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The Impact of the European Union Insurance Directives on Insurance Company Stocks

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Disciplines

Finance and Financial Management

The Impact of the European Union Insurance Directives

on Insurance Company Stocks

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Abstract

This paper examines the impact of the passage of the Second and Third Life and Non-Life European Insurance Directives on insurance firms located in 14 European Union countries, Norway and Switzerland. The third directives have a wealth effect on the European insurance market while the second directives do not. The Third Life Directive resulted in a wealth increase for the European insurance market while the Third Non-Life Directive had a modest negative wealth effect. The wealth effects differ at both the country and firm level. The directives have differential impacts on firms depending on the firms' characteristics and those of the market they operated in prior to the directives. Regression results indicate the second directive impacted firms in protected markets negatively, especially those with higher debt and higher returns on assets. At the time of the third directives, insurance firms benefit, even those in previously protected markets, indicating that firms may have positioned themselves in preparation for the liberalization of the laws.

I. Introduction

Changes in the legal environment can significantly affect the value of firms. It is important for the firms involved and the government officials responsible for administering and initiating the legal changes to understand the consequences of altering the rules of the game. The European Union (EU) changed the rules for financial services firms operating across borders within Europe by creating a common market for insurance as well as for other financial industries.[1]

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[1] The new laws were part of a series of reforms transforming the financial services industry throughout the EU as well as in other industrialized countries. These include the Second Banking Co-ordination Directive that established a single passport for all banks within the EU that became effective July 1, 1994. The Capital Adequacy Directive (CAD) passed by the EU (effective January 1, 1996) further leveled the playing field among banks by setting minimum capital requirements for credit, market and interest rate risk exposures. Similarly, the Investment Service Directive, effective January 1, 1996, levels the playing field for investment in securities in the EU. Outside of the EU, legislation has been enacted by nearly all industrialized countries to liberalize banking and industry sectors. Several developing countries have also enacted similar legislation, partially as a result of agreements reached by 70 World Trade Organization members on December 12, 1997 and effective March 1, 1999 (Fifth Protocol of the General Agreement on Trade and Services).

This paper assesses the impact of changes in the rules relating to cross-border expansions on the common stock values of European insurance companies. Specifically, it analyzes the effects of the passage of the Second and Third Life and Non-life Insurance Directives. It also examines factors that may affect the movement of stock returns as a result of the directives. Several hypotheses on the effect of market and firm characteristics on changes in stock values are tested, both at the country and firm levels. Firm values might be affected by changed economic opportunities for insurance firms both within and outside their home countries. Some of the factors determining the potential impact on firms include firm financial characteristics such as firm size, firm performance and prospects, and market characteristics such as initial regulatory structure and market concentration.

The first and second directives, passed between 1973 and 1990, were intermediate steps. On June 18, 1992 the Council of European Communities passed the Third Non-Life Directive and on November 10, 1992 the Third Life Directive to create one single market for insurance services in Europe. The establishment of a so-called "single passport" provided for two major changes from the previous directives. First, insurance companies are able to offer their services through a branch office anywhere in the EU if they receive permission from the regulatory authority where their head office is based. Second, consumers in the EU are given the freedom to purchase insurance from any insurer based in the EU. Both third directives became effective July 1, 1994. The establishment of the so-called single passport for insurance activities in the EU has to be considered a major achievement, considering the differences that exist among the individual member countries in business regulation.[2] These include differences in minimum solvency standards, investment criteria, use of derivatives and reporting rules.

We find the third directives have a greater wealth effect than the second directives. The Third Life Directive resulted in a wealth increase for the European insurance market while the Third Non-Life Directive had a modest negative wealth effect. Since the wealth effects are found to differ at both the

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[2]In the United States insurance companies are regulated by the states. Even though the National Association of Insurance Commissioners provides services to state regulatory commissions such as a standardized examination system, there is no indication that the United States, with a more uniform business environment than Europe, is moving towards a common or federal regulatory system.

country and firm level, abnormal returns are regressed on hypothesized explanatory variables. Regression results indicate the second directive impacted firms in protected markets negatively, especially those with higher debt and higher returns on assets. At the time of the third directives firms benefited, even those in previously protected markets, indicating they may have positioned themselves in anticipation of liberalization of the laws.

The next section describes the institutional setting of insurance regulation in Europe. The third section reviews the relevant literature. The fourth section discusses the data. The methodology and the variables included in the regressions are discussed in section five. Specific hypotheses are attached to each of the independent variables. The empirical results are presented in section six. Concluding comments are contained in the final section.

II. **Background**

The goal of a single unified market and ultimately the creation of a united Europe was the vision behind the signing of the Treaty of Rome on March 25, 1957 that formed the European Economic Community which is now the European Union. Article 52 of the Treaty of Rome required as the first stage the implementation of the freedom and right for an establishment to set up an agency or branch in another member country. For the insurance industry, the movement toward this freedom began when the First Directive for Non-life Insurance passed on July 24, 1973 and the First Directive for Life Insurance passed on March 5, 1979. The second stage was the passage of the Second Non-Life Directive on June 22, 1988 and the Second Life Directive on November 8, 1990, fulfilling Article 59 of the Treaty of Rome requiring firms established in one member country to be able to offer the same services in other member countries. The Third Directives for Life and Non-life are the culmination of the final goals of the Treaty of Rome, the eventual creation of a single passport enabling free access to establish offices in any EU country.

In drafting the directives, members of the planning committees of the EU had to choose between two alternative philosophies. They could impose a uniform regulatory structure for all countries, resulting

3

in the offerings of similar products and coverage in each member country, or they could allow individual countries to set their own guidelines and permit non-domiciled firms to operate in their territory without any hindrance. The measures passed were a hybrid of the two frameworks. Member countries are not required to harmonize their individual standards except for some minimum guidelines. Each country has to allow branches of other member countries' firms to operate in their territory as long as the regulatory authority of the parent firm's domicile has issued authorization. The branch reports directly to the parent company regulatory authority, termed the domiciliary regulator, which is responsible for its solvency and not to the host country regulator, termed the non-domiciliary regulator. Firms are expected to follow all host member country guidelines as long as they are nondiscriminatory.

The second directives permit insurance products sold in one country to be sold in other countries, but it does not provide for the establishment of branch offices across country lines. The third directives allow for more market access in the following ways:

1. A major layer of bureaucracy is removed, the permission of the host member country or non-domiciliary regulator. As long as the firm satisfies the requirement of its own regulatory authorities, it is free to establish a branch in any of the EU countries.

2. Firms are now free to design and sell their own products without first having to disclose prices and benefits to host member countries. They are, however, required to make the pricing information available in detail to the policyholders of the host country.

3. Firms are able to use derivatives and other instruments freely as well as obtain hybrid forms of financing and issue subordinated debentures. These instruments can also be used to satisfy their capital requirements.

The appendix describes the second and third directives in greater detail.

The above changes will have different effects on insurance firms. In the case of the first change, the conflicts between domiciliary and non-domiciliary supervision have been documented by Klein (1995). A non-domiciliary regulator is more interested in the service provided to the local community and is likely to align more with the policyholders. A domiciliary regulator, on the other hand, is more

likely to align with the shareholders of the parent company. Although both are concerned with the solvency of the insurers, conflicting goals require that they coordinate their policies more closely if tensions are to be avoided. The firms most threatened are those that operate in highly regulated protected domestic markets.

The second major change, the ability to price new products without requiring approval from host member regulators, provides greater flexibility for firms planning to introduce new products in a market. The advantages are more likely to accrue to firms with the ability to open cross-border branches. Although all firms have to follow the local guidelines or laws that are imposed on all domestic firms, this provision does provide avenues for innovation. Again, this could be threatening to firms in markets protected by regulation that earned excess rents in fixed pricing regimes with no recourse for buyers to shop elsewhere for low cost substitutes.[3]

The third change, the relaxation of the use of derivatives and other hedging instruments and of the ability to use alternative financing vehicles, provides significant benefits if firms are able to make use of these instruments. The impact of this change will be based on the expected ability of firms to use these instruments. The benefits of this change are likely to accrue to firms that have the financial strength and expertise to engage in such activities.

The countries having to comply with these new directives are the 12 members of the EU beginning in 1994. However, it was recognized that the seven members of the European Free Trade Association (EFTA), Austria, Sweden, Norway, Finland, Iceland, Switzerland and Liechtenstein would join the EU to form the European Economic Area. The EEA would allow the EFTA members to participate in the single market without having to take on the responsibilities of membership in the EU. In May 1992, the countries agreed to form the EEA effective January 1, 1994. After a referendum failed

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[3] Some exceptions have been made to provide time for some countries to adjust to the new competition. For example, Denmark has retained a requirement that workers compensation, which is mandatory for all firms, be provided only by Danish firms until December 31, 1998. In Spain (for life insurance until December 31, 1995 and non-life mass risks until December 31, 1996), Portugal (for non-life mass risks until December 31, 1998 and life insurance until December 31, 1995), and Greece (until December 3, 1998), prior approval has to be obtained on policy details and technical provisions before new products can be introduced.

5

in December 1992, Switzerland opted out of the EEA. Subsequently, in 1995, three of the EFTA member countries, Austria, Sweden and Finland joined the EU.

With the EEA agreement EFTA countries were expected to participate in the single market and make provisions to provide freedom of movement in four sectors; goods, persons, services and capital. The insurance directives fall under the agreement to offer freedom of movement to provide services.[4] The EFTA countries initially have to follow the guidelines of the first and second directives but they are expected to include in their laws the requirements of the third directives as soon as feasible.

As expected, the passages of the laws were always controversial, with some member countries reluctant and others more enthusiastic. Firms that enjoyed monopoly power in insulated markets were less enthusiastic than those that were competitive and already multinational. Unlike the U.S., there are no lobbying groups hired directly by vested groups such as shareholders or policyholders. The only groups that are consulted are usually quasi-government trade organizations that may have indirect links with member firms. The process is therefore more political and decisions are made at the governmental level. This is changing throughout the EU, with lobbying groups openly advocating their constituents' positions. Howell (1998a) examines the changing nature of insurance lobbying in Europe. Howell (1998b) examines the economic and political incentives leading to the creation of a single European market in financial services, in particular the Third Life Insurance Directive. Since the third directives were the eventual culmination of a series of negotiations and compromises, passage is considered a notable achievement. Firms in one member country are now free to operate in another country as long as they receive permission from their own regulatory authorities.

The effects of both the second and third directives will differ by country depending on the differing degrees of regulation of the insurance market in each country and individual firm characteristics.

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[4] It should be noted that Austria, Finland and Sweden complied with most of the requirements by the end of 1994 while the three remaining EFTA countries passed regulations to conform with the requirements later; Iceland in July 1995, Norway in October 1995 and Liechtenstein in March 1996. The full implementation of the provisions continues to be debated even today as the Supervision Authority continues to find missing provisions and remind countries to pass laws to fulfill their obligations. For further information on the EEA, see http://secretariat.efta.int/library/legal/EEA/.

The final effect of the changes is an empirical issue. This paper provides preliminary evidence by examining the initial stock price reactions to the announcement of these changes. If markets are efficient they should be able to separate firms that benefit from those that are negatively affected by these directives.

III. Literature Review

It first must be determined whether the four events relating to the passage of the Second and Third Life and Non-Life Directives affected stock prices. Firms with cash flows expected to increase as a consequence of a directive should experience abnormal positive returns while those with decreasing cash flows should experience abnormal negative returns. Although we are unable to find a study seeking to examine the impact of the announcements of the directives on company stock returns, a paper commissioned by the EU to examine the effects of the single market initiatives on the insurance sector (European Commission, 1997a and 1997b) examines changes to market access, investment patterns, competition, premiums, market concentration and costs in the insurance industry between 1989 and 1995. The study is broad in nature and concludes that changes have been slow. Although slow, many companies have changed strategies in preparation for a truly single market. For example, not much has changed to the traditional system of distribution-tied agents and brokers, but companies have strategically redefined distribution plans in expectations of changes to the distribution system. As of 1995 market concentration had not changed significantly. Larger companies have consolidated in their own markets. When cross-border consolidation does occur, acquisitions appear to be the preferred method of gaining market share. Dickinson (1996) attributes cross-border acquisitions to firms wanting to obtain local expertise such as language, commercial practices, legal systems, etc. to service clients' needs, and to quickly build a commercially viable operation. Although the European Commission reports (1997b) prices have not been harmonized as expected, nearly half the companies have or are planning to introduce Euro products, especially in the life insurance industry.

There is little in the empirical academic literature directly relating to the European insurance directives. Hess and Trauth (1998) hypothesize effects of the directives such as declining profit margins,

lower insurance costs and product prices. They present descriptive numerical evidence on the major insurance markets consistent with several of their predictions. The empirical literature most relevant for our study examines the effects of the passage of Proposition 103 in California on the value of insurance company stocks. Just as in our study where we examine the effects of the passage of the European Insurance Directives, these studies analyze the effects of the passage of insurance legislation. In two earlier studies, Fields, Ghosh, Kidwell and Klein (1990) and Szewczyk and Varma (1990) find significantly negative abnormal returns due to passage of the proposition. Shelor and Cross (1990) with an expanded sample find a significant negative effect only for firms with a significant California exposure. In a later study, Grace, Rose and Karafiath (1995) examine the announcement of the passage of this legislation on 33 insurance and holding company stocks in the U.S. and find no abnormal returns on news of passage. Recently, Brockett, Chen, and Garven (1999) develop a new methodology that incorporates stochastic behavior of the market in order to measure the impact of the legislation. The study finds that only 4 of 22 firms had a significant negative stock price reaction, in contrast to most of the earlier studies.

IV. Data

The data for this study are obtained from several sources, with the majority being obtained from Datastream and Global Vantage. Datastream makes available daily stock price returns on firms trading on European exchanges. The returns are adjusted for dividends. The country indices, and EU market index are value-weighted and constructed by Datastream. For all four events daily returns of 210 trading days prior to the event window are required. Country index returns and 10-year government bond index returns are incorporated in the estimation of expected returns. Global Vantage provides balance sheet and income statement data for many of the firms in the sample.

The initial selection of the sample of European insurance firms yielded 165 firms from 16 countries. The firms were identified through a computer search of Datastream's database using its industrial classification of firms' primary activity which is used by the London Stock Exchange and based

on the FTSE Actuaries system. Each country's exchange was searched for firms traded around the time of each of the four events. No stock return data was available for insurance firms in Luxembourg, Iceland and Liechtenstein during the time period of the events. The final list included firms from 15 of the EEA countries[5] as well as Switzerland. We include Switzerland even though it dropped out of the EEA because of the reciprocal arrangement it has with the European Union, including offering reciprocity services for establishing branch offices for non-life business. Finally, since the immediate impact of the directive is on primary insurance firms, we exclude reinsurance firms.

A problem associated with excess returns of individual firms is the likelihood of idiosyncratic (unsystematic) risk affecting the returns during the period surrounding the event date. One way to resolve this problem is to identify any news that is firm specific in the event window. If it is newsworthy enough to affect returns, the usual procedure is to drop the firm from the sample. Unfortunately, it is difficult to isolate such firm-specific news for European firms. Unlike the U.S., the prevalence of the financial press is absent in several of the countries. Indeed the dominant financial press for business news in Europe is still the English Financial Times and the Wall Street Journal. In order to minimize the problems of confounding events we used Lexis Nexus to search for any news during the event windows for every firm in the European press and the local country press. Translators were then used to translate the press in the local country language. The data requirements, the removal of reinsurance firms and removing firms with confounding events reduced the original sample size to between 97 and 142 firms for the June 22, 1988 and June 18, 1992 directives, respectively.

For firm specific data not available in Global Vantage, we use DataStream and Bloomberg to corroborate and fill in missing data. Both also provide data on the specialization of the firm, i.e. whether it specialized in life, non-life or offers both services.[6] Market data on firms' equity, denominated in dollars to standardize the market value of equity as a measure of firm size, are also obtained from Datastream. Finally several macro-variables such as regulatory intensity, market share of foreign firms,

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[5] Luxembourg is not included because we do not have data for any insurance companies in that country.

annual growth rate of insurance premiums and gross premiums as a percentage of gross domestic product are obtained from Dickinson (1993) and the PRS Group Inc.'s International Country Risk Guide (2001). These macro-variables are available for select years and some are used for all four events.

V. Methodology and Hypotheses

The first part of the empirical analysis examines whether or not there is a wealth effect due to the directives. The wealth effect on the whole European community is tested. The wealth effects by country are also examined because we expect important differences by country. Similarly, firm level differences may be significant within countries. Hypotheses relating to wealth effects for firms, for the EU insurance industry as a whole and for individual countries are tested.

The next part of the empirical analysis tests specific hypotheses about the determinants of the wealth effects. Several macro and micro variables are selected to determine whether they can explain the differences in market reactions. For example, macro variables include regulatory intensity, market concentration and the growth of insurance spending in each country while micro variables include profitability, debt, size, and risk measures of each firm.

The methodology used to test for wealth effects is similar to that of Schipper and Thompson (1983). Since asset returns for firms in the same industry measured over a common time period will be contemporaneously correlated, the residuals will not be identically and independently distributed. This violates one of the standard event study methodology's assumptions. The model has a system of equations that are simultaneously estimated so the entire variance-covariance matrix is utilized in the estimation of abnormal returns and in the testing of hypotheses. While this methodology uses more information, the clustering of the observations in time results in lower power in the testing of hypotheses.

Let each insurer *j* have a return-generating process given by:

$$r_j = \alpha_j + \beta_{em,j} r_{em} + \beta_{cm,j} r_{cm} + \beta_{ci,j} r_{ci} + \delta_k \mu_{jk} + \varepsilon_j, \tag{1}$$

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[6] Bloomberg also provides data such as geographical distribution of business but not in sufficient quantity to be included in the analysis.

where:

r_j =   the T x 1 time-series vector of returns to security j.

r_{em} =   the T x 1 time-series vector of realized returns to the European market portfolio proxy, in our case the value-weighted Datastream European market index.[7]

r_{cm} =   the T x 1 time-series vector of realized returns to the firm's country market portfolio proxy, in our case the value-weighted Datastream country market index.

r_{ci} =   the T x 1 time-series vector of realized returns to the firm's country ten-year bond index.

α_j =   an intercept coefficient.

$\beta_{em, j}$ =   beta coefficient for security j's returns sensitivity to movements in European market returns.

$\beta_{cm, j}$ =   beta coefficient for security j's returns sensitivity to movements in the firm's country market returns.

$\beta_{ci, j}$ =   beta coefficient for security j's returns sensitivity to movements in the firm's country ten-year bond index returns.

μ_{jk} =   the K x 1 vector of event parameters measuring security j's returns sensitivity to regulatory change. These parameters represent the shift in mean excess return associated with the regulatory change.

δ_k =   a K x T matrix of regulatory change variables, with one column for each regulatory change considered. With uniform treatment of event days, each column contains ones and zeroes to identify time periods in which regulatory changes are not announced (zeroes) and time periods in which regulatory changes are announced (ones).

ε_j =   a T x 1 vector of error terms.

The use of the European market index and the individual country index is similar to a multivariate regression model, used by Cornett and Tehranian (1990) and Fenn and Cole (1994). The use of the bond index is similar to that used in Wagster (1996) since financial institutions are highly sensitive to interest rate changes.

Under the null hypothesis that the regulatory changes have no impact on the security prices of active insurers (and thus their realized rates of return), the μ_{jk} parameters are equal to zero. If the

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[7] The European market index includes firms in the countries of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom

11

unconditional return-generating process conforms to the multivariate market pricing model, the α_j parameter also equals zero under the null hypothesis. The hypotheses tested impose several cross-equation restrictions that lead to a more complicated matrix of independent variables. The test procedures depart from traditional event studies that examine average or cumulative average "residuals" or forecast errors generated from a fair return-generating model such as the market model. The procedures used make efficient use of available data and make convenient and straightforward some analyses that would be more cumbersome under a residual analysis approach. The estimation procedure follows that of Zellner's (1962) seemingly unrelated regressions for the case of identical explanatory variables described by Theil (1971, p. 309). Since the tests are joint across all *J* firms, efficient use of the data involves exploiting the cross-sectional covariances among the *J* firms through use of the estimated contemporaneous covariance matrix of residuals.

We test several hypotheses concerning the μ_{jk} parameters. The first is that the sum (across the *J* firms) of the event parameters for a particular regulatory change is equal to zero,

$$H_o(1): \sum_{j=1}^{J} \mu_{jk} = 0 \tag{2}$$

where *k* denotes a particular event date in the passage of EU insurance directives. A test of the sum of event parameters across firms is in the spirit of traditional event studies where analysis is performed on the cross-sectional sum or average residual from an unconditional return-generating process. The sum of the parameters reflects a total, sample-wide influence of the regulatory change, analogous to the portfolio- or sample-wide abnormal return computed in many event studies. It allows for testing of the hypothesis that a change is a net wealth increasing or decreasing event for European insurance providers.

The second hypothesis we test is that the individual μ_{jk} in each country sum to zero for all countries,

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during the time period of this study. Once Turkey and Poland had publicly traded equities which is after the time period of this study, these two countries were added by Datastream to the European market index.

$$H_o(2): \sum_{j=1}^{C_{i,J}} \mu_{jk} = 0 \forall C_i \tag{3}$$

where $C_{i,j}$ represents firm j in country i. This tests whether the event has a net wealth effect for the insurance industry within a country and whether or not any net wealth effects differ across countries.

The third hypothesis we test is that, for a particular regulatory change, all of the individual μ_{jk} parameters across the sample of firms are equal to zero,

$$H_o(3): \mu_{jk} = 0 \ \forall j . \tag{4}$$

This test is more likely to reject the null hypothesis of no influence than the test on the sum of parameters if the regulatory change influenced only a few of the firms or influenced some firms positively and others negatively, thus canceling each other in the summation in equation (2).

The fourth hypothesis tested is whether all of the firms have the same excess return even if it is not equal to zero,

$$H_o(4): \mu_{jk} = \mu_{jk} \forall j . \tag{5}$$

All of the tests are conveniently formulated as constraints on the values of coefficients. In the first case, the sum is constrained to be zero under the null hypothesis. In the second case, the sum of all firms within each country is constrained to be zero. In the third case, each coefficient is constrained to be zero under the null hypothesis. In the fourth case, each coefficient is constrained to be equal to each other. We test these hypotheses by calculating a chi-squared statistic for the constraints. Under the null hypothesis, and assuming normality of residuals, the statistic is distributed $\chi^2(q)$, where q is the number of constraints being tested. In the case of the first hypothesis, the number of degrees of freedom is one, since only one constraint, governing the sum of coefficients, is being tested. In the case of the second hypothesis there are 16 degrees of freedom, one for each country (except for the Non-Life Second Directive and the longest event window for the third directives where there are 15 countries). For the third and fourth hypotheses, there are J degrees of freedom, one for each coefficient tested.

13

To determine the robustness of the results, the abnormal returns of three event windows are used, [-1,0], [-7,0], and [-15,0]. Becher (2000) shows that expanding the window can reduce the attenuation bias resulting from leakages of information prior to the formal announcements. If the results are consistent across all three measures, it increases the validity of the results.[8]

The significance of the variables is also affected by the time frame of the study. The period marks the beginning of the liberalization of financial markets in Europe when the Big Bang of London eliminated fixed commissions in securities trading in 1986. This was followed by the signing of the Maastricht agreement in 1989 that paved the way for the formation of a single currency, signaling a new era in financial deregulation. Thereafter, a number of proposals were introduced to reform the financial services industry that culminated in several directives, including those in the insurance business. Thus, the post-1990 period marks a period when investors were more likely to view changes in cross-border rules with more credibility. Consequently, we expect market responses to be more significant for the Third Life and Non-Life Directives.

On average, we expect a larger effect from the non-life directives than from the life directives because the more standardized nature of non-life insurance makes it easier for companies to expand across borders. In addition, for the second and third directives the non-life directives were approved before the life directives. Consequently, there is reason to expect that the uncertainty related to the passage of the life directives may have been reduced substantially. As a result, stock price reactions for anticipated events might be insignificant. Finally, we expect a larger effect from the third directives than from the second directives because of the broader impact expected from the third directives.

The second stage of the analysis identifies factors to explain any differential impact across firms of the regulatory changes by regressing the estimated abnormal returns against firm-specific and market-specific factors. There are two ways to examine this relationship. One is to isolate only those firms whose abnormal returns are statistically significant and to regress them against a set of independent variables.

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[8]See also Brockett, Chen, and Garven (1999) for an alternative test that allows the data to determine the appropriate length of the event window.

14

The second is to regress all the estimated abnormal returns, statistically significant or not, against the independent factors. By and large, the literature has used the second method. This method assumes that the estimated signs of the abnormal returns, irrespective of their statistical significance, represent deviations of a fitted line that represents the true population fit.

The estimated regression is as follows:

μ_{jk} = f(RISK, ROA, DEBT, SIZE, MSHARE, REG, REG-E, REG-F, CR5, MSF, GROWTH, SPEND, SPEC) (6)

The variables, defined below, are described in detail subsequently.

μ_{jk}	=	Average abnormal return for firm j in event window k.
RISK	=	$\beta_{C,A} / \beta_{C,B}$ where $\beta_{C,A}$ is the beta estimated after the event and $\beta_{C,B}$ is the pre-event beta. Both betas are estimated using 200 days post and prior to the event, respectively, using the local country market index.
ROA	=	Year-end net income divided by year-end total assets.
DEBT	=	Year-end total debt divided by year-end total assets.
SIZE	=	Market value of equity in U.S. dollars ten days prior to the event.
MSHARE	=	SIZE divided by the market capitalization of publicly traded insurance firms in the country.
REG	=	Regulatory intensity indicated by a dummy variable equal to one if the firm is classified as being in a country with extensive regulations and zero otherwise.
REG-E	=	Proxy for barriers to entry measured by an economic risk index of the country for the year, where zero is very high risk and 50 is very low risk.
REG-F	=	Proxy for barriers to entry measured by a financial risk index of the country for the year, where zero is very high risk and 50 is very low risk.
CR5	=	Five-firm concentration ratio, measured as the sum of the gross life or non-life insurance premiums of the five largest firms as a percentage of total gross life or non-life premiums in the local country in 1992, respectively.
MSF	=	Market share held by life and non-life foreign firms in a country in 1990.
GROWTH	=	Annual real growth of life and non-life insurance spending between 1985-1990, adjusted for inflation, in each country.
SPEND	=	Life and non-life gross insurance premiums in each country divided by gross domestic

15

product.

SPEC   =   Dummy variable set to one if firms specialize in life or non-life, 0 for firms offering both services.

Many of the above variables have been used in previous studies. The expected relationships are specified next. All data are obtained from Datastream unless otherwise indicated.

RISK (Change in Systematic Risk):

In this paper we use a market based measure to consider a change in risk: a ratio of the estimated post- and pre-beta of the stock returns ($\beta_{C,A} / \beta_{C,B}$) associated with the country's equity market index. This study uses 200 days of returns prior to and after the event. $\beta_{C,A}$ represents the systematic risk of the firm after the event date while $\beta_{C,B}$ represents the systematic risk prior to the event. An increase in the beta of the firm's equity would indicate an increase in the uncertainty of the firm's future cash flows and should be associated with a lower abnormal return. $\beta_{C,A} / \beta_{C,B}$ is predicted to be inversely related to the abnormal return. A similar use of betas to test for a shift in risk is used in Campbell, Ederington, and Vankrudre (1991).

We estimate betas using the European market index and individual country market indices for each of the four events. For each of the four events the mean and median of the betas using the European market index are insignificant across the entire sample. However, the market betas using the individual country indices results in significant means and medians at the 1% level for all four events. For example, for the Second Non-Life Directive the mean and median are 0.759 and 0.740, respectively. The standard deviation is 0.539, the minimum is –0.768 and the maximum is 1.902. The mean values for each country range from a high of 1.185 for Italy to a low of –0.054 for France. At the country level the mean is significant for 8 of the 13 countries. A stronger pattern exists for the other events, with 10 of 16 means of country level market betas being significant for the Second Life Directive and 11 of 16 means of country level market betas for both third directives. Due to the insignificance of the betas using the European

market index and the significance of the country level betas, we use the country level betas in the estimation of a change in systematic risk, $\beta_{C,A} / \beta_{C,B}$.

ROA (Return on Assets):

Return on assets (ROA) is used as a proxy for profitability where ROA is measured as year-end net income over year-end total assets. The abnormal return should be positively related to those factors that indicate higher cash flows due to the directive or indicate a more favorable environment for taking advantage of opportunities arising from the directive. More profitable firms should be able to prosper with more open markets if profitability is due to being an effective competitor. However, it is also likely that firms that operate in highly regulated protected markets stand to lose their monopolistic or oligopolistic rents if the directives introduce competition into the market. Hess and Trauth (1998) find declining profit margins in the major European insurance markets as the Single European Market developed subsequent to the adoption of the third directives, particularly in highly regulated markets. If profitability prior to adoption of the directives is due to regulatory protection the coefficient is predicted to be negative.[9]

DEBT (Debt Ratio):

The debt ratio is defined as year-end total debt over year-end total assets. The sign of the expected coefficient can be either positive or negative. If debt serves to limit the ability of managerial discretion and discipline managers to act in the interest of shareholders as suggested in agency theory (Jensen (1986) and Harris and Raviv (1988)), the expected sign is positive. Several empirical studies on managerial entrenchment, corporate takeovers and stock issues for domestic markets have supported the positive benefits of debt (for example, Berger et al. (1997)). Alternatively, higher debt may increase agency conflicts between debtholders and shareholders by increasing incentives to take on riskier projects to transfer wealth from debtholders to shareholders (Myers and Majluf (1984)). In both cases the predicted sign is positive. However, higher debt ratios increase the probability of bankruptcy and may

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[9]See Berger (1995) for studies in banking to distinguish between market power and market efficiency in concentrated markets.

17

also be indicative of a weaker financial structure for firms. Low capital may therefore inhibit a firm from expanding market share, and a negative coefficient is expected. Although we can generalize the hypothesis to European firms, the theoretical underpinnings and empirical research are still not fully resolved for foreign capital structures, as shown by Rajan and Zingales (1995) and Booth et al. (2001).

SIZE (Market Value of Firm):

The size of the firm is measured as the market value of the firm's equity in U.S. dollars ten days prior to the event. Larger firms are hypothesized to benefit the most from the passage of the directives because they are likely to have the necessary resources to diversify abroad. These include access to cheaper sources of funds in the Euro-currency markets and the financial capacity to engage in cross-border acquisitions. Since some of the insurance business is deemed to be a local business, especially life insurance, a physical presence in the market is also expected to be very important. Only larger firms are capable of establishing their presence abroad in such markets, either by takeovers of existing businesses in foreign markets or starting de novo. An internal market study by the European Commission has already found evidence that larger firms prefer acquisitions as the preferred means of entry (European Commission, 1997a). Alternatively, larger firms may have already expanded into foreign markets. The removal of barriers to entry may open these firms up to greater competition in which case a negative coefficient is predicted. Another reason for a negative coefficient is if the market value of the firm increased as a result of operating in a highly regulated and protected market and the removal of restrictions will increase competition.

MSHARE (Market Share):

The relative size of the firm is measured as market share, defined as SIZE divided by the total market capitalization of the stock market of the country, denominated in U.S. dollars ten days prior to the event. Firms that are relatively large in their countries may benefit more from passage of the various directives because they are the local country industry leader. Thus, they may be capable of more aggressive expansion across borders. Again, as with the SIZE variable if market share is gained through regulatory protection, the coefficient could be negative.

REG (Regulatory Intensity):

The positive expected relation between ROA, MSHARE and abnormal returns hypothesized earlier may not hold if the firms are generating the excess rents (profits) because of some monopolistic power. The passage of the directives is expected to level the playing field among firms and reduce any monopolistic power. Regulatory constraints can lead to monopoly power, especially by preventing free entry of new firms.[10] Consequently, a regulatory intensity (REG) term for each country is included in the equation. We divide the sample into firms in heavily regulated countries and those in less heavily regulated countries by introducing a regulatory dummy variable as an independent variable.

A measure of regulatory intensity for the 12 different countries is obtained from Dickinson (1993) who uses the measures from Farny (1989). The estimates of the REG variables were derived in a survey asking insurance managers on several regulatory factors for each of the 12 EU countries. The final figures are as follows with the higher numbers representing more stringent regulations: Germany 2.35, France 2.15, Italy 2.0, Portugal 1.96, Greece 1.92, Spain 1.75, Ireland 1.75, Denmark 1.66, Luxembourg 1.48, Belgium 1.45, UK 1.40 and Netherlands 1.28. A cutoff point of 1.5 is used to separate the firms that are considered heavily regulated. As an example, German, French and Italian firms were put in the heavily regulated category (REG=1) while firms in the Netherlands, UK and Belgium were assigned to the less regulated category (REG=0). For the remaining four countries, based on conversations with several academics from Europe, Austria, Finland and Norway of the EFTA group of countries (in 1989) are added to the heavily regulated group while Switzerland is put in the less regulated category. Firms in more highly regulated markets should have more to lose from greater entry due to eased regulation. Thus, the expected coefficient is negative. The same ranking is applied for all four events due to a lack of data availability.

REG-E (Economic Risk) and REG-F (Financial Risk)

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[10] See Dickinson (1997) for a more detailed explanation of the unique monopolistic nature of insurance firms in the European Union and their changes in recent years.

Regulatory intensity provides a measure of ease of entry for companies to expand into other countries. Local regulatory and political structure in a country can effectively restrict firms from entering a country. Equally important variables in barring entry are the economic and financial risk associated with each country.

We use two variables as measures of economic and financial risks for proxies of barriers to entry for each country in the sample. They serve as complementary variables to the regulatory intensity variable REG. The data are obtained from The Political Risk Services Group, Inc. (PRS) that estimates historical measures of economic and financial risk of countries.

PRS defines the variables as a "means of assessing a country's current economic strengths and weaknesses. In general, where strengths outweigh weaknesses, a country will show low risk and where weaknesses outweigh strengths, the economic risk will be high."

The ratios used for estimating economic risk include gross domestic product (GDP) per head of the population, real annual GDP growth, annual inflation rate, budget balance as a percentage of GDP, and current account balance as a percentage of GDP. The ratios used for estimating financial risk include foreign debt as a percentage of GDP, foreign debt service as a percentage of exports of goods and services (XGS), current account as a percentage of XGS, net liquidity as months of import cover, and exchange rate stability. For both variables, a rating of zero represents very high risk and 50 very low risk. Insurance companies in countries with low economic and financial risks could benefit more from expansion possibilities assuming that the financial and economic environment in which they have developed has resulted in stronger and more competitive firms. In this case a positive coefficient would be predicted. However, when new and low risk markets open up, firms in riskier markets may find entering and competing in the now open and safer markets attractive in which case a negative coefficient is expected.

CR5 (Industry Concentration):

Another measure of the monopoly power enjoyed by firms in a country is given by the concentration measure CR5, which represents the percentage share of the local market controlled by the five largest companies in the country. The CR5 measures for life and non-life firms are available in

Comite Europeen des Assurances (1996) for 1992, measured by premium income. Once again, due to a lack of data availability, the same figure is used for all four events. The top three countries with the highest concentration in the non-life industry are Sweden (89%), Finland (82.7%) and Norway (82%) while the lowest three are Spain (18.3%), Denmark (23.5%) and the United Kingdom (28.6%). Similarly, the top three countries with the highest concentration in the life industry are Finland (98.7%), Norway (84.1%) and Switzerland (71.1%) while the lowest three are the United Kingdom (29.2%), Denmark (31.5%) and Spain (45.6%).

The traditional hypothesis states that firms in countries with the higher concentration should respond negatively to the announcement of the new directives because the firms may be vulnerable to new competition, especially from larger firms in other countries. On the other hand, firms in more concentrated markets may have become leading firms because of greater efficiency and thus may be in a better position to expand overseas as market entry is liberalized. Thus, the coefficient could be either positive or negative.

MSF (Market Share of Foreign Firms):

Another market variable available in Dickinson (1993) is the market share held by foreign companies (MSF) for life and non-life firms in 1990. A country that allows foreign competition is more likely to operate in a competitive environment. Consequently, firms in these countries are more likely to compete effectively abroad. The two countries with high entry of foreign firms in the life insurance industry are Ireland and Portugal and the lowest two, Denmark and France. The two countries with the highest entry of foreign firms in the non-life insurance industry are Ireland and Belgium and the lowest is France.

The passage of the directive should provide firms with a higher MSF with a competitive edge. Therefore, a positive relation is predicted between MSF and abnormal returns. For the passage of the Second and Third Non-Life Directives (June 22, 1998 and June 18, 1992) only the market share of non-life foreign firms is used in the regressions. Similarly, only the market share of life foreign firms is used for the passage of the Second and Third Life Directives (November 8, 1990 and November 10, 1992).

21

GROWTH (Annual Real Growth in Insurance Spending):

The annual real growth measures the growth in spending on insurance premiums, adjusted for inflation. Countries that experience high growth have greater potential for expansion because it indicates the presence of greater discretionary income. It also suggests that firms in these markets are more likely to be mature and have the ability and sophistication to offer insurance products and services. The ability of firms from these countries to expand in other markets is higher. Although they also serve as attractive markets for entry, it is more than likely that the existing firms will engage in further expansion. Therefore, a positive coefficient is expected for this variable.

The annual growth rate over the period 1985-1990 is used in the regressions. The countries with the highest annual growth rate in non-life premiums are Spain (12.3%) and Ireland (9.9%) and in life premiums are Spain (51.2%) and Portugal (33.4%). The countries with the lowest annual growth rate in non-life premiums are Greece (1.9%) and France (2.4%) and in life premiums the lowest growth rate countries are Belgium (5.7%) and Norway (6.6%). The data, adjusted for inflation are obtained from Dickinson (1993).

SPEND (Gross Premium Proportion):

Another variable on insurance spending is taken from Dickinson (1993) and is expressed as the gross premium as a percentage of GDP, for all 16 countries in 1990. In the non-life sector, the countries with the two highest gross premiums are the Netherlands (3.9%) and Ireland (3.83%) and the lowest two are Italy (1.95%) and Finland (2.12%). In the life sector, the countries with the two highest gross premiums are the United Kingdom (6.24%) and Ireland (5.62%) and the lowest two are Italy and Greece (both at 0.66%).

The measure provides an estimate of the likely growth of the market available to all firms in the EU. The larger the percentage of insurance premiums, the more saturated the market and the greater the need to establish offices abroad. Also, the countries with higher levels of insurance are likely to have more sophisticated firms that are better able to expand abroad. On the other hand, less saturated markets

22

may be more desirable for entry. Consequently, the hypothesis predicts a positive or a negative coefficient.

SPEC (Specialization):

A dummy variable indicates whether the firms offer only non-life insurance for the non-life directives or life for the life directives. The majority of firms offer both services. The data for defining whether firms are offering only life or non-life are obtained from two sources, Datastream and Bloomberg. Some of the categories of services are not easily classified. For example, financial services including financial guarantees are included in the non-life section. Health is included in the life category.

The hypothesized relation between abnormal returns and specialization is not clear. The passage of the Non-Life Insurance Directives should only benefit those non-life firms that could use the new laws to their advantage. The reactions of the life firms towards the passage of the Non-Life Insurance Directives are mixed. From a capital allocation perspective, more resources might be devoted by companies toward their non-life insurance business. However, it is also clear that for both the second and third directives, the passage of the non-life virtually assured the passages of the life directives.

VI. Empirical Results

The first question addresses whether or not there are any wealth effects associated with the passage of the directives. The second question addresses whether the wealth effects, if any, are more pronounced at the country or firm level in order to determine the appropriate economic unit to use in the regression analyses. Two hypotheses are tested to answer the first question. The first hypothesis, $H_0(1)$, tests whether the sum of the abnormal returns across all firms sum to zero. The second hypothesis, $H_0(2)$, tests whether the sum of the abnormal returns of all firms in each country sum to zero. Two additional hypotheses are tested to answer the second question of whether wealth effects should be measured at the country or firm level for the regressions. The third hypothesis, $H_0(3)$, tests whether

every firm's abnormal return equals zero. The fourth hypothesis, $H_0(4)$, tests whether all firms have abnormal returns equal to every other firm.

Since our tests are based on a chi-square statistic, which assumes the normality of residuals, we test for the normality of the residuals. For each of the four events we test for normality for each of the three windows using a Shapiro-Wilk test and a Kolmogorov-Smirnov test. For the first test we find the test-statistic (W) ranging from 0.52 to 0.94, but always less than one. For the second test statistic (D) we find a range of 0.12 to 0.40, but always greater than zero. Statistically there is no evidence of non-normality.

As reported in Table 1, Panels A and B, the average abnormal returns for the two-day return periods are negative for each of the four directives. Under hypothesis one, the sum of the average abnormal returns are not statistically significantly different from zero. For the non-life directives in Panel A the sum of the average abnormal returns are negative for the longer windows and significant at the 10% level in the case of the third directive in the [-7, 0] window, indicating some wealth reduction to the European insurance industry. In contrast, in the case of the longest window for the Third Life Directive, [-15,0], a significant average abnormal return at the 1% level of 0.2154 provides evidence the Third Life Directive had a wealth increasing effect on the European insurance industry.

[Insert Table 1]

The second hypothesis tests whether the sum of average abnormal returns at the country level is different across countries. The Non-Life Second Directive is not significant indicating that the sum of firm returns within individual countries are not different across countries. However, for the Third Non-Life Directive, the two-day average abnormal return of -0.1486 is significant at the 1% level indicating a wealth effect differing across countries. For the Second Life Directive one test is significant at the 10% level and for the Third Life Directive the test is significant at the 1% level for the [-15,0] window. Thus, insurance industries in different countries appear to be impacted differently by the Third Non-Life and Life Directives and the Second Life Directive. Overall the impact of the non-life and life directives have

24

significantly negative and positive wealth effects, respectively. This justifies looking at differences at the country level. These results are presented in Tables 2 and 3.

[Insert Tables 2 and 3]

Table 2 reports the results of testing for a stock response by individual country to the Second and Third Non-Life Directives. The results are presented in Panels A and B, respectively. In each panel, the country, the number of firms, and the average abnormal returns for the three event windows are reported in the first five columns. The following nine columns provide the p-values for the three hypotheses tested for each of the three event windows. Similarly, Table 3 reports the test results for the stock response by individual country to the Second and Third Life Directives with the results reported in Panels A and B, respectively.

In Panel A of Table 2 very few of the entries are statistically significant. The Second Non-Life Directive in Panel A has only two significant results to testing that the sum of the countries' insurance firms' returns sum to zero. Belgium has a significant negative average abnormal return of -0.5977 with a p-value of 0.0282 for the window of [-15,0]. Norway also has a significant negative average abnormal return at the 10% level of -1.6407 for the window of [-7,0]. Thus, by country, the Second Non-Life Directive does not seem to have significantly affected wealth. In contrast, the Third Non-Life Directive appears to have a significant impact on firms in five countries. From Panel B of Table 2 (columns 3-5) we find that three countries, Spain, Italy and the Netherlands, have significant positive returns while two countries, Denmark and France, have significant negative returns. The significance levels range from 10% for France's negative return of -0.3203 in the [-7,0] window to the 1% level for Denmark's [-1,0] window with a return of -1.4930.

The stock response by country to the life directives is presented in Table 3. In Panel A for the Second Life Directive, Belgium, Britain, Ireland, and Norway have statistically significant positive abnormal returns at the 10% to 5% level of significance in at least one event window. Finland has a statistically significant negative abnormal return of -1.6631 at the 5% level for the eight-day window. In

Panel B we find significant test results for Germany, Denmark, Finland, and Sweden for the passage of the Third Life Directive. Further, all the significant returns are positive.

We also tested whether the wealth effects in the two non-EU countries, Norway and Switzerland, were different from the effects in the EU countries. Our tests indicate there is no statistically significant difference in wealth effects between these two countries and the other countries.

In sum, at the country level, the Second Non-Life Directive seems to have little impact, while the Third Non-Life Directive has a greater impact with the returns appearing to be positive and negative for different countries indicating a wealth-redistribution across countries. In contrast, for the Second and Third Life Directives all significant abnormal returns except one (Finland on passage of the Second Directive) are positive. Considering this in conjunction with the significant positive abnormal returns at the 1% level for the tests of the sum of returns by country being equal presented in Table 1, Panel B, suggests that these countries' industries' benefited by the passage of the life directives but not at the expense of other countries' insurance industries.

While countries have significantly different wealth affects resulting from some of the directives, it has not yet been established that the differences in returns are most pronounced at the firm level. In Panel A of Table 1 the third and fourth hypotheses are tested for the Second and Third Non-Life Directives. The third hypothesis is that all firms' average abnormal returns are equal to zero and the fourth hypothesis is that all firms' average abnormal returns are equal to each other. For the Second Non-Life Directive both hypotheses are rejected at the 1% level for the [-7,0] event window. For the Third Non-Life Directive, the null hypotheses are rejected at the 1% significance level for all three windows. Examining Table 2, Panels A and B, there is evidence of significant differences across firms within countries. This is particularly true for Denmark and Britain in the case of the Third Non-Life Directive where a significant difference in returns at the 1% level exists for all three windows under both hypotheses. In Table 1, Panel B, tests of the third hypothesis indicate that for the Second Life Directive the average abnormal returns of firms are not all equal to zero at the 1% level for all three windows. Moreover, the test for the returns of firms being equal to one another is rejected at the 1% level for the

three event windows. For the Third Life Directive the hypotheses that all of the firms' returns are equal to zero and that all firms have the same average abnormal return is rejected for all three windows at the 1% level indicating significant differences across firms. Examining Table 3, Panels A and B, the hypotheses that firms' abnormal returns are equal to zero or that they are all equal to one another is rejected across various windows for various countries. The number of significant test results under the life directives, and particularly the Third Life Directive versus the Non-Life Directives lead to three conclusions. First, there are differences in returns at the firm level. Second, the third directives have a greater impact than the second directives, as predicted. This indicates the passport to open branch offices in member countries is more important than the ability to offer services in member countries. Third, the life directives had more impact than the non-life directives.

To identify factors that may determine the differences in the wealth effects across firms, regressions following equation (6) are run. The results are presented in Tables 4, 5 and 6 for the [-1,0], [-7,0] and [-15,0] event windows, respectively. Panel A presents the regression results for the two Second Directives and Panel B for the two Third Directives. Four models using different variables are tested for each event. The first equation includes all variables specified in equation (6). The variance inflation factor (VIF) scores for the first equation for the Second Non-Life Directive for all windows are extremely high suggesting high multicollinearity. Pearson's tests confirm significant correlation coefficients between several of the independent variables. Correlation coefficients exceeding 0.40 that are statistically significant are reported in footnotes b, c, d and e. The remaining three regressions omit the highly correlated variables to minimize multicollinearity. The second and third regressions exclude a combination of micro- and macro-variables. The fourth regression excludes all micro variables and some correlated macro variables. An exception is the inclusion of the specialization variable (SPEC) in all the models. Note that exclusion of the micro variables in the fourth regression permits a substantial increase in sample size consistent with the availability of data at the macro level relative to the firm-specific data. The results are considered to be robust if the coefficients are of the same sign and statistically significant in two or more regressions.

27

[Insert Tables 4, 5 and 6]

Panel A of Table 4 shows four variables are significant in explaining the abnormal returns for the passage of the Second Non-Life Directive on June 18, 1988. RISK is consistently positive and significant at the 5% level in all three regressions indicating firms with higher abnormal returns experienced an increase in their systematic risk. ROA is significantly negative at the 10% level for one of the regressions, indicating that firms with larger returns are affected negatively by the passage of the law. This result is consistent with expectations if these firms operate in regulated markets. The significantly negative REG supports the assertion that the more highly regulated and protected the markets, the lower the returns. The positive REG-F, significant at the 5% level, is also consistent with expectations that firms operating in low financial risk environments are affected positively by the passage of the law.

Regression results for the [-7,0] and [-15,0] event day windows are presented in Panels A in Tables 5 and 6. The RISK coefficient is significantly positive at the 10% level and the ROA negative at the 5% level in Table 5 consistent with the results in Table 4. ROA is again significantly negative at the 5% level in Table 6. In addition, the industry concentration, CR5, is significantly negative at the 5% level in one of the regressions in Table 6 supporting the hypothesis that firms in protected markets experience negative abnormal returns. The SPEC variable is negative and significant at the 10% level for one regression, indicating that specialized firms are more negatively affected than are diversified firms. Overall, the Second Non-Life Directive appears to have impacted negatively on firms operating in protected environments experiencing higher volatility in the post-event period.

The regression results for the Second Life Directive passed on November 8, 1990 have fewer significant coefficients. The passage of the Non-Life Directive increased the probability of the passage of the Life Directive. Only the REG coefficient in Table 4 is significant at the 5% level and consistent with expectations. The more regulated the market, the more protected the industry is likely to be and thus vulnerable to competition when the markets open. REG-F in Table 5 is significantly negative at the 5% level consistent with the lower the risk of the market the more likely it will be attractive to foreign competitors. Tables 5 and 6 using wider windows show significance for a few more variables. DEBT for

28

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the [-15,0] window is significantly negative at the 10% level for three regressions. This suggests that more highly leveraged firms are less likely to benefit from the passage of the law consistent with a weaker financial structure inhibiting a firm from expanding. GROWTH has a significant negative coefficient at the 5% level in two regressions in Table 5 and one regression in Table 6 at the 10% level. This is consistent with an expectation that firms in countries with high growth in insurance spending will face severe competition resulting in a potential for market share to be eroded. SPEND is significantly positive at the 5% level in Table 6 consistent with firms in more saturated markets expected to benefit by having new markets to compete in.

One variable that is significant and has different signs is that of MSF (market share of foreign firms). It is negative for the non-life (Table 6) but positive for the life directive (Table 5). One explanation for the difference is the localized nature of the life insurance business. If foreign life insurance firms have already established a presence it is more than likely they have penetrated the local markets, exposing local firms to competition. Local firms should then expect to benefit from the passage of the directive. On the other hand, non-life insurance firms may benefit less than life insurance firms because of the standardized nature of the products.

Overall, we conclude from Panel A of all three tables that the passage of the Second Non-Life and Life Directives affected firms negatively in concentrated or protected markets (CR5) and in more mature countries (GROWTH). The firms that were affected most negatively were those with high DEBT and a high ROA. With the exception of MSF, the factors explaining the abnormal returns are similar for both non-life and life firms.

Panel B of all three tables indicates that some reactions from the third directives are opposite to those of the second directives. Table 4 shows that both DEBT and GROWTH are positive and significant at the 1% and 5% level, respectively, in three regressions for the Third Non-Life Directive, passed on June 18, 1992. They are also significant in three regressions in Table 5. Thus, firms with high DEBT or possibly more aggressive firms are expected to benefit from the passage of the law. Contrary to predictions, firms in countries with high growth rates in insurance spending (GROWTH) are expected to

benefit. The positive coefficient for REG in Table 4, significant at the 5% level, indicates firms in protected markets are expected to benefit from the passage, unlike the second directive. The REG variable is the same for all four events and was determined in the late 1980s. Thus, firms in markets considered highly regulated in the late 1980s may have positioned themselves to anticipate these changes unlike when the Second Non-Life Directive was passed. The negative coefficient for REG-F in Table 5, significant at the 10% level, indicates that firms in less risky markets are expected to be harmed by new competition in their domestic market. SPEND is significantly negative at the 5% level in one regression in Table 4. Thus, contrary to predictions, the more saturated the insurance market the worse the firm is expected to do. Interestingly, MSF is now significantly positive in one regression in Table 4. The change in signs from negative to positive under the Second and Third Non-Life Directives suggests that firms in these markets may have become more competitive in those markets with a higher foreign presence.

The results for the third life directives, passed on November 10, 1992, also differ from the second life directives. Although Panel B from Table 4 shows only one significant coefficient, Panels B of Tables 5 and 6 using wider windows, show several significant coefficients for the Third Life Directive. REG and CR5 coefficients are both significantly positive confirming that firms in previously protected or concentrated markets are expected to benefit. GROWTH is significantly positive at the 10% level in one regression in Table 6 for the life directive in contrast to the negative coefficient observed for the second directive. SPEND is significantly positive in one regression in Table 5 and two regressions in Table 6. The significance is either 5% or 1%. The positive coefficients for the life directive may reflect the discretionary nature of expenditures on life insurance unlike the required purchase of non-life insurance.

The results of the above factors show similar responses for both the third non-life and life events. However, the third life directive has a few more significant coefficients. These include a negative MSF coefficient in contrast to the positive MSF coefficient for the non-life directive. This result is puzzling since they are opposite to those found in the second directives. It is likely that foreign firms now pose a genuine threat to local firms both at home and in the host markets. SIZE is negative and significant at the 5% level in Table 6. It may be that larger firms are already established in foreign markets, for example

through acquisitions, and that the opening of the borders allows smaller firms to now become multinational competitors.

Overall, the results indicate the passage of the third directives had different effects than those of the second directives. First, the second directives impacted firms negatively in protected markets as defined in the late 1980s, but positively with the passage of the third directives. Second, non-life firms with higher DEBT and ROA were negatively affected by the second directives but positively affected by the third directives. Third, life insurance firms in countries experiencing high growth rates in insurance spending reacted negatively to the second directive but positively to the third directive. These results indicate that firms may have been repositioning themselves to take advantage of the third directives that eliminated the last barriers for entry and cross-border expansions.

A caveat is in order. As in most international studies, obtaining clean results is problematic. In addition, firm specific information is not always available for all the firms. In spite of this, there are quite a few significant coefficients in the regressions to provide some evidence of the explanatory importance of some of the factors.

VII. Conclusion

This paper examines the impact of the passage of the Second and Third Life and Non-Life Directives on the stock returns of insurance firms located in fourteen European Union countries, Norway and Switzerland. The second directives allowed firms to offer the same services in all member countries while the third directives went a step further and created a single passport allowing firms to establish branches in other member countries with only the permission of their home regulators. Since many factors can affect stock prices, and even though we went to great effort to eliminate those firms that had confounding events, there are undoubtedly non-measured factors affecting the stock prices of the insurance firms. Despite this noise we are able to obtain some distinct conclusions. We find evidence that insurance companies' stock returns differ by country and by firm. We find that the non-life directives lead to some wealth reduction in the EU insurance industry as well as redistribution across countries and

firms. The life directives lead to wealth enhancement of the European insurance industry. The wealth effects of the third directives are greater than that of the second directives and the life greater than the non-life directives.

Since we find strong evidence that the wealth effects differ across firms, we conduct tests to identify the factors affecting stock returns due to passage of the directives. Though some of the results are mixed, we generally find that firms operating in concentrated markets with more regulation, with higher leverage ratios, and in markets with higher growth have negative abnormal returns for the second directives. However, by the time of the third directives, firms in protected markets, with higher leverage and operating in markets with higher growth experienced positive abnormal returns. They provide evidence that the firms have managed to reposition themselves for the expected change in regulation.

Examining the expected effects of the passage of the insurance directives can help us understand and predict the future of the insurance industry in Europe as restrictions are removed. It may also provide hints as to what is likely to happen in other related industries such as banking. The framework of analysis developed here can be used to study the liberalization of other financial industries in Europe.

Although the focus of this paper is only on the impact of the passage of the directives, it is appropriate to comment on the impact of the directives since nearly a decade has elapsed since the passage of the last directive. The initial few years did not result in many cross-border mergers or expansions as expected by the market. Several reasons have been given including the recession, the uncertainty of the application of the directives, cultural bias against cross-border mergers and the localized nature of the insurance business, especially life insurance. These may be valid reasons because the same phenomenon has been observed in banking and investments, where several directives have been passed to liberalize their markets. However, during the late 1990s the cross-border expansions and mergers increased and the directives appear have had an impact. Some examples of mergers include Royal and Sun Insurance in the U.K. (1996), Zurich Insurance Company (Swiss) and of U.K.'s B.A.T. Industries (1998), Winterhur of Switzerland with Germany's Neuchatel (1997) and Netherland's Eureko

32

B.V. with Banco Comercial Portugues (2000). Further research could examine the relationship of these mergers to the regulatory changes in the European Union.[11]

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[11] See Dickinson (1996) for some early predictions on cross-borders mergers in response to the single market regulations.

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Table 1

Panel A

Results of testing for the impact on the common stock returns of all European insurance firms on the passage of the Second Directive for Non-Life Insurance (Freedom of Services) on June 22, 1988 and the Third Directive for Non-Life Insurance (One Passport) on June 18, 1992.

			Event window		
			[-1,0]	[-7,0]	[-15,0]
Hypothesis	Directive adoption date	Number of firms	Average abnormal return[a]		
$H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$	June 22, 1988	97[b]	-0.0189	-0.0593	-0.0691
	June 18, 1992	141[c]	-0.1486	-0.1309*	-0.0280
$H_0(2): \sum_{j=1}^{C_i} \mu_{jk} = 0 \forall C_i$	June 22, 1988	97[b]	-0.0189	-0.0593	-0.0691
	June 18, 1992	141[c]	-0.1486***	-0.1309	-0.0280
$H_0(3): \mu_{jk} = 0 \; \forall j$	June 22, 1988	97[b]	-0.0189	-0.0593***	-0.0691
	June 18, 1992	141[c]	-0.1486***	-0.1309***	-0.0280***
$H_0(4): \mu_{jk} = \mu_{jk} \; \forall j$	June 22, 1988	97[b]	-0.0189	-0.0593***	-0.0691
	June 18, 1992	141[c]	-0.1486***	-0.1309***	-0.0280***

Panel B

Results of testing for the impact on the common stock returns of European insurance firms on the passage of the Second Directive for Life Insurance (Freedom of Services) on November 8, 1990 and the Third Directive for Life Insurance (One Passport) on November 10, 1992.

			Event window		
			[-1,0]	[-7,0]	[-15,0]
Hypothesis	Directive adoption date	Number of firms	Average abnormal return[a]		
$H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$	November 8, 1990	135	-0.0709	-0.0173	0.0002
	November 10, 1992	142[d]	-0.1585	0.0996	0.2154***
$H_0(2): \sum_{j=1}^{C_i} \mu_{jk} = 0 \forall C_i$	November 8, 1990	135	-0.0709	-0.0173*	0.0002
	November 10, 1992	142[d]	-0.1585	0.0996	0.2154***
$H_0(3): \mu_{jk} = 0 \; \forall j$	November 8, 1990	135	-0.0709***	-0.0173***	0.0002***
	November 10, 1992	142[d]	-0.1585***	0.0996***	0.2154***
$H_0(4): \mu_{jk} = \mu_{jk} \; \forall j$	November 8, 1990	135	-0.0709***	-0.0173***	0.0002***
	November 10, 1992	142[d]	-0.1585***	0.0996***	0.2154***

[a] ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively.

[b] The number of firms is 96 for event window [-15,0].

[c] The number of firms is 139 and 137 for event windows of [-7,0] and [-15,0], respectively.

[d] The number of firms is 141 and 139 for event windows of [-7,0] and [-15,0], respectively.

Table 2: Panel A
Test results of the stock price response by country to the Second Directive for Non-Life Insurance (Freedom of Services) passed June 22, 1988.

Country	Number of firms	Average abnormal return			Hypothesis: $H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$			Hypothesis: $H_0(3): \mu_{jk} = 0 \; \forall j$			Hypothesis: $H_0(4): \mu_{jk} = \mu_{jk} \; \forall j$		
		[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]
					p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]
Austria	4	0.0336	0.1055	0.0904	0.9197	0.5063	0.4399	0.9832	0.9612	0.9547	0.9527	0.9051	0.9041
Belgium	3	-0.1154	-0.1947	-0.5977	0.8836	0.5939	0.0282**	0.9775	0.9283	0.1216	0.9069	0.8846	0.6094
Switzerland	10[b]	-0.0793	0.0637	-0.1499	0.8482	0.8220	0.4672	0.1739	0.8557	0.0608*	0.6277	0.9725	0.0401**
Germany	11	-0.3883	0.0331	0.0673	0.2615	0.6409	0.7614	0.1053	0.5010	0.8543	0.2185	0.4542	0.8410
Denmark	6	-0.3678	-0.0705	-0.0990	0.5841	0.8398	0.6818	0.9732	0.9962	0.9721	0.9817	0.9973	0.9897
Spain	2	0.3206	0.1782	-0.2607	0.9013	0.8874	0.7678	0.9903	0.9544	0.9322	0.9254	0.7655	0.7646
France	1	-1.1710	-1.3061	-0.7229	0.6611	0.3492	0.4829	0.6611	0.3492	0.4829	0.6611	NA[c]	0.4829
Britain	33	0.1059	-0.1207	0.0413	0.7914	0.4934	0.7793	0.4944	0.1163	0.4223	0.4563	0.0950*	0.3780
Ireland	2	0.9143	0.6714	-0.2627	0.5257	0.3697	0.6011	0.6870	0.5933	0.4577	0.6076	0.5575	0.2363
Italy	15	0.0031	-0.1277	-0.0179	0.8906	0.5221	0.7441	0.8392	0.9209	0.5639	0.8709	0.9450	0.5387
Netherlands	3	-0.2908	-0.1002	-0.1722	0.6208	0.7679	0.5059	0.8668	0.6632	0.8286	0.8834	0.4807	0.8673
Norway	1	-0.8829	-1.6407	-0.3067	0.6646	0.0962*	0.6787	0.6646	0.0962*	0.6787	0.6646	NA[c]	0.6787
Portugal	1	0.5820	-0.9091	-0.6956	0.7669	0.3538	0.3160	0.7669	0.3538	0.3160	0.7669	NA[c]	0.3160
Sweden	2	-0.2400	-0.7447	-0.8707	0.9763	0.8928	0.8018	0.8148	0.7262	0.9572	0.9109	0.8136	0.7873
Greece	3	0.8203	1.2249	-0.0216	0.5964	0.1122	0.9686	0.6452	0.0481**	0.8250	0.6363	0.0468**	0.6465

[a] ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively.
[b] The number of firms is 9 for event window [-15,0].
[c] Testing the hypothesis that a firm's return equals itself is not appropriate or informative.

37

Test results of the stock price response by country to the Third Directive for Non-Life Insurance (One Passport) passed June 18, 1992.

		Event window											
		[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]
Country	Number of firms	Average abnormal return			Hypothesis: $H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$			Hypothesis: $H_0(3): \mu_{jk} = 0\ \forall j$			Hypothesis: $H_0(4): \mu_{jk} = \mu_{jk}\ \forall j$		
					p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]
Austria	4	-0.2717	-0.0486	0.1051	0.6422	0.9058	0.6149	0.9242	0.8947	0.8611	0.8458	0.7835	0.7636
Belgium	3	-0.1751	-0.0432	-0.0436	0.7599	0.8659	0.7475	0.2188	0.0502*	0.1626	0.1288	0.0231**	0.0921*
Switzerland	11	-0.0194	-0.1366	-0.0610	0.9200	0.3546	0.5729	0.9982	0.8883	0.9430	0.9960	0.8808	0.9231
Germany	28	-0.1445	-0.0185	0.0033	0.3709	0.8235	0.9432	0.6926	0.0611*	0.8020	0.6461	0.0472*	0.7632
Denmark	6	-1.4930	-0.5462	-0.3512	0.0007***	0.0117**	0.0229**	0.0001***	0.0001***	0.0075***	0.0001***	0.0001***	0.0228**
Spain	2	1.9004	0.1153	-0.3913	0.0460**	0.8514	0.3925	0.1200	0.5514	0.4319	0.4036	0.3117	0.2956
Finland	2	1.2808	-0.4700	-0.0742	0.3988	0.5019	0.8778	0.6930	0.7502	0.9670	0.8442	0.7578	0.8416
France	19[b]	-0.4186	-0.3203	-0.0518	0.2006	0.0507*	0.5608	0.9139	0.9001	0.9492[b]	0.9146	0.9881	0.9313
Britain	30[c]	-0.6323	-0.1246	-0.0472	0.1211	0.5637	0.7524	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***
Ireland	4	-0.1521	-0.0792	-0.0195	0.5890	0.5837	0.7930	0.8964	0.9431	0.8862	0.8419	0.8678	0.7653
Italy	16	0.7777	-0.0243	0.0680	0.0180**	0.9461	0.3729	0.0532*	0.3801	0.3430	0.1455	0.3338	0.3477
Netherlands	4	0.8328	0.1914	0.2812	0.0246**	0.2988	0.4777	0.1699	0.7753	0.2267	0.3633	0.7103	0.3328
Norway	2[d]	-0.7863	0.1516	NA[e]	0.5355	0.8273	NA[e]	0.5794	0.8273	NA[e]	0.3381	0.8273	NA[e]
Portugal	3	0.0536	-0.0869	-0.0869	0.9967	0.8548	0.8218	0.9423	0.9472	0.9895	0.8735	0.8432	0.9425
Sweden	3	0.2764	-0.6894	-0.3054	0.8010	0.2712	0.4961	0.5606	0.2565	0.3241	0.3851	0.5765	0.4729
Greece	4	-0.0370	-0.0121	0.2073	0.9544	0.9725	0.5914	0.9991	0.9899	0.9575	0.9938	0.9627	0.9111

[a] ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively.
[b] The number of firms is18 for event window [-15,0].
[c] The number of firms is 29 for event windows of [-7,0] and [-15,0], respectively.
[d] The number of firms is 1 and 0 for event windows of [-7,0] and [-15,0], respectively.
[e] A confounding news announcement occurs in the longest window for both firms.

Table 3: Panel A

Test results of the stock price response by country to the Second Directive for Life Insurance (Freedom of Services) passed November 8, 1990.

Country	Number of firms	Average abnormal return			Hypothesis: $H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$			Hypothesis: $H_0(3): \mu_{jk} = 0 \; \forall j$			Hypothesis: $H_0(4): \mu_{jk} = \mu_{jk} \; \forall j$		
		[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]
					p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]
Austria	4	-0.6186	-0.2293	-0.0350	0.3630	0.5267	0.9266	0.0096***	0.0001***	0.0004***	0.0056***	0.0001***	0.0001***
Belgium	3	1.2444	-0.1248	-0.0769	0.0689*	0.7138	0.7088	0.0707*	0.2865	0.9664	0.2107	0.1580	0.9441
Switzerland	11	-0.2633	-0.1205	-0.0446	0.4587	0.5312	0.7474	0.0787*	0.2155	0.7322	0.0700*	0.2428	0.7126
Germany	26	-0.2797	-0.2690	-0.1195	0.4285	0.1364	0.3580	0.7059	0.5629	0.3544	0.6543	0.6225	0.3548
Denmark	6	-0.0893	-0.0015	-0.0502	0.8603	0.9567	0.7645	0.7389	0.8601	0.7818	0.6256	0.7675	0.6748
Spain	2	1.3891	0.0819	0.0832	0.3860	0.9552	0.8379	0.2644	0.1414	0.4959	0.1190	0.0550*	0.2394
Finland	2	-0.7129	-1.6631	-0.5954	0.6122	0.0184**	0.2358	0.8776	0.0615*	0.4715	0.6685	0.0623*	0.2669
France	19	-0.3729	-0.1127	0.0188	0.3515	0.5603	0.9127	0.9839	0.0097***	0.1099	0.9747	0.0213**	0.1168
Britain	29[b]	0.3950	0.2420	0.1878	0.1434	0.0788*	0.0580*	0.1209	0.0290**	0.0021***[b]	0.1326	0.0305**	0.0046***
Ireland	3	0.3961	0.7531	0.5473	0.4846	0.0216**	0.0327**	0.8850	0.0039***	0.0490**	0.7851	0.0227**	0.3700
Italy	17	-0.1987	-0.1476	-0.1545	0.4684	0.3258	0.1652	0.5233	0.2296	0.5983	0.6698	0.3670	0.6425
Netherlands	3	-0.0514	0.0660	0.0108	0.9469	0.7526	0.9192	0.3478	0.1748	0.7069	0.2172	0.0912*	0.5103
Norway	1	0.6956	1.3787	0.7547	0.6233	0.0428**	0.1243	0.6233	0.0428**	0.1243	0.6233	NA[c]	0.1243
Portugal	3	-0.1389	0.2656	0.1211	0.9108	0.7674	0.9124	0.9995	0.9652	0.8956	0.9941	0.9421	0.8232
Sweden	3	-1.3415	-0.1029	-0.1910	0.1612	0.8315	0.5602	0.4665	0.8843	0.3919	0.4053	0.7328	0.2316
Greece	4	0.1595	0.9975	0.0268	0.8021	0.1937	0.8082	0.9155	0.0284**	0.0009***	0.9905	0.3379	0.7458

[a] ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively.

[b] The number of firms is 28 for the event window [-1,0].

[c] Testing the hypothesis that a firm's return equals itself is not appropriate or informative.

Table 3: Panel B
Test results of the stock price response by country to the Third Directive for Life Insurance (One Passport) passed November 10, 1992.

Country	Number of firms	Average abnormal return			Hypothesis: $H_0(1): \sum_{j=1}^{J} \mu_{jk} = 0$			Hypothesis: $H_0(3): \mu_{jk} = 0\ \forall j$			Hypothesis: $H_0(4): \mu_{jk} = \mu_{jk}\ \forall j$		
		[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]	[-1,0]	[-7,0]	[-15,0]
					p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]	p-value[a]
Austria	4	-0.0098	0.1329	0.2989	0.9272	0.6377	0.1798	0.0491**	0.0272**	0.0168**	0.0263**	0.0207**	0.0557*
Belgium	3	-0.0613	-0.0579	-0.2570	0.9524	0.8180	0.2360	0.3423	0.8492	0.2257	0.2626	0.6787	0.1262
Switzerland	11	-0.3369	0.0081	0.1677	0.2453	0.9927	0.1286	0.5289	0.0043***	0.1439	0.5841	0.0033***	0.1521
Germany	28	0.1669	0.1404	0.1917	0.4775	0.2557	0.0270**	0.6007	0.6159*	0.0516*	0.6126	0.5732	0.0444**
Denmark	6	0.1432	-0.0657	0.3864	0.7564	0.9162	0.0831*	0.0215**	0.3044	0.1162	0.0230**	0.2918	0.0743*
Spain	2	-0.1308	-0.0607	0.2104	0.9167	0.9241	0.6773	0.5568	0.6137	0.6099	0.2984	0.3476	0.3332
Finland	2	1.6180	4.0124	3.5931	0.5374	0.0012***	0.0001***	0.3688	0.0050***	0.0002***	0.2501	0.8088	0.8812
France	19	-0.5778	0.2080	0.2651	0.2424	0.4066	0.1419	0.0503*	0.5201	0.1431	0.0484**	0.5008	0.1183
Britain	31[b]	0.0102	-0.3847	0.0520	0.9676	0.1048	0.7763	0.9004	0.5027	0.0148**	0.8779	0.4839	0.0286**
Ireland	4	-0.0850	-0.0337	-0.1770	0.8430	0.8578	0.1347	0.4590	0.5925	0.6139	0.3420	0.4713	0.6097
Italy	16	-0.3095	0.4297	0.0870	0.4634	0.2312	0.6403	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.0007***
Netherlands	4	-0.5036	-0.2625	-0.0016	0.1566	0.1497	0.9907	0.6669	0.2053	0.9286	0.9929	0.1665	0.8488
Norway	2[c]	-0.1438	-0.4321	NA[d]	0.9159	0.5391	NA[d]	0.7546	0.5391	NA[d]	0.5540	0.5391	NA[d]
Portugal	3	-0.3259	0.6265	0.1506	0.7366	0.2111	0.6394	0.8860	0.3509	0.8690	0.7378	0.2936	0.8747
Sweden	3	-2.1287	1.4004	1.6131	0.2614	0.1058	0.0112**	0.1543	0.1745	0.0372**	0.4357	0.1432	0.1608
Greece	4	-0.3647	-0.3029	-0.0456	0.7446	0.5537	0.9038	0.9087	0.8238	0.9859	0.8431	0.7776	0.9506

[a] ***, **, and * indicate significance at the 1%, 5% and 10% level, respectively.
[b] The number of firms is 30 for the event window [-15,0].
[c] The number of firms is 1 and 0 for event windows of [-7,0] and [-15,0], respectively.
[d] A confounding news announcement occurs in the longest window for both firms.

Table 4

Regression results of average abnormal returns using the event window of [-1,0] regressed on select macro and firm-specific variables.   The regression variables are defined as follows: INT is the intercept; RISK is the 200-day post event beta divided by the 200-day pre-event beta; ROA is the year-end net income divided by year-end total assets; DEBT is the year-end total debt divided by year-end total assets; SIZE is the market value of equity denominated in U.S. dollars ten days prior to the event; MSHARE is SIZE divided by the market capitalization of insurance firms in the country; REG is a dummy variable assigned a value of one if the firm is classified as being in a country with extensive regulations and zero otherwise; REG-E and REG-F are proxies for the domestic country's economic and financial risk, respectively (0 is high risk and 50 low risk); CR5 is the five-firm concentration ratio of Non-life and Life firms; MSF is the market share held by foreign firms; GROWTH is the annual real growth of insurance spending between 1985-1990 adjusted for inflation; SPEND is the gross premiums divided by GDP; and SPEC is a dummy variable set equal to one if firms specialize in life or non-life. T-statistics appear in parentheses. [a]

Panel A

Regression results for the Second Non-Life and Life Insurance Directives. The Second Directive for Non-Life Insurance allowed insurance firms to have freer access to firms engaged in large risks. However, permission from the local country for mass risks may still be required as determined by the local country.   The Second Directive for Life Insurance increased the leniency to insurance firms writing policies that were not actively sought (passive) while actively sought policies still required approval of the policy's terms and conditions by the local country.

	Second Directive for Non-Life Insurance passed June 22, 1988 [b]				Second Directive for Life Insurance passed November 08, 1990 [c]			
Number of firms	26	35	26	88	46	46	46	119
INT	8.603	1.072	-3.977	-0.042	4.970	0.229	3.751	1.883
	(0.43)	(0.63)	(-1.70)	(-0.05)	(1.21)	(0.71)	(1.00)	(0.79)
RISK	0.196	0.167	0.200		-0.266	-0.137	-0.206	
	(2.62)**	(2.47)**	(2.96)**		(-0.86)	(-0.54)	(-0.69)	
ROA	-3.70	-16.30	-1.906		-4.639	-3.629	-4.670	
	(-0.32)	(-1.95)*	(-0.19)		(-1.22)	(-1.06)	(-1.24)	
DEBT	-0.363		-0.198		-1.435	-1.483	-1.485	
	(-0.28)		(-0.18)		(-1.33)	(-1.55)	(-1.39)	
SIZE	-0.0001	-0.0001			-0.0001	-0.00001	-0.00004	
	(-0.35)	(-0.96)			(-0.72)	(-0.09)	(-0.55)	
MSHARE	23.05	15.55	-10.866		5.084	-1.985	4.207	
	(0.48)	(1.37)	(-0.45)		(0.62)	(-0.35)	(0.52)	
REG	-1.617	-0.955	1.378		-0.170		0.146	-0.883
	(-0.37)	(-2.05)**	(1.39)		(-0.24)		(0.25)	(-2.72)**
REG-E	0.943			0.012	-0.079			-0.023
	(0.58)			(1.12)	(-0.74)			(-0.48)
REG-F	-0.743		0.055		-0.012		-0.064	
	(-0.55)		(2.45)**		(-0.12)		(-0.94)	
CR5	-17.13	-0.748	1.075	-0.748	-1.369		-1.456	-1.061
	(-0.55)	(-0.41)	(0.48)	(-0.85)	(-0.87)		(-0.93)	(-1.32)
MSF	-0.169	-0.029	0.016	0.005	0.026		0.023	0.014
	(-0.53)	(-1.65)	(0.74)	(0.49)	(0.73)		(0.66)	(1.14)
GROWTH	1.272	0.065	0.083		-0.037		-0.021	0.006
	(0.68)	(0.63)	(0.38)		(-1.09)		(-0.82)	(0.27)
SPEND	-2.105	-0.185		-0.038	-0.083		0.040	-0.111
	(-0.68)	(-0.84)		(-0.24)	(-0.36)		(0.26)	(-1.18)
SPEC	-0.921	0.214	-0.912	-0.119	0.637	0.681	0.708	0.113
	(-1.33)	(0.48)	(-1.44)	(-0.41)	(1.14)	(1.39)	(1.29)	(0.44)
ADJ R^2	0.27	0.05	0.36	-0.02	-0.10	-0.01	-0.08	0.07
F	1.72	1.17	2.43*	0.63	0.70	0.90	0.72	2.27*
MAX VIF	786.0	6.04	11.2	1.61	11.5	2.39	5.41	3.55

[a] **, and * indicate significance at the 5%, and 10% level, respectively.

[b] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: RISK and DEBT, REG and REG-E, REG and REG-F, REG and SPEND, ROA and GROWTH, CR5 and MSF, CR% and REG-E, MSHARE and SIZE, GROWTH and MSF and REG-E and REG-F.

[c] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: ROA and DEBT, MSHARE and RISK, REG and SPEND, CR5 and REG-F, GROWTH and REG-E, REG-E and REG-F.

Table 4

	Third Directive for Non-Life Insurance passed June 18, 1992[d]				Third Directive for Life Insurance passed November 10, 1992[e]			
Number of firms	65	65	65	137	63	64	64	138
INT	2.768	0.032	3.328	-0.718	1.169	-1.639	-1.346	-0.387
	(0.52)	(0.04)	(1.51)	(-1.61)	(0.17)	(-0.40)	(-1.03)	(-0.13)
RISK	-0.016	-0.007	-0.007		0.63	0.012	0.083	
	(-0.60)	(-0.33)	(-0.33)		(1.04)	(0.07)	(0.42)	
ROA	-1.776	-1.663	-1.759		-1.561	-0.285	-0.665	
	(-1.63)	(-1.55)	(-1.64)		(-0.77)	(-0.16)	(-0.36)	
DEBT	4.542	5.121	5.082		-0.664	-0.694	-0.191	
	(3.17)***	(4.13)***	(4.02)***		(-0.33)	(-0.36)	(-0.10)	
SIZE	0.00001		0.0001		0.00003		-0.00002	
	(0.93)		(0.87)		(0.28)		(-0.22)	
MSHARE	-3.545	4.848	-0.5		-10.575	-10.443		
	(-0.31)	(0.71)	(-0.02)		(-0.77)	(-1.08)		
REG	0.354			0.490	0.530	-0.079		
	(0.69)			(2.21)**	(0.63)	(-0.16)		
REG-E	-0.056				-0.180			
	(-0.27)				(-1.70)			
REG-F	-0.095		-0.071		0.077	0.024		0.004
	(-1.09)		(-1.00)		(0.83)	(0.34)		(0.07)
CR5	1.865	0.018	0.585	0.308	1.823	0.750	0.954	-0.229
	(1.09)	(0.02)	(0.52)	(0.40)	(0.97)	(0.46)	(0.65)	(-0.27)
MSF	0.023			0.015	0.014	-0.0003	0.001	0.004
	(0.96)			(1.66)*	(0.27)	(-0.01)	(0.02)	(0.29)
GROWTH	0.261	0.192	0.234		-0.048		-0.001	-0.007
	(2.34)**	(2.23)**	(2.58)**		(-0.83)		(-0.04)	(-0.30)
SPEND	0.351	-0.362			0.222		0.144	0.026
	(0.57)	(-2.01)**			(1.13)		(1.20)	(0.35)
SPEC	-0.597	-0.626	-0.579	-0.580	0.648	0.701	0.793	0.632
	(-1.41)	(-1.51)	(-1.40)	(-2.13)**	(1.07)	(1.19)	(1.35)	(1.93)*
ADJ R^2	0.28	0.30	0.31	0.05	-0.11	-0.010	-0.09	-0.08
F	2.91***	4.46***	3.80***	2.68**	0.53	0.40	0.44	0.82
MAX VIF	12.5	1.28	4.26	1.22	4.92	2.28	2.19	1.63

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

[d] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, GROWTH and REG, SPEND and REG, SPEND and REG-E, SPEND and REG-F, and REG-E and REG-F.

[e] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, ROA and RISK, REG and REG-E, REG and SPEND, GROWTH and REG-E, GROWTH and REG-F, and REG-F and REG-E.

Table 5

Regression results of average abnormal returns using the event window of [-7,0] regressed on select macro and firm-specific variables. The regression variables are defined as follows: INT is the intercept; RISK is the 200-day post event beta divided by the 200-day pre-event beta; ROA is the year-end net income divided by year-end total assets; DEBT is the year-end total debt divided by year-end total assets; SIZE is the market value of equity denominated in U.S. dollars ten days prior to the event; MSHARE is SIZE divided by the market capitalization of insurance firms in the country; REG is a dummy variable assigned a value of one if the firm is classified as being in a country with extensive regulations and zero otherwise; REG-E and REG-F are proxies for the domestic country's economic and financial risk, respectively (0 is high risk and 50 low risk); CR5 is the five-firm concentration ratio of Non-life and Life firms; MSF is the market share held by foreign firms; GROWTH is the annual real growth of insurance spending between 1985-1990 adjusted for inflation; SPEND is the gross premiums divided by GDP; and SPEC is a dummy variable set equal to one if firms specialize in life or non-life. T-statistics appear in parentheses. [a]

Panel A

Regression results for the Second Non-Life and Life Insurance Directives. The Second Directive for Non-Life Insurance allowed insurance firms to have freer access to firms engaged in large risks. However, permission from the local country for mass risks may still be required as determined by the local country. The Second Directive for Life Insurance increased the leniency to insurance firms writing policies that were not actively sought (passive) while actively sought policies still required approval of the policy's terms and conditions by the local country.

	Second Directive for Non-Life Insurance passed June 22, 1988 [b]				Second Directive for Life Insurance passed November 08, 1990 [c]			
Number of firms	26	35	26	89	46	46	46	119
INT	-12.36	2.226	1.550	0.360	5.573	0.337	5.064	0.304
	(-0.40)	(1.11)	(0.44)	(0.65)	(2.29)**	(1.63)	(2.30)**	(0.21)
RISK	0.140	0.148	0.128		-0.175	-0.150	-0.150	
	(1.22)	(1.88)*	(1.25)		(-0.95)	(-0.92)	(-0.86)	
ROA	-22.92	-25.48	-24.04		-0.047	0.154	-0.060	
	(-1.27)	(-2.60)**	(-1.57)		(-0.02)	(0.07)	(-0.03)	
DEBT	-1.414		-1.720		-0.750	-0.798	-0.771	
	(-0.70)		(-1.05)		(-1.17)	(-1.29)	(-1.22)	
SIZE	0.0000	-0.0001			-0.00004	-0.00004	-0.00004	
	(0.02)	(-1.28)			(-0.74)	(-0.98)	(-0.63)	
MSHARE	-40.47	13.90	-4.043		1.084	0.280	0.718	
	(-0.55)	(1.04)	(-0.11)		(0.22)	(0.08)	(0.15)	
REG	3.270	-0.656	-0.036		0.239		0.371	-0.049
	(0.49)	(-1.20)	(-0.02)		(0.56)		(1.10)	(-0.25)
REG-E	-1.042			-0.005	-0.033			-0.023
	(-0.42)			(-0.60)	(-0.52)			(-0.81)
REG-F	0.898		0.016		-0.062		-0.084	
	(0.43)		(0.47)		(-1.05)		(-2.08)**	
CR5	18.60	-1.405	-1.276	-0.273	-1.404		-1.44	0.472
	(0.39)	(-0.66)	(-0.37)	(-0.43)	(-1.50)		(-1.56)	(1.01)
MSF	0.193	-0.021	-0.011	0.004	0.003		0.002	0.012
	(0.39)	(-1.01)	(-0.32)	(0.56)	(0.13)		(0.08)	(1.69)*
GROWTH	-1.598	-0.028	-0.286		-0.041		-0.035	-0.003
	(-0.56)	(-0.23)	(-0.87)		(-2.07)**		(-2.25)**	(-0.23)
SPEND	2.358	-0.272		-0.063	-0.008		0.043	0.066
	(0.50)	(-1.05)		(-0.56)	(-0.06)		(0.47)	(1.19)
SPEC	0.402	0.322	0.382	-0.166	-0.046	-0.044	-0.017	0.089
	(0.38)	(0.61)	(0.40)	(-0.79)	(-0.14)	(-0.14)	(-0.05)	(0.58)
ADJ R^2	0.02	0.12	0.16	-0.03	0.09	-0.01	0.11	0.05
F	1.03	1.47	1.48	0.53	1.33	0.95	1.49	1.84*
MAX VIF	786.0	6.04	11.2	1.61	11.5	2.39	5.41	3.55

[a] **, and * indicate significance at the 5%, and 10% level, respectively.

[b] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: RISK and DEBT, REG and REG-E, REG and REG-F, REG and SPEND, ROA and GROWTH, CR5 and MSF, CR% and REG-E, MSHARE and SIZE, GROWTH and MSF and REG-E and REG-F.

[c] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: ROA and DEBT, MSHARE and RISK, REG and SPEND, CR5 and REG-F, GROWTH and REG-E, REG-E and REG-F.

Table 5

Panel B

Regression results for the Third Non-Life and Life Insurance Directives. The Third Non-Life Directive allowed insurance firms to set up branch offices in foreign countries without permission of the local country. The country where the home-office is located is responsible for regulating the insurance firm. The Third Life Directive is similar to the Third Non-Life Directive. However, in addition to the freedom to open branches selling life insurance in foreign countries, the firms can also offer health and accident policies for main classes.

	Third Directive for Non-Life Insurance passed June 18, 1992[d]				Third Directive for Life Insurance passed November 10, 1992[e]			
Number of firms	64	64	64	135	64	64	64	137
INT	-0.872	0.122	1.857	0.072	-6.999	-3.267	-1.314	-0.959
	(-0.35)	(0.29)	(1.46)	(0.30)	(-1.91)*	(-1.27)	(-1.59)	(-0.54)
RISK	0.007	-0.001			0.140	-0.037	0.128	
	(0.54)	(-0.13)			(1.03)	(-0.37)	(-1.03)	
ROA	0.804	-0.736	-0.836		-0.969	-0.149	0.389	
	(-1.56)	(-1.39)	(-1.64)		(-0.89)	(-0.14)	(0.33)	
DEBT	1.259	1.373	1.256		0.051	-0.483	0.966	
	(1.84)*	(2.20)**	(1.94)*		(0.05)	(-0.41)	(0.81)	
SIZE	-0.0001		0.0001		-0.00004		-0.00003	
	(1.20)		(1.32)		(-0.70)		(-0.54)	
MSHARE	-0.072	3.396	-0.342		-1.249	-7.661		
	(-0.01)	(0.32)	(-0.08)		(-0.17)	(-1.27)		
REG	-0.157			0.002	1.906	0.627		
	(-0.64)			(0.02)	(4.20)***	(2.07)**		
REG-E	0.127				-0.073			
	(1.30)				(-0.81)			
REG-F	-0.072		-0.064		0.096	0.044		0.009
	(-1.75)*		(-2.00)*		(1.95)*	(1.01)		(0.27)
CR5	-0.749	-0.747	-0.184	-0.602	4.466	2.341	2.102	1.405
	(-0.93)	(-1.49)	(-0.27)	(-1.53)	(4.42)***	(2.33)**	(2.26)**	(2.68)*
MSF	0.003		0.006	0.003	0.030	-0.008	-0.042	-0.005
	(0.28)		(0.58)	(0.50)	(1.13)	(-0.30)	(-1.80)*	(-0.60)
GROWTH	0.031	0.033	0.057		0.011		0.042	0.012
	(0.59)	(0.77)	(1.27)		(0.37)		(1.64)	(0.90)
SPEND	-0.154	-0.032	0.236		0.458		0.119	-0.042
	(-0.53)	(-0.35)	(1.57)		(4.37)***		(1.58)	(-0.81)
SPEC	-0.253	-0.292	-0.248	-0.079	0.141	0.131	0.360	0.125
	(-1.26)	(-1.41)	(-1.24)	(-0.55)	(0.43)	(0.36)	(0.97)	(0.62)
ADJ R^2	0.14	0.09	0.15	-0.00`	0.36	0.14	0.13	0.07
F	1.80*	1.74	2.07**	0.97	3.70***	2.18**	2.03*	2.60*
MAX VIF	12.54	1.28	3.74	1.21	4.61	2.29	2.20	1.64

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

[d] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, GROWTH and REG, SPEND and REG, SPEND and REG-E, SPEND and REG-F, and REG-E and REG-F.

[e] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, ROA and RISK, REG and REG-E, REG and SPEND, GROWTH and REG-E, GROWTH and REG-F, and REG-F and REG-E.

Table 6

Regression results of average abnormal returns using the event window of [-15,0] regressed on select macro and firm-specific variables. The regression variables are defined as follows: INT is the intercept; RISK is the 200-day post event beta divided by the 200-day pre-event beta; ROA is the year-end net income divided by year-end total assets; DEBT is the year-end total debt divided by year-end total assets; SIZE is the market value of equity denominated in U.S. dollars ten days prior to the event; MSHARE is SIZE divided by the market capitalization of insurance firms in the country; REG is a dummy variable assigned a value of one if the firm is classified as being in a country with extensive regulations and zero otherwise; REG-E and REG-F are proxies for the domestic country's economic and financial risk, respectively (0 is high risk and 50 low risk); CR5 is the five-firm concentration ratio of Non-life and Life firms; MSF is the market share held by foreign firms; GROWTH is the annual real growth of insurance spending between 1985-1990 adjusted for inflation; SPEND is the gross premiums divided by GDP; and SPEC is a dummy variable set equal to one if firms specialize in life or non-life. T-statistics appear in parentheses. [a]

Panel A

Regression results for the Second Non-Life and Life Insurance Directives. The Second Directive for Non-Life Insurance allowed insurance firms to have freer access to firms engaged in large risks. However, permission from the local country for mass risks may still be required as determined by the local country. The Second Directive for Life Insurance increased the leniency to insurance firms writing policies that were not actively sought (passive) while actively sought policies still required approval of the policy's terms and conditions by the local country.

	Second Directive for Non-Life Insurance passed June 22, 1988 [b]				Second Directive for Life Insurance passed November 08, 1990 [c]			
Number of firms	26	35	26	89	46	46	46	119
INT	-6.712	0.433	0.829	0.518	0.257	0.105	0.010	0.681
	(-0.74)	(0.49)	(0.69)	(1.74)*	(0.14)	(0.70)	(0.01)	(0.70)
RISK	0.024	0.024	0.005		-0.087	0.021	-0.075	
	(0.70)	(0.68)	(0.16)		(-0.62)	(0.18)	(-0.56)	
ROA	-9.238	-2.372	-9.653		-0.046	0.462	-0.052	
	(-1.73)	(-0.55)	(-1.87)*		(-0.03)	(0.29)	(-0.03)	
DEBT	0.214		-0.315		-0.860	-0.768	-0.870	
	(0.36)		(-0.57)		(-1.74)*	(-1.70)*	(-1.79)*	
SIZE	-0.0001	-0.00002			-0.0001	-0.00004	-0.00005	
	(-1.37)	(-0.30)			(-1.55)	(-1.22)	(-1.54)	
MSHARE	7.545	0.043	13.686		3.739	1.310	3.562	
	(0.34)	(0.01)	(1.10)		(1.00)	(0.49)	(0.9)	
REG	0.907	0.074	-0.479		-0.116		-0.052	0.036
	(0.46)	(0.31)	(-0.95)		(-0.35)		(-0.20)	(0.28)
REG-E	-0.682			-0.001	-0.016			0.004
	(-0.92)			(-0.26)	(-0.33)			(0.20)
REG-F	0.542		-0.018		0.031		0.020	
	(0.88)		(-1.55)		(0.68)		(0.65)	
CR5	10.98	-0.151	-1.427	-1.019	-0.590		-0.608	0.258
	(0.77)	(-1.22)	(-1.24)	(-2.98)**	(-0.82)		(-0.86)	(0.81)
MSF	0.126	-0.012	-0.006	-0.007	0.005		0.004	0.006
	(0.86)	(-1.27)	(-0.54)	(-1.82)*	(0.30)		(0.27)	(1.20)
GROWTH	-0.580	-0.020	0.118		-0.025		-0.022	0.004
	(-0.68)	(-0.37)	(1.07)		(-1.60)		(-1.81)*	(0.50)
SPEND	1.147	0.101		0.010	-0.084		-0.059	0.084
	(0.82)	(0.88)		(0.16)	(-0.80)		(-0.83)	(2.19)**
SPEC	-0.036	-0.140	0.039	-0.222	-0.248	-0.167	-0.234	-0.002
	(-0.12)	(-0.61)	(0.12)	(-1.96)*	(-0.97)	(-0.72)	(-0.94)	(-0.02)
ADJ R^2	0.22	-0.09	0.14	0.10	0.02	0.04	0.05	0.06
F	1.54	0.73	1.42	2.95**	1.07	1.33	1.19	2.01*
MAX VIF	785.99	6.04	11.2	1.58	11.5	2.39	5.41	3.55

[a] **, and * indicate significance at the 5%, and 10% level, respectively.

[b] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: RISK and DEBT, REG and REG-E, REG and REG-F, REG and SPEND, ROA and GROWTH, CR5 and MSF, CR% and REG-E, MSHARE and SIZE, GROWTH and MSF and REG-E and REG-F.

[c] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: ROA and DEBT, MSHARE and RISK, REG and SPEND, CR5 and REG-F, GROWTH and REG-E, REG-E and REG-F.

Table 6

Panel B

Regression results for the Third Non-Life and Life Insurance Directives. The Third Non-Life Directive allowed insurance firms to set up branch offices in foreign countries without permission of the local country. The country where the home-office is located is responsible for regulating the insurance firm. The Third Life Directive is similar to the Third Non-Life Directive. However, in addition to the freedom to open branches selling life insurance in foreign countries, the firms can also offer health and accident policies for main classes.

	Third Directive for Non-Life Insurance passed June 18, 1992[d]				Third Directive for Life Insurance passed November 10, 1992[e]			
Number of firms	64	64	64	133	63	63	63	135
INT	0.438	0.299	0.590	0.016	-5.193	-1.155	-0.968	0.552
	(0.18)	(0.78)	(0.59)	(0.09)	(-2.06)**	(-0.58)	(-1.63)	(0.35)
RISK	-0.005	-0.0002	-0.004		0.125	-0.055	-0.096	
	(-0.45)	(-0.02)	(-0.37)		(1.34)	(-0.72)	(-1.08)	
ROA	-0.4898	-0.445	-0.488		-0.214	0.587	0.905	
	(-0.98)	(-0.91)	(-1.00)		(-0.29)	(0.69)	(1.07)	
DEBT	0.220	0.412	0.385		-0.405	-1.034	0.169	
	(0.33)	(0.72)	(0.66)		(-0.55)	(-1.13)	(0.19)	
SIZE	0.00003		0.00003		-0.00009		-0.00006	
	(0.68)		(0.78)		(-2.06)**		(-1.60)	
MSHARE	-1.340	1.243	-0.961		3.182	-7.633		
	(-0.26)	(0.40)	(-0.22)		(0.60)	(-1.64)		
REG	0.053			0.078	1.542	0.266		
	(0.23)			(0.98)	(4.98)***	(1.13)		
REG-E	0.034				-0.042			
	(0.36)				(-0.69)			
REG-F	-0.049		-0.048		0.057	0.021		-.018
	(-1.23)		(-1.48)		(1.68)*	(0.60)		(-0.62)
CR5	0.149	-0.329	-0.301	-0.249	3.473	1.538	1.780	1.089
	(0.19)	(-0.71)	(-0.58)	(-0.89)	(5.03)***	(1.98)*	(2.67)**	(2.31)**
MSF	0.009			0.002	0.023	-0.023	-0.036	-0.016
	(0.80)			(0.43)	(1.24)	(-1.12)	(-2.14)**	(-2.25)**
GROWTH	0.005	-0.012	0.004		0.008		0.033	0.003
	(0.09)	(-0.32)	(0.10)		(0.39)		(1.76)*	(0.29)
SPEND	0.096	-0.045			0.444		0.157	0.043
	(0.34)	(-0.55)			(6.19)***		(2.90)**	(1.05)
SPEC	-0.147	-0.164	-0.146	-0.094	-0.060	-0.045	0.113	0.168
	(-0.75)	(-0.86)	(-0.77)	(-0.91)	(-0.27)	(-0.16)	(0.42)	(0.93)
ADJ R^2	-0.12	-0.08	-0.07	-0.01	0.49	0.13	0.23	0.06
F	0.49	0.44	0.59	0.73	5.56***	2.06*	3.11**	2.52**
MAX VIF	12.5	1.28	4.26	1.20	4.82	2.28	2.22	1.64

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

[d] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, GROWTH and REG, SPEND and REG, SPEND and REG-E, SPEND and REG-F, and REG-E and REG-F.

[e] The following variables had correlation coefficients exceeding 0.40 and statistically significant at the 5% level: MSHARE and SIZE, ROA and RISK, REG and REG-E, REG and SPEND, GROWTH and REG-E, GROWTH and REG-F, and REG-F and REG-E.

Appendix

Details of Directives

June 22, 1988	The Second Directive for Non-Life Insurance (Freedom of Services for Non-Life) was the second step toward a single passport for non-life insurance. Firms engaged in large risks such as marine, aviation, transport insurance and credit insurance of professional, industrial and commercial policyholders will enjoy freer access. Those firms engaged in mass risk will require approval from host member countries if they so require. Only two countries decided against such requirement, the UK and the Netherlands. Finally Greece, Spain, Portugal and Ireland were given the option to delay for large risks. Ireland chose to waive the option.
November 8, 1990	The Second Directive for Life Insurance (Freedom of Services for Life) was the second step toward a single passport for life insurance supplementing the Life Establishment Directive of 1979 (First Directive). Unlike the Non-Life Directive, the distinction was not between mass and large risks but between own initiative business (i.e. passive business) and active business, i.e. companies that actively seek business in other countries. The law was lenient on the group of passive businesses, which only had to notify the host country of underwriting a policy but did not require approval of rates and conditions, unlike active businesses. Greece, Portugal and Spain were given a grace period where they could demand approval of prices by passive companies as well.
June 18, 1992	The Third Non-Life Directive provides for a single passport, i.e. firms in one member country are allowed to set up a branch in another member country as long as they receive permission from their own regulatory authority, which will also be in charge of monitoring and supervising their activities. Firms need not obtain approval for pricing schedules but are required to inform policyholders in detail.
November 10, 1992	The Third Life Directive is similar to the Third Non-Life Directive and provides for a single passport for all EU members. In addition to the features described above, disclosure of information to policyholders is necessary before a contract is initiated as well as during the contract. A cooling-off period of 14-30 days is now applicable to all life insurance services. Finally, life insurers can seek authorization to write health and accident insurance as main classes, rather than as an ancillary business as was done previously.

More details on the directives can be found in the EU web site http://europa.eu.int/. The Third Non-Life Directive (*formally known as the Council Directive 92/49/EEC on the coordination of laws, regulations and administrative provisions relating to direct insurance other than life insurance and amending Directives 73/239/EEC and 88/357/EEC*) was passed on June 18, 1992 and the Third Life Directive (*formally Council Directive 92/96/EEC on the coordination of laws, regulations and administrative provisions relating to direct life insurance and amending Directives 79/267/EEC and 90/619/EEC* was passed on November 10, 1992.

References for the second directives are available in these documents.