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EUROSTOXX 50: 1997-2004.
SHAREHOLDER VALUE CREATION IN EUROPE

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**EUROSTOXX 50: 1997-2004.
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Abstract

2004 was a good year for the shareholders of the companies in the Euro Stoxx 50: the shareholder value creation of these 50 companies was €42,880 million. It was not as good as 2003, however, when their value creation reached slightly over €160,000 million.

The companies that created most value for their shareholders were Enel (€13,364 million), ENI (11,855) and TIM (9,891). The companies that destroyed most value were Nokia (-€15,239 million), L'Oréal (-9,095) and Philips (-7,823). In 2004, the Euro Stoxx 50 was much more volatile than either the S&P 500 or the Dow Jones.

Shareholder value destruction in the three-year period 2002-2004 was €-0.9 trillion. The market value of the companies included in the Euro Stoxx 50 was €1.5 trillion in 2004 and €1.4 trillion in 2003.

We also calculate the created shareholder value of the 50 companies during the seven-year period 1997-2004. ENI was the top shareholder value creator and Vivendi, the top shareholder value destroyer during that period.

A portfolio long in the companies that entered the index and short in the companies that abandoned the index had on average a 7.2% return in the 20 days prior to the index recomposition and a 2.3% return in the 20 days after the index recomposition.

JEL Classification: G12, G31, M21

Keywords: shareholder value creation, created shareholder value, shareholder value added, shareholder return, required return to equity.

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In this paper we quantify shareholder value creation for the 50 companies included in the Euro Stoxx 50 in December 2004. We provide the created shareholder value for 2004, and also for the periods 1997-2004, 1998-2004, 1999-2004, 2000-2004, 2001-2004, 2002-2004 and 2003-2004. The top shareholder value destroyers in 2004 were Nokia (-€15,239 million), L'Oréal (-€9,095 million), and Philips (-€7,823million). The percentage of value creators was 89%, 72%, 63%, 51%, 12%, 2%, 72% and 58% for 1997, 1998, 1999, 2000, 2001, 2002, 2003 and 2004.

In section 1 we define created shareholder value. Section 2 has the evolution of the Euro Stoxx 50 index since 1993. Section 3 has the comparison between the Euro Stoxx 50 and another world index. Section 4 has the ranking of created shareholder value and return for the companies in 2004. Section 5 has the ranking of created shareholder value and return from the previous years. Section 6 splits the shareholder value creation by the country to which the 50 companies belong. Section 7 shows the relation between Shareholder Return and size. Section 8 is an analysis of the companies that entered and abandoned the Euro Stoxx 50 since 1997. Section 9 compares the Euro Stoxx 50 with other European and US indexes in terms of volatility and correlation.

Appendix 1 contains the evolution of the market value of the companies in the Euro Stoxx 50 in December 2004. Appendix 2 contains the evolution of shareholder value creation since 1997. Appendix 3 shows the evolution of shareholder return since 1997. Finally, Appendix 4 contains the volatility for the 50 companies in the Euro Stoxx 50 in December 2004.

1. Definition of created shareholder value

We define shareholder value created following Fernández (2002, chapter 1). To obtain the created shareholder value, we must first define the increase of equity market value, shareholder value added, shareholder return, and required return to equity.

The equity market value of a listed company is the company's market value, that is, each share's price multiplied by the number of shares. The **increase of equity market value** in one year is the equity market value at the end of that year less the equity market value at the end of the previous year.

Shareholder value added is the term used for the difference between the wealth held by the shareholders at the end of a given year and the wealth they held the previous year.

The shareholder value added is calculated as follows:

$$\begin{aligned}
 & \text{Shareholder value added} = \\
 & \text{Increase of equity market value} \\
 & + \text{Dividends paid during the year} \\
 & \quad - \text{Outlays for capital increases} \\
 & + \text{Other payments to shareholders (discounts on par value, share buy-backs...)} \\
 & \quad - \text{Conversion of convertible debentures}
 \end{aligned}$$

The **shareholder return** is the shareholder value added in one year, divided by the equity market value at the beginning of the year.

$$\text{Shareholder return} = \text{Shareholder value added} / \text{Equity market value}$$

The **required return to equity** is the sum of the interest rate of long-term Treasury bonds plus a quantity that is usually called the company's risk premium and which depends on its risk.

$$\text{Required return to equity} = \text{return of long-term treasury bonds} + \text{risk premium}$$

A company creates value for the shareholders when the shareholder return exceeds the required return to equity.

The **created shareholder value** is quantified as follows:

$$\text{Created shareholder value} = \text{Equity market value} \times (\text{Shareholder return} - K_e)$$

As we already saw that the shareholder return is equal to the shareholder value added divided by the equity market value, the created value can also be calculated as follows:

$$\text{Created shareholder value} = \text{Shareholder value added} - (\text{Equity market value} \times K_e)$$

Consequently, the value created is the shareholder value added above expectations, which are reflected in the required return to equity.

Table 1 shows in simplified form the relationship between three variables, which are sometimes confused: increase of equity market value, shareholder value added, and created shareholder value.

Table 1
Increase of equity market value, shareholder value added, and created shareholder value

<i>Increase of equity market value</i>	Equity market value _t - Equity market value _{t-1}
<i>Shareholder value added</i>	↓ <i>Increase of equity market value</i> - payments from shareholders + dividends + repurchases - conversions.
<i>Created shareholder value</i>	↓ Shareholder value added - (Equity market value × K _e)

2. Evolution of the Euro Stoxx 50

Figure 1 shows the evolution of the Euro Stoxx 50 price index since 1992. It stood at 1,000 points in December 1991 and 2,951 in December 2004. The historic maximum value was 5,464 (March 6, 2000).

Figure 1
Evolution of the Euro Stoxx 50 index

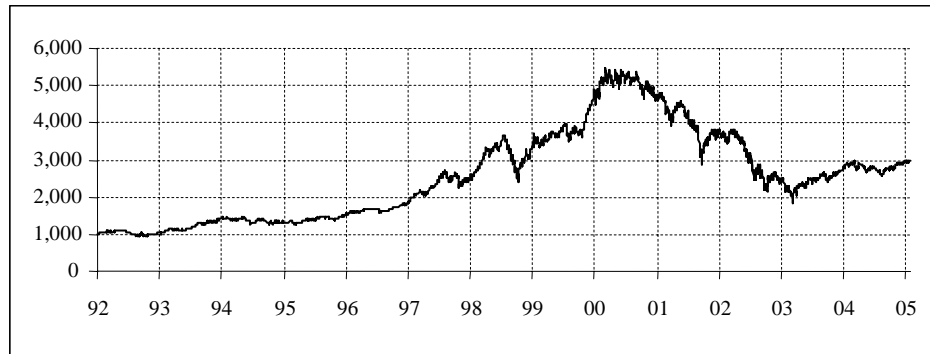


Table 2 contains the evolution of increase of capitalization, shareholder value added and shareholder value creation for the Euro Stoxx 50 since 1993. It is interesting to see the accumulated values. All of them are positive. If you compare the total of shareholder value added and the shareholder value creation, you can appreciate a big difference. That is because the shareholder value added often does not match shareholders' expectations.

Table 2
Increase of capitalization, shareholder value added, and created shareholder value in the Euro Stoxx 50 (€ thousand million)

Euro Stoxx 50	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
capitalization	472	441	512	685	1,074	1,529	2,691	2,119	1,796	1,148	1,380	1,537	
Δ capitalization	142	-31	71	173	389	454	1,163	-572	-323	-648	231	157	1,207
Shareholder value added	144	-23	79	136	275	375	743	-46	-406	-649	212	130	969
Shareholder value creation													
in current euros	97	-75	18	74	186	264	604	-246	-601	-806	111	21	-354
in euros of 2004	272	-186	39	144	327	426	908	-339	-760	-938	120	21	35
Return (includes dividends)	44%	-5%	18%	26%	40%	35%	49%	-2%	-19%	-36%	18%	9%	15%
Price Index	1,433	1,321	1,507	1,850	2,532	3,342	4,904	4,772	3,806	2,386	2,761	2,951	

3. Comparison between Euro Stoxx 50 and another world index

Table 3 contains a comparison between the Euro Stoxx 50 return and the returns of the main indexes of the main European countries: AEX (Holland), CAC 40 (France), IBEX 35 (Spain), Mibtel 30 (Italy), Xetra-Dax (Germany), FTSE 100 (UK), as well as the S&P 500 (USA) and Dow Jones (USA). It also shows the market capitalization in December 2004.

The most profitable index in the whole period was the IBEX 35 and the least profitable was the FTSE 100. The S&P 500 was the biggest in capitalization in 2004.

Table 3
Comparison between the Euro Stoxx 50 and the AEX, CAC 40, IBEX 35, Mibtel 30, Xetra-Dax, FTSE 100, S&P 500 and Dow Jones (returns include dividends)

	Euro Stoxx 50	AEX	CAC 40	IBEX 35	Mibtel 30	Xetra-Dax	FTSE 100	S&P 500	Dow Jones
	Return	Return	Return	Return	Return	Return	Return	Return	Return
1993	44%	49%	26%	63%	8%	47%	25%	10%	17%
1994	-5%	3%	-14%	-10%	3%	-7%	-7%	1%	5%
1995	18%	21%	3%	25%	-7%	8%	26%	38%	37%
1996	26%	38%	28%	48%	12%	27%	17%	23%	29%
1997	40%	44%	33%	46%	59%	47%	29%	33%	25%
1998	35%	32%	34%	43%	41%	19%	17%	29%	18%
1999	49%	27%	54%	21%	22%	39%	21%	21%	27%
2000	-2%	-3%	1%	-17%	5%	-8%	-8%	-9%	-5%
2001	-19%	-19%	-20%	-8%	-25%	-20%	-14%	-12%	-5%
2002	-36%	-34%	-32%	-26%	-23%	-44%	-22%	-22%	-15%
2003	19%	8%	20%	30%	14%	37%	18%	29%	28%
2004	9%	7%	11%	21%	18%	7%	11%	11%	5%
93-2004	12%	12%	9%	16%	8%	9%	8%	11%	13%
99-2004	-8%	-10%	-6%	-2%	-4%	-9%	-4%	-2%	1%
No. companies	50	25	40	35	30	30	100	500	30
Market Capitalization	1,536,627		662,221	344,240			1,158,762	11,288,570	3,791,790

4. Shareholder value creators and shareholder value destroyers in the Euro Stoxx 50 in 2004

The top shareholder value creator in 2004 was Enel (€13,364 million). The top shareholder value destroyers in 2004 were Nokia (-€15,239 million), L'Oréal (-€9,095 million) and Philips (-€9,095 million).

Table 4 contains the capitalization, shareholder value creation and shareholder return of the 50 companies in 2004. The sum of the capitalization of the 50 companies is higher than the capitalization of the Euro Stoxx 50 that appears in Table 3. This is because the capitalization of the index was not calculated with the whole capitalization of the companies, only with the percentages that appear in the last column.

The three companies that created the most shareholder value in the Euro Stoxx 50 in 2004 were Italian: Enel, Eni and Tim.

Enel (48%) was the most profitable company. The least profitable company was Carrefour (-17%). 38 companies had positive returns, but only 29 created shareholder value. The five least profitable companies were: Carrefour, Philips, Nokia, L'Oréal and Aegon. Seventeen companies had a shareholder return up to 20% in 2004.

Table 4
Capitalization, shareholder value creation and return for the companies of the
Euro Stoxx 50 in December 2004

		Capitalization		CSV		Return		Free Float Adjustment	Capitalization in the index
		€	Rank	€	Rank	%	Rank		
TOTAL SA	FRANCE	101,673	1	8,791	5	17%	20	94%	95,572
ROYAL DUTCH PTL.	NETHERLANDS	88,161	2	-1,372	33	6%	32	100%	88,161
SANOFI-SYNTHELABO	FRANCE	81,866	3	-2,769	38	1%	36	71%	58,125
ENI	ITALY	73,761	4	11,855	2	28%	8	64%	47,207
DEUTSCHE TELEKOM	GERMANY	69,893	5	3,594	15	15%	21	62%	43,333
TELEFONICA	SPAIN	68,689	6	8,077	6	23%	14	89%	61,133
FRANCE TELECOM	FRANCE	60,099	7	268	28	10%	29	58%	34,857
BSCH	SPAIN	57,102	8	-3,777	44	0%	37	100%	57,102
SIEMENS	GERMANY	55,585	9	-4,858	46	0%	38	94%	52,250
NOKIA	FINLAND	54,193	10	-15,239	50	-14%	48	100%	54,193
ING GROEP CERTS.	NETHERLANDS	48,371	11	6,938	7	27%	9	90%	43,534
BNP PARIBAS	FRANCE	47,155	12	1,102	23	11%	24	94%	44,325
E ON	GERMANY	46,406	13	9,524	4	34%	5	100%	46,406
TIM	ITALY	46,403	14	9,891	3	35%	3	44%	20,417
BBVA	SPAIN	44,251	15	5,096	10	23%	13	100%	44,251
ENEL	ITALY	44,128	16	13,364	1	48%	1	58%	25,594
SAP	GERMANY	41,386	17	-4,469	45	-1%	42	66%	27,315
L'OREAL	FRANCE	37,758	18	-9,095	49	-13%	47	46%	17,369
ALLIANZ	GERMANY	37,652	19	-3,446	42	-1%	41	90%	33,886
DAIMLERCHRYSLER	GERMANY	35,712	20	-3,676	43	-1%	40	82%	29,284
DEUTSCHE BANK	GERMANY	35,525	21	-2,828	40	2%	35	100%	35,525
AXA	FRANCE	34,692	22	578	24	11%	26	80%	27,754
ABN AMRO HOLDING	NETHERLANDS	33,189	23	509	25	11%	25	100%	33,189
SOCIETE GENERALE	FRANCE	33,093	24	1,127	22	12%	22	100%	33,093
CREDIT AGRICOLE	FRANCE	32,712	25	4,586	11	25%	11	47%	15,375
GENERALI	ITALY	31,862	26	3,555	16	21%	17	86%	27,401
TELECOM ITALIA	ITALY	31,049	27	6,680	8	37%	2	83%	25,771
BASF	GERMANY	29,620	28	3,705	13	23%	15	100%	29,620
UNILEVER CERTS.	NETHERLANDS	28,196	29	-2,647	37	-1%	43	100%	28,196
LVMH	FRANCE	27,608	30	-2,505	36	0%	39	54%	14,908
UNICREDITO ITALIANO	ITALY	26,712	31	-1,468	35	3%	34	75%	20,034
FORTIS	BELGIUM	26,444	32	5,350	9	34%	4	94%	24,858
PHILIPS ELTN.KON	NETHERLANDS	25,677	33	-7,823	48	-17%	49	100%	25,677
VIVENDI UNIVERSAL	FRANCE	25,189	34	2,514	18	22%	16	100%	25,189
CARREFOUR	FRANCE	25,094	35	-7,690	47	-17%	50	84%	21,079
REPSOL YPF	SPAIN	23,392	36	3,526	17	26%	10	78%	18,246
RWE	GERMANY	21,303	37	4,363	12	34%	6	78%	16,616
MUNCH.RUCK.	GERMANY	20,766	38	-2,827	39	-5%	44	81%	16,820
SUEZ	FRANCE	20,018	39	3,701	14	31%	7	93%	18,617
ENDESA	SPAIN	18,306	40	1,600	20	18%	19	90%	16,475
DANONE	FRANCE	18,217	41	-208	31	6%	31	94%	17,124
BAYER	GERMANY	18,215	42	253	29	10%	28	94%	17,122
IBERDROLA	SPAIN	16,859	43	2,267	19	24%	12	88%	14,836
SAN PAOLO IMI	ITALY	15,636	44	-400	32	7%	30	72%	11,258
AEGON	NETHERLANDS	15,573	45	-3,372	41	-11%	46	89%	13,860
SAINT GOBAIN	FRANCE	15,108	46	1,371	21	19%	18	100%	15,108
ALCATEL	FRANCE	14,937	47	397	27	12%	23	95%	14,190
AIR LIQUIDE	FRANCE	14,849	48	420	26	11%	27	100%	14,849
LAFARGE	FRANCE	12,122	49	-195	30	6%	33	100%	12,122
AHOLD KON.	NETHERLANDS	8,855	50	-1,456	34	-7%	45	100%	8,855
Sum		1,841,058		42,880					1,538,079

5. Shareholder return, shareholder value creators and destroyers in the previous years

Table 5 contains the shareholder value creation of the companies of the Euro Stoxx 50 during the eight-year period 1997-2004. ENI was the top shareholder value creator (€27,165 million) and Vivendi, the top shareholder value destroyer (-€70,002 million). The percentages of the companies that created value were 89%, 72%, 63%, 51%, 12%, 2%, 72% and 58% in 1997, 1998, 1999, 2000, 2001, 2002, 2003 and 2004, respectively.

Table 6 contains the historic shareholder return. In the period 1997-2004, 40 companies had positive shareholder returns. In the period 2001-2004, only 14 companies had positive shareholder returns. Thirty-eight companies had positive shareholder returns in 2004.

Table 5
Shareholder value creation for the companies in the Euro Stoxx 50 in December 2004

	1997-2004		1998-2004		1999-2004		2000-2004		2001-2004		2002-2004		2003-2004	
	€ million	rank	€ million	rank	€ million	rank	€ million	rank	€ million	rank	€ million	rank	€ million	rank
ENI		1	15,307	2	15,319	3	20,754	1	8,710	1	11,154	1	9,240	15
SOCIETE GENERALE	22,521	2	16,804	1	16,177	2	2,143	3	-1,491	3	2,171	5	7,688	20
TOTAL SA	21,789	3	9,092	4	16,577	1	1,146	4	-17,353	20	-11,405	22	15,181	5
SIEMENS	16,905	4	2,716	8	6,541	4	-55,746	37	-57,376	39	-27,009	38	15,343	4
SANOFI-SYNTHELABO	13,277	5	10,221	3	5,397	7	2,944	2	-24,112	25	-31,013	41	-4,062	42
TIM	13,236	6	-11,024	23	-30,012	34	-74,807	40	-42,974	35	-12,082	23	6,756	22
BNP PARIBAS	11,157	7	4,791	6	-1,655	10	-7,822	11	-4,948	8	-5,447	19	10,486	9
PHILIPS ELTN.KON	10,477	8	-2,784	16	-1,085	9	-41,604	34	-46,149	37	-30,666	40	107	39
DANONE	8,386	9	2,714	9	-5,083	14	-2,720	8	-10,200	12	-3,839	15	-880	41
TELEFONICA	5,508	10	-5,887	19	-24,295	28	-85,012	44	-38,395	33	-17,073	30	25,150	1
BASF	3,708	11	4,103	7	6,099	6	-10,373	14	-5,177	9	2,287	4	8,226	16
L'OREAL	3,361	12	-359	14	-25,014	30	-39,350	33	-44,633	36	-29,537	39	-18,075	49
BBVA	2,689	13	-15,634	27	-24,767	29	-24,643	23	-26,086	26	-12,552	24	9,889	11
SAP	2,385	14	-15,991	28	-22,459	25	-31,586	27	-16,752	18	-19,541	32	13,181	6
AIR LIQUIDE	2,226	15	903	11	-1,741	11	-2,180	6	-2,223	5	-1,058	9	1,528	36
UNICREDITO ITALIANO	1,873	16	-5,861	18	-15,408	21	-11,687	17	-14,650	16	-5,174	17	807	38
IBERDROLA	1,844	17	1,602	10	-3,009	12	1,019	5	2,626	2	1,993	6	4,109	30
SAINT GOBAIN	1,587	18	144	13	3,017	8	-5,602	9	-2,174	4	-1,635	12	5,262	28
TELECOM ITALIA	1,002	19	704	12	-9,925	19	-9,743	13	-5,954	11	1,826	7	7,161	21
ABN AMRO HOLDING	708	20	-9,780	22	-6,552	17	-20,482	21	-16,529	17	-1,555	11	5,011	29
UNILEVER CERTS.	492	21	-20,478	34	-32,416	35	-11,785	18	-19,534	21	-15,638	26	-8,247	47
LAFARGE	17	22	-1,494	15	-4,230	13	-8,529	12	-3,843	6	-5,748	20	106	40
REPSOL YPF	-806	23	-4,463	17	-6,370	16	-16,319	20	-3,878	7	-1,079	10	6,393	23
ING GROEP CERTS.	-1,845	24	-14,142	25	-29,693	33	-36,998	31	-66,030	40	-22,706	35	11,410	7
SAN PAOLO IMI	-2,624	25	-7,848	21	-15,481	22	-11,044	16	-17,192	19	-5,303	18	5,949	26
DEUTSCHE BANK	-4,355	26	-27,064	36	-8,130	18	-36,470	30	-35,749	29	-21,067	34	10,414	10
ENDESA	-5,253	27	-7,560	20	-16,507	23	-10,385	15	-5,827	10	-3,383	14	6,033	25
E ON	-7,314	28	-18,534	31	-6,227	15	-2,486	7	-12,005	15	-1,826	13	18,835	2
LVMH	-7,716	29	7,167	5	6,392	5	-37,752	32	-19,579	22	310	8	6,303	24
GENERALI	-7,722	30	-17,143	29	-36,339	36	-28,857	25	-38,986	34	-16,483	28	3,877	32
RWE	-8,285	31	-15,328	26	-13,061	20	-5,619	10	-10,220	13	-4,550	16	7,817	19
ROYAL DUTCH PTL.	-11,139	32	-60,883	44	-24,096	27	-77,583	41	-81,268	43	-48,601	46	-4,198	43
BSCH	-11,328	33	-22,863	35	-24,006	26	-32,333	28	-28,044	27	-10,881	21	9,749	13
SUEZ	-11,518	34	-13,873	24	-27,407	32	-22,183	22	-29,640	28	-20,523	33	2,886	34
AXA	-14,091	35	-20,076	33	-46,323	41	-50,961	36	-55,603	38	-16,977	29	8,196	17
FORTIS	-15,053	36	-18,532	30	-26,656	31	-25,405	24	-23,356	24	-17,964	31	3,964	31
MUNCH.RUCK.	-17,284	37	-36,397	40	-41,477	39	-50,346	35	-76,659	42	-52,239	47	-6,886	45
BAYER	-20,100	38	-18,958	32	-18,350	24	-29,321	26	-35,783	30	-13,304	25	2,053	35
AEGON	-23,087	39	-36,344	39	-93,216	44	-80,505	43	-67,491	41	-38,645	45	-4,687	44
AHOLD KON.	-26,521	40	-31,933	37	-36,755	38	-33,131	29	-36,012	31	-32,134	42	-7,403	46
ALCATEL	-28,366	41	-42,674	43	-36,478	37	-73,704	39	-90,109	45	-16,298	27	7,958	18
NOKIA	-34,088	42	-40,315	42	-92,962	43	-281,134	48	-269,716	49	-124,084	50	-28,957	50
CARREFOUR	-39,439	43	-33,654	38	-41,531	40	-65,533	38	-36,604	32	-24,926	37	-8,443	48
ALLIANZ	-45,215	44	-77,966	47	-102,036	47	-100,169	45	-113,226	47	-60,668	48	1,275	37
DEUTSCHE TELEKOM	-68,186	45	-63,710	45	-110,896	48	-290,999	49	-94,419	46	-32,844	44	9,776	12
VIVENDI UNIVERSAL	-70,002	46	-74,964	46	-93,757	45	-104,069	46	-81,820	44	-61,998	49	5,396	27
FRANCE TELECOM			-37,217	41	-92,526	42	-190,479	47	-115,918	48	-32,571	43	10,555	8
DAIMLERCHRYSLER					-98,926	46	-78,335	42	-22,698	23	-24,038	36	3,866	33
ENEL							-15,551	19	-11,769	14	5,076	2	16,088	3
CREDIT AGRICOLE											4,130	3	9,253	14
	-456,585		-865,812		-1,282,760		-2,199,203		-1,864,688		-907,115		221,436	

**Table 6. Shareholder Return for the companies in the Euro Stoxx 50 in 1997-2004
and other selected periods**

	1997-2004		1998-2004		1999-2004		2000-2004		2001-2004		2002-2004		2003-2004	
	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank	%	rank
UNICREDITO ITALIANO	506%	1	81%	14	0%	27	2%	17	-13%	24	5%	22	21%	38
TELECOM ITALIA	393%	2	286%	1	-37%	40	-41%	38	-34%	32	5%	21	56%	16
SOCIETE GENERALE	386%	3	220%	2	183%	1	64%	2	37%	3	38%	6	50%	23
NOKIA	356%	4	210%	3	-4%	29	-72%	44	-74%	46	-58%	46	-20%	48
BNP PARIBAS	350%	5	172%	4	86%	8	38%	7	32%	4	19%	12	49%	25
SAP	280%	6	49%	23	12%	23	-17%	24	10%	13	-9%	25	76%	6
TIM	261%	7	68%	17	11%	24	-37%	36	-20%	26	6%	19	35%	30
SANOFI-SYNTHELABO	232%	8	151%	5	83%	9	55%	5	-11%	22	-25%	38	6%	43
BBVA	230%	9	54%	22	13%	22	5%	14	-8%	19	3%	23	52%	20
TOTAL SA	229%	10	106%	9	132%	2	48%	6	21%	8	16%	14	32%	32
TELEFONICA	209%	11	111%	8	37%	17	-33%	33	-6%	17	6%	18	80%	4
ENI	203%	12	129%	7	108%	3	107%	1	61%	1	51%	1	34%	31
DANONE	190%	13	90%	13	25%	19	28%	9	-8%	20	5%	20	10%	41
SAN PAOLO IMI	188%	14	58%	21	-9%	31	-4%	19	-27%	29	1%	24	86%	3
SIEMENS	186%	15	91%	12	86%	7	-20%	28	-28%	30	-11%	28	60%	12
BSCH	169%	16	43%	27	25%	18	-7%	20	-10%	21	7%	16	49%	24
PHILIPS ELTN.KON	158%	17	46%	26	39%	16	-40%	37	-48%	40	-40%	44	18%	39
REPSOL YPF	124%	18	67%	18	41%	15	-9%	21	21%	7	23%	10	58%	13
BASF	121%	19	102%	10	96%	5	21%	11	25%	6	40%	5	57%	14
IBERDROLA	116%	20	92%	11	41%	13	60%	4	60%	2	42%	4	50%	22
LAFARGE	114%	21	62%	20	15%	21	-19%	26	2%	14	-18%	34	16%	40
ABN AMRO HOLDING	112%	22	47%	24	43%	12	0%	18	-1%	15	27%	9	40%	26
DEUTSCHE BANK	112%	23	19%	34	52%	11	-14%	23	-20%	27	-12%	29	56%	15
SAINT GOBAIN	111%	24	76%	16	86%	6	16%	13	25%	5	19%	11	73%	7
AIR LIQUIDE	110%	25	76%	15	41%	14	30%	8	20%	9	18%	13	28%	36
ING GROEP CERTS.	106%	26	46%	25	7%	25	-10%	22	-37%	34	-10%	27	54%	18
L'OREAL	103%	27	67%	19	-3%	28	-26%	30	-36%	33	-28%	39	-20%	49
GENERALI	95%	28	27%	31	-25%	34	-20%	27	-38%	35	-17%	32	31%	35
FORTIS	89%	29	26%	33	-29%	38	-30%	32	-29%	31	-19%	36	37%	28
AXA	85%	30	27%	30	-28%	36	-37%	35	-46%	39	-13%	30	54%	17
E ON	81%	31	29%	29	55%	10	60%	3	17%	10	28%	8	88%	2
SUEZ	80%	32	26%	32	-28%	37	-23%	29	-39%	36	-32%	41	36%	29
UNILEVER CERTS.	71%	33	3%	37	-21%	33	4%	16	-18%	25	-18%	33	-10%	45
LVMH	67%	34	137%	6	107%	4	-30%	31	-13%	23	32%	7	51%	21
ROYAL DUTCH PTL.	59%	35	5%	36	21%	20	-18%	25	-25%	28	-16%	31	10%	42
ENDESA	56%	36	31%	28	-8%	30	4%	15	10%	12	11%	15	68%	11
RWE	52%	37	2%	38	2%	26	22%	10	-4%	16	7%	17	77%	5
DEUTSCHE TELEKOM	17%	38	11%	35	-34%	39	-74%	46	-44%	38	-10%	26	38%	27
MUNCH.RUCK.	4%	39	-42%	44	-52%	44	-61%	41	-74%	47	-68%	49	-14%	47
AEGON	1%	40	-40%	43	-77%	47	-75%	47	-73%	45	-62%	48	-10%	44
ALCATEL	0%	41	-47%	45	-41%	41	-74%	45	-80%	49	-39%	43	174%	1
BAYER	-1%	42	-8%	41	-15%	32	-37%	34	-48%	41	-22%	37	32%	33
CARREFOUR	-7%	43	-1%	40	-28%	35	-58%	40	-43%	37	-36%	42	-13%	46
VIVENDI UNIVERSAL	-16%	44	-37%	42	-64%	46	-72%	43	-64%	42	-60%	47	53%	19
ALLIANZ	-17%	45	-50%	46	-63%	45	-65%	42	-71%	44	-57%	45	26%	37
AHOLD KON.	-55%	46	-70%	47	-77%	48	-76%	49	-80%	48	-79%	50	-45%	50
CREDIT AGRICOLE											45%	2	73%	8
ENEL							19%	12	17%	11	43%	3	72%	9
FRANCE TELECOM			1%	39	-52%	43	-76%	48	-65%	43	-31%	40	72%	10
DAIMLERCHRYSLER					-47%	42	-44%	39	-7%	18	-18%	35	31%	34
Average	137%		56%		15%		-13%		-18%		-6%		41%	
Weighted average	101%		38%		0%		-29%		-29%		-13%		33%	

6. Shareholder Value Creation and Shareholder Return by country

Table 7 contains some statistics on the companies in the Euro Stoxx 50 grouped by country. The first two columns show the market capitalization at the end of 2004. French companies accounted for 33% of total market capitalization. The third column shows that there were 17 French companies in the index.

Table 7
Shareholder Value Creation and Shareholder Return by country of the 50 companies in the Euro Stoxx 50 at the end of 2004

	Market Capitalization 2004		No. Companies	Return 2004	Return 97-2004	CSV 04	
	€ million	%				€ million	%
France	602,189	33%	17	10%	136%	2,392	6%
Germany	412,060	22%	11	10%	84%	-665	-2%
Italy	269,552	15%	7	26%	274%	43,476	101%
Netherlands	248,022	13%	7	1%	65%	-9,223	-22%
Spain	228,597	12%	6	19%	151%	16,788	39%
Belgium	26,444	1%	1	34%	89%	5,350	12%
Finland	54,193	3%	1	-14%	356%	-15,239	-36%
Total	1,841,058	100%	50	12%	139%	42,880	100%

7. Shareholder Return and size

Figure 2 shows the correlation between shareholder return and size (measured by market capitalization) in 2004. The correlation is small. The R-squared is 0.52% (that is, difference in size explained only 0.52% of the return).

Figure 3 plots the correlation between the ranking of shareholder return and the ranking of size. Again, the correlation is very weak.

Figure 4 shows the correlation of shareholder return in the eight-year period 1997-2004 and size (measured by market capitalization at the beginning of the period, in 1996). Again, no significant correlation is found. Difference in size explained only 13.61% of the return.

Figure 2
Shareholder return and size of the companies in the Euro Stoxx 50 in 2004

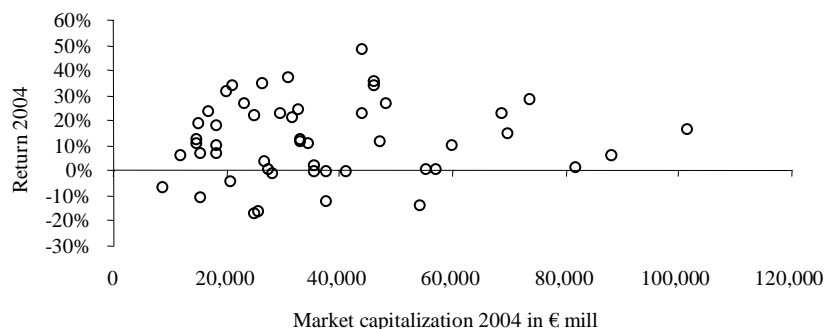


Figure 3
Ranking of shareholder return and size of the companies in the Euro Stoxx 50 in 2004

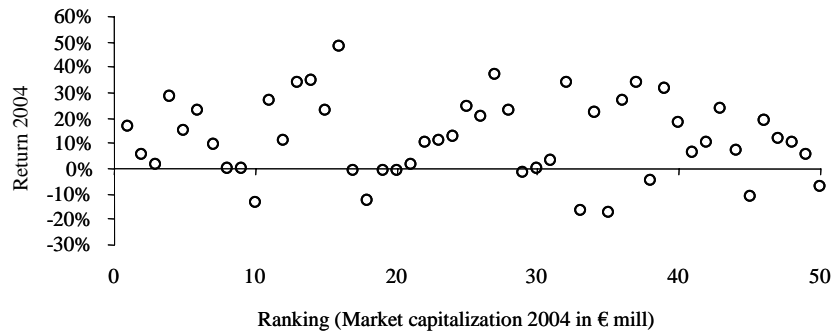
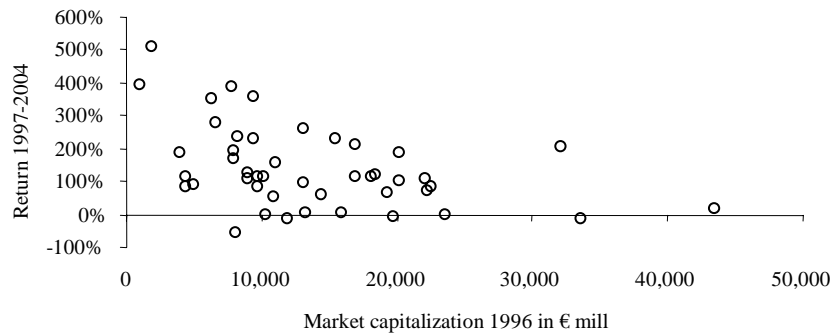


Figure 4
Correlation of shareholder return and size of the companies in the Euro Stoxx 50 in the period 1997-2004



8. Additions and deletions of companies in the Euro Stoxx 50 during the six-year period 1997-2003

Table 8 contains the companies added and removed from the Euro Stoxx 50.

Figure 5 shows the average cumulative return of the companies added to the Euro Stoxx 50 in the 40 days around the addition date (day 0). It may be seen that the average cumulative return in the 20 days before the addition was 5.3% (5.9% on top of the return of the Euro Stoxx 50). It may be seen, also, that the average cumulative return in the 20 days after the addition was 4.9%.

Figure 6 shows the average cumulative return of the companies removed from the Euro Stoxx 50 in the 40 days around the deletion date (day 0). It may be seen that the average cumulative return in the 20 days before the deletion was -2.1%. It may be seen, also, that the average cumulative return in the 20 days after the deletion was 2.4%.

Figure 7 shows the average cumulative return of a portfolio equally weighted long in the companies added, and short in the companies removed from the Euro Stoxx 50 in the 40 days around the addition/deletion date (day 0). It may be seen that the average cumulative return in the 20 days before the addition/deletion date was 7.2%, and that the average cumulative return in the 20 days after the addition/deletion date was 2.3%.

Table 8
Additions and deletions of companies in the Euro Stoxx 50 since 1997

	Deletions	Additions
22/09/1997	Sanofi, Schering AG, Thyssen AG	Paribas, L'Oreal, Portugal Telecom
22/12/1997	Pinault-Printemps-La Redoute	France Telecom
20/09/1999	Lufthansa, Schneider Electric, Allied Irish Banks, Fiat, Spa, Akzo Nobel, Elsevier, Portugal Telecom	Basf, Bayerische Hypo-&Vereinsbank, Dresdner Bank, Muenchener Rueckver, BSCH, Suez Lyonnaise Des Eaux, Sanofi-Synthelabo
01/11/1999	Paribas, ELF Aquitaine	Pinault-Printemps-La Redoute, BNP
20/12/1999	Rhone-Poulenc	Aventis
14/02/2000	Mannesmann	Canal +
20/03/2000	Saint Gobain	Enel
18/09/2000	Electrabel, Metro	Groupe Danone, San Paolo-Imi
11/12/2000	Canal +	Volkswagen
23/07/2001	Dresdner Bank	TIM
24/09/2001	KPN	Saint Gobain
23/09/2002	Pinault-Printemps-La Redoute	Lafarge
22/09/2003	Bayer. Hypo- und VereinsBank	Iberdrola
28/07/2004	Aventis	SAP
20/09/2004	Volkswagen	Credit Agricole

Figure 5
Average Cumulative Return of additions to the Euro Stoxx 50

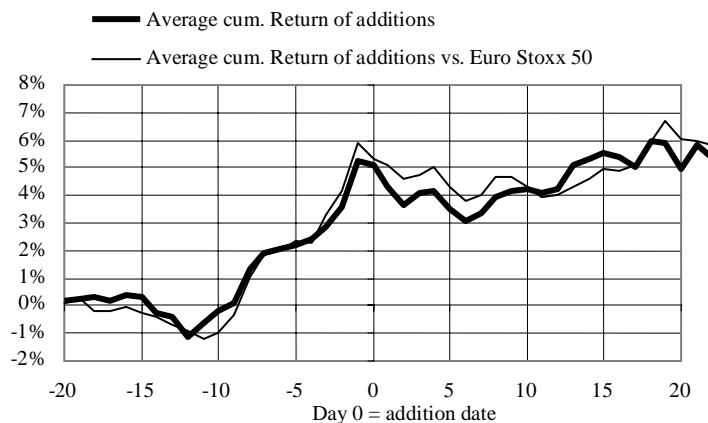


Figure 6
Average Cumulative Return of deletions from the Euro Stoxx 50

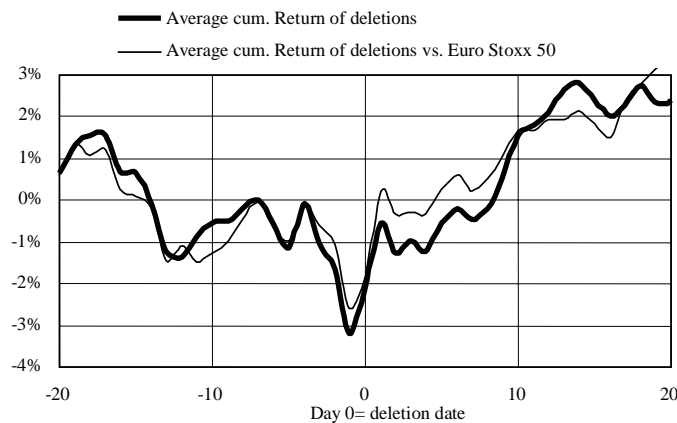
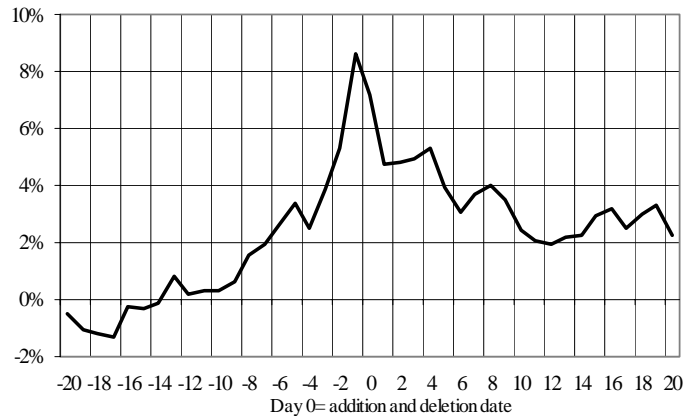


Figure 7
Average cumulative return of a portfolio long in the company added and short in the company deleted from the Euro Stoxx 50



9. Volatility and correlation with other indexes of the Euro Stoxx 50

Figure 8 compares the volatilities (annualized standard deviation of the daily returns of the last year) of the Euro Stoxx 50, of the S&P 500 and of the Dow Jones. It may be seen that the Euro Stoxx 50 has been much more volatile than the American Indexes, especially in 1999 and after September 11, 2001.

Figures 9 and 10 compare the volatility (annualized standard deviation of the daily returns of the last year) of the Euro Stoxx 50 with the volatilities of the national indexes of France (CAC 40), Germany (Dax), Spain (Ibex 35), and UK (FTSE 100). The FTSE 100 (there are no UK companies in the Euro Stoxx 50) has been much less volatile than the Euro Stoxx 50.

Figures 11, 12, and 13 offer the same comparison as Figures 8, 9 and 10, but the volatility is the annualized standard deviation of the daily returns of the last 20 days (instead of the last year).

Table 8 offers the correlation among the indexes using daily returns of the eight-year period 1997-2004. The correlation of the Euro Stoxx with the continental indexes is higher than 0.83. The correlation of the Euro Stoxx 50 with the FTSE 100 is 0.83. The correlation of the Euro Stoxx 50 with the American indexes is much lower: 0.481 and 0.466.

Tables 9 and 10 split the period used for calculating the correlation into two sub-periods. Table 9 shows the correlation of the 3-year sub-period 1997-1999, and Table 10 shows the correlation of the five-year sub-period 2000-2004. Table 11 is the difference between Tables 9 and 10. It may be seen that the correlation of the Euro Stoxx 50 with all other indexes was higher in 2000-2004 than in 1997-1999.

Figures 12 to 15 show the evolution of the correlations. Figures 12 and 13 contain the correlations of the daily returns of the last 20 days, while Figures 14 and 15 contain the correlations of the daily returns of the last year.

Figure 8
Volatility of Euro Stoxx 50, S&P 500 and Dow Jones
 (Annualized rolling standard deviation calculated with daily data of the last year)

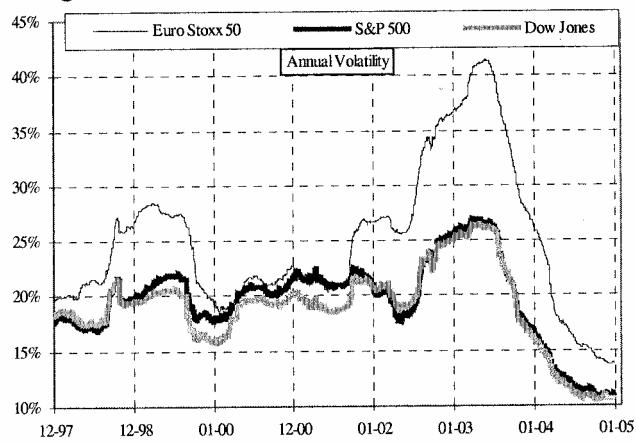


Figure 9
Volatility of Euro Stoxx 50, CAC 40 and Xetra-Dax
 (Annualized rolling standard deviation calculated with daily data of the last year)

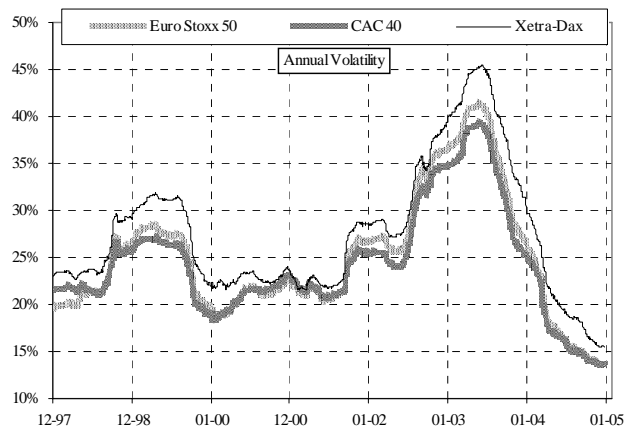


Figure 10
Volatility of Euro Stoxx 50, Ibex 35 and FTSE 100
 (Annualized rolling standard deviation calculated with daily data of the last year)

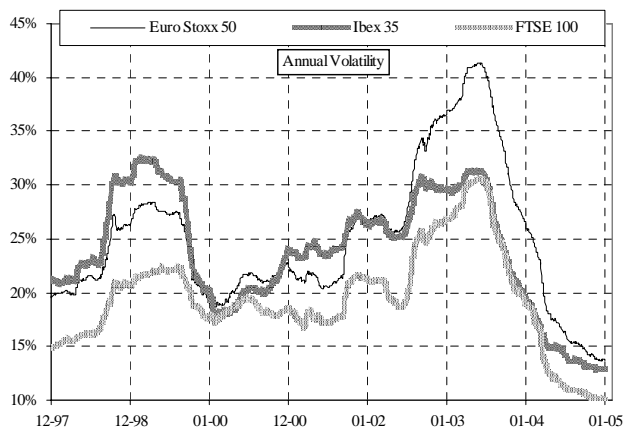


Figure 11
Volatility of Euro Stoxx 50, S&P 500 and Dow Jones
 (Annualized rolling standard deviation calculated with daily data of the last 20 days)

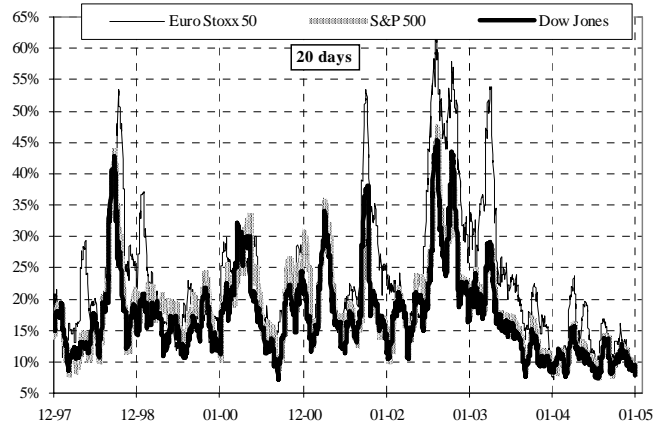


Figure 12
Volatility of Euro Stoxx 50, CAC 40 and Xetra-Dax
 (Annualized rolling standard deviation calculated with daily data of the last 20 days)

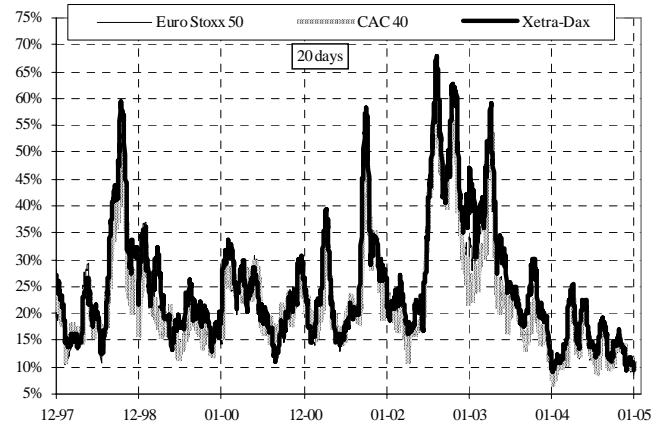


Figure 13
Volatility of Euro Stoxx 50, Ibex 35 and FTSE 100 (20 days)
 (Annualized rolling standard deviation calculated with daily data of the last 20 days)

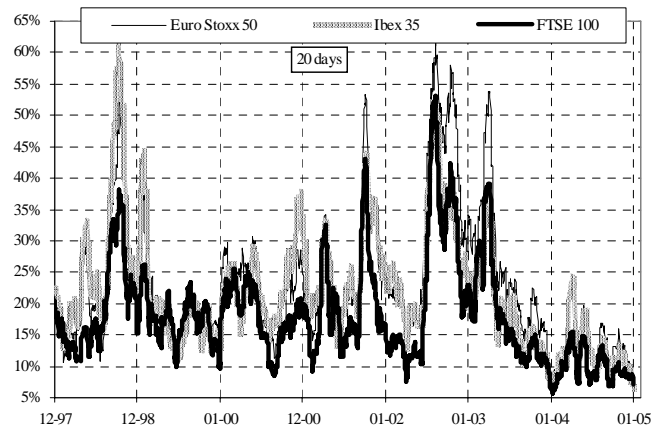


Table 8
Correlation of the Euro Stoxx 50 with other main world indexes. Correlation calculated with daily data in the period Jan 1997-Dec 2004

	ES50	AEX	CAC 40	Ibex 35	Mibtel 30	Xetra-Dax	FTSE 100	S&P 500	Dow Jones
ES50	1.000	0.920	0.945	0.854	0.850	0.906	0.833	0.481	0.466
AEX	0.920	1.000	0.860	0.768	0.763	0.810	0.803	0.434	0.427
CAC 40	0.945	0.860	1.000	0.813	0.813	0.841	0.808	0.463	0.450
Ibex 35	0.854	0.768	0.813	1.000	0.785	0.760	0.715	0.416	0.406
Mibtel 30	0.850	0.763	0.813	0.785	1.000	0.771	0.725	0.406	0.398
Xetra-Dax	0.906	0.810	0.841	0.760	0.771	1.000	0.746	0.534	0.521
FTSE 100	0.833	0.803	0.808	0.715	0.725	0.746	1.000	0.427	0.419
S&P 500	0.481	0.434	0.463	0.416	0.406	0.534	0.427	1.000	0.944
Dow Jones	0.466	0.427	0.450	0.406	0.398	0.521	0.419	0.944	1.000

Table 9
Correlation of the Euro Stoxx 50 with other main world indexes. Correlation calculated with daily data in the period Jan 1997-Dec 1999

	ES50	AEX	CAC 40	Ibex 35	Mibtel 30	Xetra-Dax	FTSE 100	S&P 500	Dow Jones
ES50	1.000	0.887	0.899	0.821	0.819	0.905	0.788	0.406	0.421
AEX	0.887	1.000	0.760	0.710	0.693	0.800	0.743	0.375	0.388
CAC 40	0.899	0.760	1.000	0.750	0.754	0.828	0.735	0.418	0.430
Ibex 35	0.821	0.710	0.750	1.000	0.739	0.759	0.657	0.392	0.406
Mibtel 30	0.819	0.693	0.754	0.739	1.000	0.732	0.657	0.325	0.341
Xetra-Dax	0.905	0.800	0.828	0.759	0.732	1.000	0.745	0.426	0.444
FTSE 100	0.788	0.743	0.735	0.657	0.657	0.745	1.000	0.393	0.411
S&P 500	0.406	0.375	0.418	0.392	0.325	0.426	0.393	1.000	0.946
Dow Jones	0.421	0.388	0.430	0.406	0.341	0.444	0.411	0.946	1.000

Table10
Correlation of the Euro Stoxx 50 with other main world indexes. Correlation calculated with daily data in the period Jan 2000-Dec 2004

	ES50	AEX	CAC 40	Ibex 35	Mibtel 30	Xetra-Dax	FTSE 100	S&P 500	Dow Jones
ES50	1.000	0.935	0.966	0.879	0.889	0.906	0.853	0.515	0.487
AEX	0.935	1.000	0.906	0.803	0.821	0.814	0.831	0.463	0.445
CAC 40	0.966	0.906	1.000	0.851	0.864	0.846	0.842	0.484	0.458
Ibex 35	0.879	0.803	0.851	1.000	0.821	0.765	0.749	0.429	0.406
Mibtel 30	0.889	0.821	0.864	0.821	1.000	0.811	0.781	0.463	0.440
Xetra-Dax	0.906	0.814	0.846	0.765	0.811	1.000	0.745	0.587	0.558
FTSE 100	0.853	0.831	0.842	0.749	0.781	0.745	1.000	0.443	0.423
S&P 500	0.515	0.463	0.484	0.429	0.463	0.587	0.443	1.000	0.943
Dow Jones	0.487	0.445	0.458	0.406	0.440	0.558	0.423	0.943	1.000

Table 11
Correlation of Table 9 (97-99) minus Correlation of Table 10 (2000-2004)

	ES50	AEX	CAC 40	Ibex 35	Mibtel 30	Xetra-Dax	FTSE 100	S&P 500	Dow Jones
ES50	0.000	-0.048	-0.067	-0.058	-0.070	-0.002	-0.065	-0.109	-0.066
AEX	-0.048	0.000	-0.146	-0.093	-0.128	-0.013	-0.088	-0.088	-0.057
CAC 40	-0.067	-0.146	0.000	-0.101	-0.110	-0.018	-0.107	-0.066	-0.028
Ibex 35	-0.058	-0.093	-0.101	0.000	-0.082	-0.006	-0.093	-0.037	-0.001
Mibtel 30	-0.070	-0.128	-0.110	-0.082	0.000	-0.079	-0.124	-0.138	-0.098
Xetra-Dax	-0.002	-0.013	-0.018	-0.006	-0.079	0.000	0.000	-0.161	-0.114
FTSE 100	-0.065	-0.088	-0.107	-0.093	-0.124	0.000	0.000	-0.050	-0.012
S&P 500	-0.109	-0.088	-0.066	-0.037	-0.138	-0.161	-0.050	0.000	0.003
Dow Jones	-0.066	-0.057	-0.028	-0.001	-0.098	-0.114	-0.012	0.003	0.000

Figure 14
Correlation between the Euro Stoxx 50 and the S&P 500. Correlation between Euro Stoxx 50 and Dow Jones (20-day rolling daily correlations)

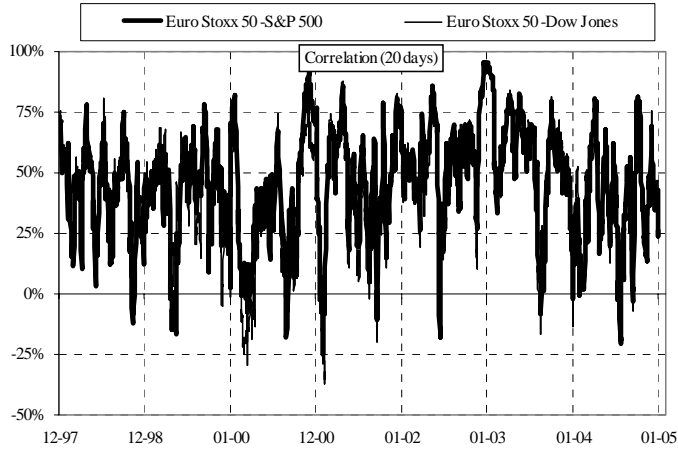


Figure 15
Correlation between Euro Stoxx and Ibex 35. Correlation between Euro Stoxx 50 and FTSE 100 (20-day rolling daily correlations)

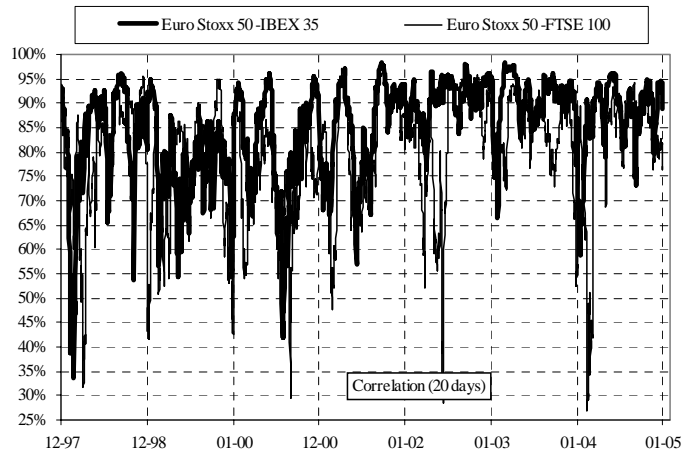


Figure 16
Correlation between Euro Stoxx and S&P 500. Correlation between Euro Stoxx 50 and Dow Jones (annual rolling daily correlations)

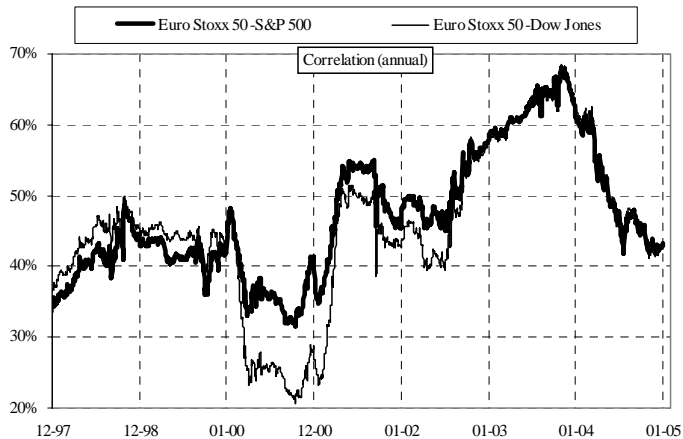
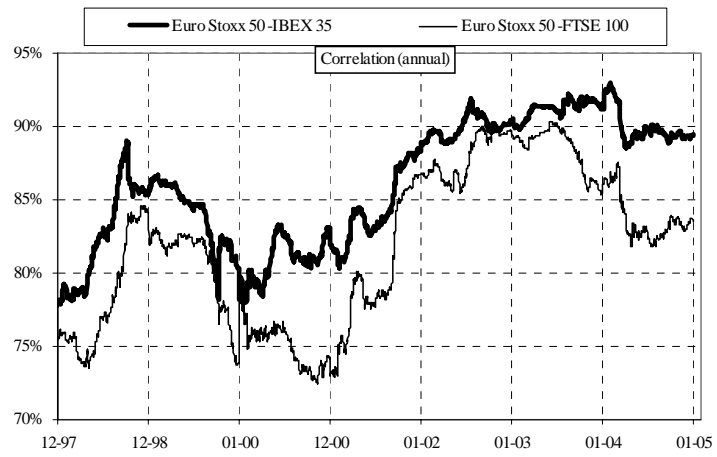


Figure 17
Correlation between Euro Stoxx and Ibex 35. Correlation between Euro Stoxx 50 and FTSE 100
(Annual rolling daily correlations)



Appendix 1

Market Value for the companies in the Euro Stoxx 50 in December 2004 (million euros)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
ABN AMRO HOLDING	16,927	25,266	25,835	36,375	36,373	27,898	24,027	29,958	33,189
AEGON	13,249	23,724	61,004	64,090	59,488	43,236	17,437	17,609	15,573
AHOLD KON.	8,171	12,489	19,720	18,819	26,729	30,046	11,125	9,378	8,855
AIR LIQUIDE	9,029	10,506	12,957	13,772	14,528	14,295	12,673	13,988	14,849
ALCATEL	10,280	18,978	20,717	45,307	73,289	23,333	5,116	13,113	14,937
ALLIANZ	33,598	55,698	77,445	81,920	97,956	70,682	24,152	38,503	37,652
GENERALI	13,095	19,787	36,558	33,650	53,002	39,094	25,004	26,796	31,862
CREDIT AGRICOLE						16,995	13,980	27,894	32,712
AXA	9,716	23,522	42,727	48,925	63,526	40,288	22,537	30,173	34,692
BASF	18,445	19,739	19,940	31,446	29,585	25,642	21,049	25,425	29,620
BAYER	23,525	24,870	26,192	34,399	40,804	26,146	14,935	16,959	18,215
BBVA	9,468	20,040	27,316	29,878	50,654	44,422	29,146	34,995	44,251
BSCH	7,977	14,658	19,837	41,226	51,477	44,871	31,185	44,775	57,102
BNP PARIBAS	6,350	10,400	15,323	41,204	41,894	44,520	34,734	45,086	47,155
CARREFOUR	19,795	18,418	24,984	62,711	46,680	41,531	30,175	31,166	25,094
DAIMLERCHRYSLER			83,741	77,133	45,354	49,261	29,903	37,697	35,712
DEUTSCHE BANK	18,133	34,336	26,570	51,445	54,990	49,352	27,287	38,228	35,525
DEUTSCHE TELEKOM	43,554	46,686	76,987	214,749	97,250	81,017	51,422	60,909	69,893
E ON	22,536	30,903	25,531	24,361	49,462	44,409	26,607	35,804	46,406
ENDESA	14,439	16,908	21,577	20,868	19,216	18,602	11,805	16,146	18,306
ENEL				50,445	50,202	38,379	30,073	32,680	44,128
ENI	32,162	41,436	44,623	43,692	54,415	56,338	60,627	59,883	73,761
FORTIS	5,001	7,388	13,089	16,449	19,294	37,643	21,551	20,687	26,444
FRANCE TELECOM		33,280	69,353	134,532	106,093	51,807	19,886	54,436	60,099
DANONE	8,005	11,964	17,971	17,171	23,937	20,484	17,785	17,686	18,217
SOCIETE GENERALE	7,835	11,942	14,084	24,018	28,003	27,068	23,853	30,637	33,093
IBERDROLA	10,168	10,864	14,386	12,405	12,036	13,181	12,036	14,127	16,859
ING GROEP CERTS.	22,174	35,629	49,090	57,943	83,164	56,435	32,162	38,120	48,371
L'OREAL	20,134	24,266	41,629	53,848	61,724	54,693	49,048	43,944	37,758
LAFARGE	4,478	5,683	8,312	12,104	9,772	13,639	9,534	11,798	12,122
LVMH	19,302	13,341	15,001	43,556	34,535	22,388	19,181	28,269	27,608
MUNCH.RUCK.	15,951	28,460	36,037	45,034	67,428	53,961	20,368	22,067	20,766
NOKIA	9,388	14,079	48,687	206,903	222,981	137,087	72,476	65,757	54,193
PHILIPS ELTN.KON	11,013	19,534	21,069	45,776	51,353	43,930	21,978	30,467	25,677
REPSOL YPF	8,979	11,720	13,649	26,243	20,779	19,998	15,383	18,875	23,392
ROYAL DUTCH PTL.	73,683	108,299	90,979	130,480	139,937	121,006	88,065	87,090	88,161
RWE	10,939	15,962	22,371	18,353	25,270	22,309	12,928	16,419	21,303
SAINT GOBAIN	9,694	11,627	10,858	16,272	14,361	14,446	9,534	13,491	15,108
SAN PAOLO IMI	3,919	7,122	21,146	18,915	24,177	16,924	8,983	14,981	15,636
SANOFI-SYNTHELABO	8,232	10,797	15,171	30,222	51,932	61,340	42,659	43,751	81,866
SIEMENS	20,272	30,595	32,233	75,537	82,802	66,341	36,060	56,570	55,585
SUEZ	4,355	12,780	25,756	31,439	38,780	34,681	17,138	15,998	20,018
TELECOM ITALIA	976	1,248	8,377	13,574	12,505	10,494	8,598	24,210	31,049
TELEFONICA	17,024	24,562	39,645	80,918	76,396	70,219	41,461	57,687	68,689
TIM	13,150	27,996	41,832	73,628	71,686	52,879	36,686	36,349	46,403
TOTAL SA	15,489	24,241	21,084	95,552	117,162	113,098	93,267	95,519	101,673
UNICREDITO ITALIANO	1,911	8,052	23,569	24,178	27,864	22,661	23,839	26,926	26,712
UNILEVER CERTS.	22,277	36,312	46,624	31,345	38,524	37,638	33,466	29,636	28,196
VIVENDI UNIVERSAL	12,019	17,172	35,152	52,843	75,710	67,022	16,749	20,648	25,189
SAP	6,564	16,686	22,144	29,585	22,379	46,079	23,786	41,937	41,386
Sum	693,379	1,049,962	1,528,882	2,485,237	2,617,458	2,179,807	1,383,459	1,665,248	1,841,058

Appendix 2

**Evolution of the shareholder value creation of the companies in the Euro Stoxx 50
(2004 € million)**

	1997		1998		1999		2000		2001		2002		2003		2004	
	CSV	Rank	CSV	Rank	CSV	Rank	CSV	Rank	CSV	Rank	CSV	Rank	CSV	Rank	CSV	Rank
ENEL							-3,782	31	-16,845	31	-11,012	17	2,725	29	13,364	1
ENI	11,858	15	-12	35	-5,434	42	12,043	7	-2,444	9	1,914	1	-2,615	43	11,855	2
TIM	24,260	3	18,988	9	44,795	7	-31,833	45	-30,892	41	-18,839	24	-3,134	45	9,891	3
E ON	11,220	18	-12,307	45	-3,741	38	9,519	9	-10,179	23	-20,660	27	9,311	8	9,524	4
TOTAL SA	12,697	13	-7,485	44	15,431	14	18,499	4	-5,948	17	-26,586	34	6,390	15	8,791	5
TELEFONICA	11,396	17	18,408	11	60,717	5	-46,617	46	-21,322	35	-42,223	42	17,073	3	8,077	6
ING GROEP CERTS.	12,297	14	15,551	12	7,305	25	29,032	1	-43,324	44	-34,116	41	4,472	23	6,938	7
TELECOM ITALIA	299	40	10,629	15	-183	32	-3,788	32	-7,781	20	-5,335	6	481	34	6,680	8
FORTIS	3,479	33	8,124	19	-1,251	33	-2,049	28	-5,392	15	-21,928	28	-1,386	42	5,350	9
BBVA	18,324	8	9,133	17	-124	31	1,443	24	-13,534	26	-22,440	29	4,793	18	5,096	10
CREDIT AGRICOLE											-5,123	5	4,668	20	4,586	11
RWE	7,043	22	-2,266	39	-7,442	44	4,601	17	-5,670	16	-12,367	20	3,453	26	4,363	12
BASF	-396	42	-1,995	38	16,471	13	-5,196	37	-7,464	19	-5,939	9	4,522	21	3,705	13
SUEZ	2,355	35	13,534	13	-5,223	41	7,457	12	-9,117	21	-23,409	30	-816	39	3,701	14
DEUTSCHE TELEKOM	-4,475	44	47,185	4	180,104	2	-196,581	49	-61,575	46	-42,620	44	6,182	17	3,594	15
GENERALI	9,420	20	19,196	8	-7,482	45	10,130	8	-22,504	37	-20,360	25	322	35	3,555	16
REPSOL YPF	3,658	32	1,907	31	9,948	20	-12,440	39	-2,799	11	-7,472	15	2,867	28	3,526	17
VIVENDI UNIVERSAL	4,962	30	18,793	10	10,312	19	-22,248	43	-19,823	33	-67,394	49	2,882	27	2,514	18
IBERDROLA	242	41	4,611	28	-4,028	39	-1,607	27	633	5	-2,116	2	1,842	31	2,267	19
ENDESA	2,307	36	8,947	18	-6,122	43	-4,558	35	-2,444	10	-9,415	16	4,433	24	1,600	20
SAINT GOBAIN	1,443	38	-2,873	40	8,618	23	-3,428	30	-539	7	-6,897	13	3,890	25	1,371	21
SOCIETE GENERALE	5,717	26	627	34	14,033	16	3,635	20	-3,662	12	-5,517	7	6,561	14	1,127	22
BNP PARIBAS	6,366	23	6,446	24	6,167	26	-2,874	29	498	6	-15,933	22	9,384	7	1,102	23
AXA	5,985	25	26,247	5	4,638	27	4,642	16	-38,627	43	-25,173	33	7,619	11	578	24
ABN AMRO HOLDING	10,488	19	-3,228	41	13,930	17	-3,953	33	-14,973	28	-6,566	12	4,501	22	509	25
AIR LIQUIDE	1,323	39	2,644	30	439	30	43	25	-1,165	8	-2,585	3	1,107	33	420	26
ALCATEL	14,308	9	-6,196	43	37,226	10	16,406	5	-73,811	47	-24,257	31	7,562	12	397	27
FRANCE TELECOM			55,309	2	97,952	3	-74,561	48	-83,346	48	-43,126	45	10,288	6	268	28
BAYER	-1,142	43	-608	36	10,971	18	6,463	13	-22,479	36	-15,358	21	1,801	32	253	29
LAFARGE	1,511	37	2,736	29	4,299	28	-4,686	36	1,906	3	-5,855	8	301	36	-195	30
DANONE	5,671	27	7,798	21	-2,363	35	7,480	11	-6,361	18	-2,959	4	-672	37	-208	31
SAN PAOLO IMI	5,224	29	7,633	22	-4,437	40	6,148	14	-11,889	25	-11,252	18	6,349	16	-400	32
ROYAL DUTCH PTL.	49,743	1	-36,787	47	53,487	6	3,686	19	-32,667	42	-44,402	46	-2,826	44	-1,372	33
AHOLD KON.	5,412	28	4,822	27	-3,624	36	2,881	22	-3,878	13	-24,731	32	-5,947	48	-1,456	34
UNICREDITO ITALIANO	7,733	21	9,547	16	-3,721	37	2,963	21	-9,476	22	-5,980	10	2,275	30	-1,468	35
LVMH	-14,882	46	775	33	44,144	8	-18,173	42	-19,889	34	-5,993	11	8,808	9	-2,505	36
UNILEVER CERTS.	20,971	5	11,937	14	-20,631	48	7,749	10	-3,895	14	-7,391	14	-5,601	47	-2,647	37
SANOFI-SYNTHELABO	3,056	34	4,823	26	2,453	29	27,056	2	6,902	1	-26,952	35	-1,292	40	-2,769	38
MUNCH.RUCK.	19,113	6	5,080	25	8,869	22	26,313	3	-24,420	38	-45,353	47	-4,059	46	-2,827	39
DEUTSCHE BANK	22,709	4	-18,933	46	28,339	11	-720	26	-14,682	27	-31,481	38	13,242	5	-2,828	40
AEGON	13,257	12	56,872	1	-12,711	46	-13,014	40	-28,846	39	-33,958	40	-1,316	41	-3,372	41
ALLIANZ	32,751	2	24,070	7	-1,866	34	13,057	6	-52,558	45	-61,943	48	4,721	19	-3,446	42
DAIMLERCHRYSLER					-20,591	47	-55,638	47	1,341	4	-27,904	36	7,541	13	-3,676	43
BSCH	11,536	16	1,143	32	8,327	24	-4,289	34	-17,163	32	-20,629	26	13,526	4	-3,777	44
SAP	18,377	7	6,468	23	9,127	21	-14,834	41	2,789	2	-32,722	39	17,650	2	-4,469	45
SIEMENS	14,189	10	-3,824	42	62,287	4	1,630	23	-30,367	40	-42,351	43	20,200	1	-4,858	46
CARREFOUR	-5,785	45	7,878	20	24,002	12	-28,929	44	-11,678	24	-16,483	23	-753	38	-7,690	47
PHILIPS ELTN.KON	13,261	11	-1,700	37	40,519	9	4,545	18	-15,483	30	-30,773	37	7,930	10	-7,823	48
L'OREAL	3,720	31	24,655	6	14,336	15	5,283	15	-15,096	29	-11,462	19	-8,980	49	-9,095	49
NOKIA	6,227	24	52,647	3	188,172	1	-11,419	38	-145,632	49	-95,127	50	-13,718	50	-15,239	50
	409,227		416,948		916,442		-334,515		-957,573		-1,128,551		178,556		42,880	

Appendix 3

Evolution of the shareholder return of the companies in the Euro Stoxx 50

	1997		1998		1999		2000		2001		2002		2003		2004	
	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
ENEL							2%	30	-19%	32	-17%	14	16%	31	48%	1
TELECOM ITALIA	28%	36	513%	1	6%	32	-11%	38	-37%	44	-32%	26	14%	33	37%	2
TIM	115%	3	51%	16	78%	9	-22%	42	-24%	36	-22%	16	0%	45	35%	3
FORTIS	50%	21	78%	6	1%	34	-1%	33	-13%	28	-41%	32	2%	43	34%	4
E ON	40%	30	-17%	46	-3%	38	37%	5	-8%	16	-32%	24	40%	13	34%	5
RWE	49%	23	0%	41	-16%	47	26%	10	-10%	17	-40%	31	32%	18	34%	6
SUEZ	42%	28	76%	8	-7%	42	25%	12	-10%	19	-50%	43	3%	42	31%	7
ENI	32%	35	10%	35	0%	35	28%	9	7%	7	13%	1	4%	39	28%	8
ING GROEP CERTS.	41%	29	37%	21	18%	27	44%	3	-31%	40	-42%	35	22%	27	27%	9
REPSOL YPF	34%	32	19%	31	55%	16	-25%	44	-2%	14	-22%	17	25%	24	26%	10
CREDIT AGRICOLE											-16%	13	39%	15	25%	11
IBERDROLA	12%	41	36%	25	-12%	46	0%	32	13%	5	-6%	3	22%	26	24%	12
BBVA	115%	4	36%	22	7%	31	14%	22	-11%	20	-32%	25	24%	25	23%	13
TELEFONICA	47%	24	54%	14	104%	7	-29%	46	-11%	25	-41%	34	47%	9	23%	14
BASF	10%	42	3%	38	62%	13	-4%	34	-11%	24	-11%	9	28%	20	23%	15
VIVENDI UNIVERSAL	34%	31	75%	9	26%	25	-21%	40	-11%	21	-74%	49	25%	23	22%	16
GENERALI	53%	17	71%	12	-7%	44	30%	8	-26%	37	-36%	29	9%	36	21%	17
SAINT GOBAIN	20%	38	-6%	42	60%	14	-7%	37	5%	8	-32%	23	46%	10	19%	18
ENDESA	19%	39	42%	18	-11%	45	-6%	35	0%	12	-34%	27	43%	11	18%	19
TOTAL SA	60%	15	-11%	44	57%	15	22%	13	4%	9	-12%	10	14%	34	17%	20
DEUTSCHE TELEKOM	5%	44	69%	13	157%	3	-54%	49	-38%	46	-34%	28	20%	28	15%	21
SOCIETE GENERALE	52%	18	13%	34	73%	11	19%	16	-1%	13	-8%	5	34%	17	12%	22
ALCATEL	87%	6	-9%	43	123%	6	34%	6	-68%	49	-78%	50	144%	1	12%	23
BNP PARIBAS	65%	14	47%	17	34%	23	5%	28	11%	6	-20%	15	34%	16	11%	24
ABN AMRO HOLDING	45%	27	3%	39	42%	19	1%	31	-22%	35	-10%	8	26%	22	11%	25
AXA	45%	26	77%	7	15%	29	15%	21	-38%	45	-43%	36	40%	14	11%	26
AIR LIQUIDE	19%	40	25%	29	9%	30	8%	26	2%	10	-8%	4	16%	32	11%	27
BAYER	8%	43	8%	36	35%	20	22%	14	-34%	42	-41%	33	19%	29	10%	28
FRANCE TELECOM			108%	4	98%	8	-29%	47	-50%	48	-60%	45	57%	5	10%	29
SAN PAOLO IMI	82%	7	73%	10	-5%	39	32%	7	-28%	38	-46%	39	74%	3	7%	30
DANONE	53%	16	51%	15	-2%	37	40%	4	-13%	27	-4%	2	4%	41	6%	31
ROYAL DUTCH PTL.	51%	19	-13%	45	47%	17	10%	24	-11%	23	-24%	18	4%	40	6%	32
LAFARGE	32%	34	41%	19	43%	18	-21%	41	24%	1	-29%	21	10%	35	6%	33
UNICREDITO ITALIANO	235%	1	81%	5	-2%	36	17%	18	-17%	31	-13%	12	17%	30	3%	34
DEUTSCHE BANK	78%	9	-21%	47	76%	10	8%	25	-10%	18	-44%	37	54%	6	2%	35
SANOFI-SYNTHELABO	32%	33	37%	20	18%	28	74%	1	19%	3	-29%	22	5%	38	1%	36
BSCH	88%	5	14%	32	34%	22	3%	29	-16%	30	-28%	20	49%	8	0%	37
SIEMENS	50%	20	3%	40	133%	4	10%	23	-19%	33	-45%	38	60%	4	0%	38
LVMH	-29%	46	14%	33	196%	2	-20%	39	-34%	43	-12%	11	51%	7	0%	39
DAIMLERCHRYSLER					-6%	41	-40%	48	13%	4	-38%	30	32%	19	-1%	40
ALLIANZ	67%	13	36%	23	6%	33	20%	15	-33%	41	-66%	48	26%	21	-1%	41
SAP	155%	2	33%	26	34%	21	-24%	43	20%	2	-48%	41	77%	2	-1%	42
UNILEVER CERTS.	67%	12	30%	28	-24%	48	26%	11	0%	11	-9%	6	-8%	47	-1%	43
MUNCH.RUCK.	79%	8	21%	30	24%	26	50%	2	-20%	34	-62%	47	-10%	49	-5%	44
AHOLD KON.	49%	22	33%	27	-6%	40	19%	17	-3%	15	-62%	46	-41%	50	-7%	45
AEGON	67%	11	159%	3	-7%	43	-7%	36	-29%	39	-58%	44	1%	44	-11%	46
L'OREAL	22%	37	73%	11	30%	24	15%	20	-11%	22	-9%	7	-9%	48	-13%	47
NOKIA	47%	25	224%	2	248%	1	6%	27	-38%	47	-47%	40	-8%	46	-14%	48
PHILIPS ELTN.KON	77%	10	5%	37	132%	5	16%	19	-13%	29	-49%	42	42%	12	-17%	49
CARREFOUR	-6%	45	36%	24	72%	12	-26%	45	-12%	26	-26%	19	5%	37	-17%	50
Average	53%		50%		43%		7%		-13%		-33%		26%		12%	
Weighted average	45%		34%		46%		0%		-19%		-35%		20%		11%	
Euro Stoxx 50	40%		35%		49%		-2%		-19%		-36%		18%		9%	
N° companies with return >0	44		40		35		32		10		1		45		38	

Appendix 4

**Volatility of the companies in the Euro Stoxx 50
(calculated at the end of the year with monthly data of the previous 12 months)**

	1999		2000		2001		2002		2003		2004	
NOKIA	51%	5	28%	28	80%	1	52%	16	35%	16	48%	1
ALCATEL 'A'	41%	7	52%	2	69%	2	147%	1	63%	5	44%	2
BAYER	27%	26	37%	12	31%	18	46%	23	53%	8	26%	3
AEGON	31%	20	36%	14	32%	17	77%	5	67%	4	23%	4
AHOLD KON.	19%	43	34%	18	16%	48	43%	25	104%	1	23%	5
ALLIANZ	31%	22	25%	35	24%	23	54%	14	83%	3	22%	6
FRANCE TELECOM	40%	9	39%	9	64%	4	138%	2	51%	9	22%	7
MUNCH.RUCK.	38%	12	26%	34	16%	47	55%	13	93%	2	20%	8
VIVENDI UNIVERSAL	32%	19	40%	8	37%	12	62%	8	35%	17	20%	9
SUEZ	20%	39	23%	41	20%	38	41%	29	57%	7	20%	10
DEUTSCHE BANK	40%	10	38%	11	40%	11	42%	26	32%	22	20%	11
SAN PAOLO IMI	23%	32	46%	4	23%	28	59%	12	27%	30	19%	12
DAIMLERCHRYSLER	38%	13	29%	25	51%	9	36%	33	31%	25	19%	13
CARREFOUR	33%	16	29%	26	18%	42	34%	34	28%	27	18%	14
DEUTSCHE TELEKOM	56%	2	45%	5	52%	8	64%	6	26%	31	18%	15
UNILEVER CERTS.	14%	48	36%	13	23%	26	23%	41	19%	45	17%	16
AXA	21%	35	22%	42	34%	14	78%	4	36%	15	17%	17
ING GROEP CERTS.	26%	28	22%	44	20%	37	54%	15	58%	6	17%	18
BSCH	17%	47	27%	31	26%	21	51%	17	31%	24	17%	19
L'OREAL	31%	21	34%	17	21%	33	19%	46	28%	28	16%	20
SAP	61%	1	63%	1	68%	3	96%	3	42%	10	16%	21
FORTIS (AMS)	19%	42	28%	29	22%	31	48%	19	37%	12	16%	22
RWE	20%	38	33%	19	19%	41	32%	35	37%	13	16%	23
TELECOM ITAL.MOBL.	53%	4	38%	10	33%	15	37%	32	22%	37	16%	24
LAFARGE	32%	17	36%	16	25%	22	24%	40	40%	11	15%	25
TELEFONICA	40%	11	31%	21	36%	13	48%	18	21%	39	15%	26
ROYAL DUTCH PTL.	35%	15	21%	46	20%	40	25%	38	19%	44	14%	27
BBV ARGENTARIA	21%	34	20%	47	31%	19	47%	20	32%	21	14%	28
SANOFI-AVENTIS	28%	24	25%	38	24%	25	15%	50	27%	29	14%	29
PHILIPS ELTN.KON	30%	23	42%	7	48%	10	59%	11	36%	14	14%	30
LVMH	48%	6	26%	33	53%	7	41%	28	26%	33	14%	31
DANONE	19%	44	27%	32	23%	30	21%	44	18%	46	13%	32
ENEL			17%	49	17%	45	21%	45	15%	49	13%	33
GENERALI	25%	30	22%	43	21%	34	40%	31	31%	23	13%	34
TELECOM ITALIA	55%	3	44%	6	57%	6	46%	21	18%	47	13%	35
REPSOL YPF	23%	33	31%	22	23%	29	25%	37	17%	48	13%	36
UNICREDITO ITALIANO	20%	41	27%	30	20%	39	22%	43	24%	36	13%	37
AIR LIQUIDE	20%	40	21%	45	17%	44	19%	47	21%	40	13%	38
ENDESA	21%	36	29%	27	12%	49	42%	27	20%	42	12%	39
BASF	32%	18	31%	23	24%	24	29%	36	28%	26	12%	40
CREDIT AGRICOLE							40%	30	20%	41	12%	41
SIEMENS	37%	14	49%	3	60%	5	61%	10	34%	18	12%	42
ABN AMRO HOLDING	26%	29	29%	24	32%	16	64%	7	26%	32	11%	43
E ON	21%	37	32%	20	17%	43	22%	42	25%	34	11%	44
ENI	18%	45	24%	40	16%	46	18%	48	20%	43	10%	45
IBERDROLA	17%	46	24%	39	20%	36	24%	39	14%	50	10%	46
TOTAL	27%	25	19%	48	23%	27	17%	49	21%	38	10%	47
BNP PARIBAS	26%	27	25%	37	22%	32	44%	24	25%	35	9%	48
SAINT GOBAIN	24%	31	36%	15	21%	35	61%	9	33%	19	9%	49
SOCIETE GENERALE	40%	8	25%	36	26%	20	46%	22	32%	20	8%	50
Average	31%		32%		31%		46%		35%		17%	
Euro Stoxx 50	19%		15%		22%		31%		21%		9%	

References

Fernández, Pablo (2002), *Valuation and Shareholder Value Creation*, Academic Press. San Diego, CA.