average EVAs and MVAs may indicate that market participants (analysts, investors, etc.) anticipate positive EVAs over the long run.

Two pooled regression analyses are then carried out to investigate the extent to which CRE may affect measures of value creation. In order to eliminate unobserved fixed individual effects, the coefficients of the model are estimated using the within-group transformation, which also eliminates the intercept. The specific point of interest in this study is whether the coefficients for the percentage change in the CRE asset variable (for each of our three groups) are statistically different from zero, and what their respective signs are. The results should reveal whether the percentage change in CRE has a significant positive or negative impact on EVA or MVA (over total assets), respectively, in industry, in services with high real estate intensity, and in services with low real estate intensity.

Table V shows that an increase in the proportion of CRE (over total assets) has no impact on the value generated by companies (EVA) for the industry sector and service sectors with high CRE intensity (retail and hotel), but has a negative impact for firms in service sectors with low CRE intensity (coefficient statistically significant at the 1 per cent level). This suggests that divestitures of CRE in this particular group may have generated value over the period investigated, which would indicate that CRE ownership is not a strategic issue for companies in the service sectors concerned. In fact, companies such as France Telecom and Air France have outsourced (i.e. leased rather than owned) their CRE since 2000[3], in order to focus on their core business and reduce their financial leverage. The resulting decrease in tangible assets also plays a positive role in value creation for firms in both the industry and service sectors. This could be interpreted as reflecting companies' need to sell their least profitable assets in periods of turmoil on the financial markets (i.e. 1999-2004), in order to increase their profitability and therefore their economic profits (EVA).

	Retail	Hotel-accommodation- restaurant	Software and computer services	Transportation- communication	Other services
<i>EVA</i>					
Average	- 19.63	- 94.52	- 174.92	- 132.43.	- 67.68
Median	3.61	- 14.58	- 19.93	- 5.91	- 21.47
<i>MVA</i>					
Average	3,258.03	817.99	1,687.47	3,392.26	418.52
Median	176.21	127.63	351.02	148.36	147.19

Table IV.
Median EVA and MVA
in service sectors over the
period 1999-2004
(€ million)

		EVA		MVA	
		<i>n</i>	<i>t</i> -value	<i>n</i>	<i>t</i> -value
Industry sector	% Change in CRE	0.0130	1.52	0.2195	-3.54 ***
	% Change in tangible assets (except CRE)	-0.0276	-3.52 ***	-0.1510	-2.66 ***
	% Change in other assets (except CRE)	0.0419	2.96 ***	-0.1191	-1.10
Service sector, with high CRE intensity	% Change in CRE	-0.0004	-0.09	-0.0051	-0.167
	% Change in tangible assets (except CRE)	-0.0049	-0.16	0.0913	0.415
	% Change in other assets (except CRE)	0.0398	1.53	-0.7761	-4.01 ***
Service sector, with low CRE intensity	% Change in CRE	-0.0132	-2.67 ***	-0.0298	-0.837
	% Change in tangible assets (except CRE)	-0.0427	-2.96 ***	-0.2266	-1.93 *
	% Change in other assets (except CRE)	-0.0324	-2.42 **	-0.0761	-0.766
	Total sales/total assets			2.0916	15.7 ***
	WACC			1.1412	5.83 ***
	Time fixed effects	Included		Included	
	No. of observations	731		731	
	Adjusted R^2	0.1358		0.4731	

Table V.
Summary of model
regression results

Notes: Significant at the *10, **5 and ***1 percent levels, respectively

Turning to MVA and long-run measures of value creation, our results indicate that the market responded positively to disposals of CRE and tangible assets, but only for firms in the industry sector (both coefficients are statistically significant at the 1 per cent level). This confirms the trend observed in France over the period considered, when many listed companies sold a significant amount of their real estate assets for efficiency reasons. The decrease in tangible assets for firms in the low CRE intensity service sector is also positively associated with MVA. Regressions for MVA display adjusted R^2 of about 47 per cent, suggesting acceptable goodness-of-fit in the specification. The regression results suggest that sales of tangible assets and/or CRE were perceived positively by financial market participants, as they increase the value of corporations as measured by MVA. Overall, then, these results suggest that in the long run, divestiture of CRE is relevant to value creation only for the industry sector. CRE ownership may not be a relevant strategy for managers of non-property firms, at least for French listed companies in this sector. They should focus on investments (i.e. assets) that are close to their core business, and dedicate extra cash to those assets rather than CRE. The results for the service sectors are mixed: they suggest that sales of CRE do not create value *per se* in the long run, but only in a few short-term periods when real estate prices are high. CRE ownership can be considered to reduce the cost of capital for firms with few assets-in-place (Myers, 1977). The relevancy of owning CRE in the service sectors, at least in the French environment, therefore requires further investigation.

5. Conclusion

This paper investigates real estate factors likely to affect the value created by a company, measured by EVA and MVA. The underlying assumption is that CRE may

have an impact on this value creation. Using a pool sample of SBF 250 index (i.e. French listed) companies over the period 1999-2004, the empirical results show that an increase in the proportion of CRE is negatively associated with EVA, but this association is significant only for firms in service industries with low real estate intensity. The regression on MVA shows a negative association with the change in CRE for firms outside the service sectors. These results suggest that sales of real estate assets may be perceived positively by market participants in the industry sector, and that managers of such companies should consider CRE disposals as well as ownership when making decisions over which type of assets should be held. One caveat should be put forward. In corporate balance sheets applying French accounting standards, real estate assets are reported at historical cost (like other tangible assets). This may lead to underestimation of the role of real estate assets. It would be more relevant to refer to the current market values of these assets, but this information is not available before 2005. The situation may change from 2005, as European listed companies now have to apply IFRS (International Financial Reporting Standards), which allow fair value accounting for CRE under certain conditions, although this still remains optional for French, and indeed all, listed companies.

Notes

1. These 225 firms are part of the SBF (*Société des Bourses Françaises*) 250 index from the Paris stock exchange, which comprises France's 250 largest companies, with a total market capitalisation of €1,335 billion.
2. De Jong *et al.* (2008) show that the role of asset tangibility (as debt collateral) on capital structure may be country-specific.
3. One caveat should be mentioned here. The CRE were valued at their book value (as the fair market value was not available). These book values may be quite low compared to their market value due to the impact of accumulated depreciation.

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Appendix. List of the sample companies by activity sector

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<i>Industry</i>	
1. Basic products	Thales SA
Air Liquide	Vallourec
Bourbon	Zodiac SA
CFF Recycling	4. Car industry
Compagnie Generate de Geophysique	Faurecia
Dynaction	Montupet
PCAS	Peugeot SA
Rhodia	Plastic Omnium
Robertet SA Technip	Renault SA
Total SA	Valeo SA
2. Construction	5. Food products
Bouygues SA	Bongrain
CS Communication Systems SA	Fromageries Bel
Ciments Francais	Groupe Danone
Cnim CA	Pernod-Ricard
Colas SA	Remy Cointreau
Lafarge	Taittinger SA
Saint Gobain	6. Other consumer goods
Vicat SA	Ales Groupe
3. Capital goods	Altadis SA
Alcatel	Arkopharma SA
Bull	Beneteau
Bacou-Daloz SA	Boiron SA
Carbone-Lorraine	Chargeurs SA
Dassault Aviation	Christian Dior
Delachaux	Clarins
Ingenico	DMC
Latecoere	Deveaux SA
Lisi	Essilor International
Manitou	Eurofins Scientific AG
Nord Est	Exacompta SA
Radiall SA	Groupe Gascogne
Safran SA	Groupe Guillin
Schneider Electric SA	Guy Degrenne SA
Somfy SA	Hermes International
STMicroelectronics	L'Oreal
	LVMH
	Pochet SA

Rodriguez Group
Skis Rossignol SA
Smoby
Trigano

Dassault Systemes SA
GFI Informatique
Prosodie SA
Silicomp
Unilog

Services

7. Retail

Bricorama SA
Carrefour
Casino Guichard-Perrachon
Etam Development
Finatis
Guyenne & Gascogne SA
Hyparlo
Marionnaud Parfumeries
PPR SA
Rallye
Société Anonyme des Galeries Lafayette
Samse SA Thermador Groupe

8. Hotel, accommodation, restaurant

Accor
CDA-Compagnie Des Alpes
Club Mediterranee SA
Euro Disney SCA
Groupe Flo
Leon De Bruxelles
Société du Louvre
Medidep
Sodexho Alliance SA

9. Software and computer services

Atos Origin SA
Cap Gemini SA
Cegedim
Cegid SA

10. Transportation/communication

Air France-KLM
Bollore
Bollore Investissement SA
Eurotunnel SA
Financiere de l'Odet SA
Fininfo
France Telecom
Gaumont
Genesys SA
Geodis SA
High Co
Lagardere Groupe
Norbert Dentressangle
SR Teleperformance
Spir Communication
Stef-TFE

11. Other services

Altran Technologies
Areva CI
Electricite Strasbourg
Fimalac
Groupe Partouche SA
Hotels Deauville
LVL Medical Groupe
Manutan International SA
Penauille Polyservices
Rubis
Seche Environnement

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