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Greek trade during the global financial crisis: a firm-level analysis

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Abstract

The aim of this study is to identify and quantify factors which influenced exporting firms' performance during the last global financial crisis. A structured questionnaire is utilized to interview a sample of Greek exporters. The survey generated a unique dataset describing the firms' characteristics and the degree to which various trade factors affected their exports. The econometric analysis which implements a multinomial logistic model incorporates various firms' profile and trade factor variables to estimate firms' changes in export volumes over the crisis. From this exercise we highlight the factors that discouraged exports and conclude that the crisis's impact was uneven across firms of different characteristics. Firms' age, size, destination markets and the impact of taxation, euro exchange rate and foreign demand are statistically significant predictors of firms' exporting performance during the crisis period.

1.1 Introduction

The examination international trade behaviour during the global financial crisis is a newly developed research field. Recent studies focus on examining factors that explain the severity in the decline of trade volumes during the latest world economic crisis. Although the economic downturn was global, the level of trade reduction varies across countries, economic sectors and firms. The main objective of this study is to evaluate the relative importance of variables proxying trade factors[1] and characteristics of exporting firms in Greece, on the firms' exports during the recent global financial crisis. In doing so, micro level data was collected via a survey to perform the relevant empirical analysis. This study is the only firm level analysis that looks thoroughly at the financial crisis with a survey.

The motivation for this study derives from the fact that too little work has been done so far on the micro level examination of trade determinants during the crisis. Especially in Greece, where the availability of relevant data is rather limited, the topic is unexplored. Prior literature and exporters in a pilot survey suggest various trade discouraging factors. A sample of exporting firms evaluated these factors for their actual effect on firms' exports during the crisis. Factor evaluations and firm attributes constitute the set of explanatory variables used in a multinomial logistic model estimating firms' exports.

The findings indicate that firms' exports during the crisis are related to their characteristics and to the impact of various types of trade factors on exporting activity. Specifically, firms' export destination, as it is described by a dummy variable indicating whether or not a firm is primarily exporting in the European Union, is statistically significant in explaining firms exports during this period. In accordance to the relevant literature findings, the size of the firm is also a statistically significant predictor of exports. Specifically, firms with smaller number of employees were less likely to experience increased or constant exports during the crisis rather than larger enterprises. Moreover, the age of the firm has been found to be a significant explanatory variable of exports. Concerning the examined trade factors, three factors have been found to be statistically significant: taxation, euro exchange rate and foreign demand.

[1] These factors include trade determinants, costs and frictions.

1.2 Literature Review

A recent and growing literature examines the determinants of trade during the recent global financial crisis. The main conclusions of this literature indicate that trade was affected by trading firms' attributes as well as various trade factors. For example, Navaretti et al (2011) highlight the relation of firms' size and destination of exports with their exporting activity while Chor and Manova (2010) underline the adverse credit conditions impact on trade. This section presents the literature which along with the pilot survey results directs the selection and definition of the variables proxying the trade determinants considered in this study.

1.2.1 Trade Factors

The crisis has renewed the academic interest for the impact of financial constraints on firms exporting activity. Manova (2010) explains that a large amount of production and trade expenses have to be incurred to firms before export revenues are realized. It is not always possible for firms to meet their liquidity needs; hence they require external financing to cover their production and export expenditures. Bank loans and bank provided trade credit are the usual form of this financing. Recent studies provided evidence that firms' exports have been affected by the adverse external financing conditions during the crisis episode. For instance, Brigogne et al (2009) find that firms being more dependent on external finance are most affected by the crisis[2]. Accordingly, Mora and Powers (2009) argue that trade credit problems is the second to demand most important factor of trade reduction. Chor and Manova (2010) examine the role of interbank lending rates to show the importance of the cost of external capital in trade during the crisis. Firms can alleviate credit constraints if they are able to raise capital from other sources except to bank financing. Indeed, international equity flows and foreign direct investment may help firms to overcome credit constraints (Manova et al, 2011). Nonetheless, part of the relevant literature found no evidence to support the hypothesis that financial factors affected trade during the crisis (Levchenko et al, 2010, Chakraborty, 2012, e.g.).

[2] Recent firm level studies indicating the relationship between credit constraints and firms' export activities include Amiti and Weinstein (2011) on Japan, Minetti and Zhu (2011) on Italy.

Jacks et al (2009) highlight the heavy reliance of global trade on cross border supply chains and they suggest that general trade costs have played an important role in trade slump. These trade costs include tariff and non - tariff commercial policy, trade credit, transportation costs and a range of other factors. In addition, Freund (2009) argues that trade decline is sharper to GDP during global downturns than during normal periods of time. A potential explanation for this is that when global GDP drops sharply, protection policies are adopted exacerbating the drop in trade. Baldwin and Evenett (2009) argue that in contrast to 1930' style of protection, Governments took measures against the crisis that spawn new, murkier forms of protection[3]. Moreover, Altomonte and Ottaviano (2009) regard 'murky' protection as a potential explanatory factor for the greater decline in trade than in GDP.

For a great part of the literature, falling demand is among the most important driving factor of trade drop during the crisis. Eaton et al (2011) conclude that the bulk of the decline in trade to GDP occurred due to the decline in the share of demand for tradables. Chakraborty (2012) considers the case of Indian firms to highlight the importance of the negative demand shock impact on trade. Baldwin (2009) argues that the demand shock operated through two distinct but mutually reinforcing channels. Firstly, commodity prices and secondly the drastic drop of private demand for all kinds of 'postpone-able' consumption. Eichengreen (2009) argues that the growth of global supply chains is the most important factor for magnifying the impact of the declining final demand on trade.

Foreign exchange rates might also affected exporting activity during the crisis. Wakasugi (2009) indicates that the significant increasing trend of exports per product in Japan after 2003, and the sharp decline after 2007 are related to the changes of yen per dollar exchange rate. Regarding to the Euro, its exchange rate to US dollar had significantly risen in the mid 2008. Moreover, Frieden (2009) argues that the global macroeconomic imbalances were the most important cause of the crisis and explains the role of exchange rates misalignments. It should be noted that quite a few experts supporting the idea that Greece should leave the euro to benefit, among others, by increased exports. (e.g. Azariades, 2011; Skaperdas, 2011).

[3] Baldwin and Evenett (2009) explain that most examples of murky protectionism at this time were not direct violations of WTO obligations. Instead, they are legitimate discretion abuses to discriminate against foreign goods, companies, workers and investors.

By and large the relevant studies examine the impact of a certain aspect of the crisis on exporting activity by focusing on the corresponding trade factors effects. On the contrary, this study considers several trade determinants accounting for various crisis effects on exports. In addition, the selection for inclusion of each trade determinant in the analysis is not arbitrary nor it is merely based on prior literature findings but it is also justified by the relevant survey results. In fact, this means that all factors under examination had an actual impact on exports for a considerable fraction of the examined sampled firms. Exporters' suggestions for trade factors that affected their exports during the crisis are revealed through the survey and considered in the analysis. Furthermore, survey data provides a direct link between trade determinants and their micro level effects on exports and quantifies the effects of qualitative factors, such as protectionism.

1.2.2 Firms' Profile Factors

Recent studies on international trade pay much attention on exporters characteristics that differentiate them from non exporters and affect their activity (see Bernard et. al, 2011 for a review). Although this study considers literature suggestions on firms' heterogeneity, it focuses on the different attributes among exporters that may predict their export performance during the recent crisis. The relevant literature indicates that any examination of the financial crisis impact on trade should account for possible economic heterogeneities among the firms.

Navaretti et al (2011) look at firm level data from seven European countries to document that both firm characteristics and country specific factors determine firms' internationalization models. They argue that firms' size and exports' destination are among the primary determinants of firms exporting activity during the crisis. In particular, they found that changes in exports were less dramatic for larger firms and those exporting out of the EU[4]. Fontagne and Gaulier (2009) use firm level data to analyze the French exports in relation to the global crisis and they find no clear evidence that the impact of the crisis was greater in small exporters as compared to their larger counterparts. Chakraborty (2012) argue that the financial recession impact was higher when the trade destination was US in relation to EU.

[4] Export changes refer to changes from 2008 to 2009.

An important firms' attribute that could account for differences on the impact of the crisis on exporters' performance is firms' age. Navaretti et al (2011) argued that older firms export too many more markets and are more capable of reaching largest and dynamic markets in Asia. Moreover, they examine firms' intensive margin and the number of destination markets to determine the global operation of European firms. They argue that firm characteristics have that largest contribution in the explanatory power of the models estimating exporting firms export share and number of export destinations, outweighing country effects. Examples of significant firms' characteristics include firms' productivity, innovative activity and skill content of the workforce. Especially regarding the number of export destinations, their results support Eaton et al (2004) findings on French exporters which indicate that as the number of export destination increase, the number of exporters dramatically decrease.

The remainder of the study is structured as follows: section 2 presents the data collection methodology and model estimation. Section 3 focuses on the analysis findings and the last section provides concluding remarks as well as suggestions for further research.

2. Data and Model Estimation

2.1 Population Under Examination

The survey sample was obtained from the Hellenic Foreign Trade Board (HEPO) database[5]. The database is comprised of 10,418 individual exporting firms including their contact details as well as information on their number of employees, year of establishment and business activity. The database is large enough to give a representative distribution of the characteristics of Greek exporting firms. The sample is consisted of 430 firms that randomly selected out of the HEPO database. The sample size is sufficient enough given that 371 firms would be needed for the survey to achieve a 95% confidence level for the results at a 5% error level. For reasons of sample homogeneity, the analysis considers only the sampled firms that export manufactured goods. These firms are 348 in total, where 85.3% of those export final goods and the rest of them export intermediate goods.

[5] HEPO is a nonprofit organization that operates under the supervision of the Ministry of Economics and Finance and it is officially responsible for implementing the export policy of Greece.

Firms' characteristics are important features of the population since the impact of the crisis may be uneven across firms of different characteristics. The information about firms characteristics provided by the database allows categorizing the firms according to their attributes. Hence, the proportion of the database population that falls into each category is known. Three factors related to firms' profile have been chosen to divide the population into groups consisting of the respective categories. These factors are firms' location, activity and man power size. The actual sample of manufacturing firms, with no weights, is used for all the econometric analysis and survey results exposure. Distributions of the reference population and the actual sample by the abovementioned firms' profile factors are presented in the appendix[6].

The three factors mentioned above, are all relevant to the subject of investigation since they account for important features of targeted population. In particular, the location of firms is used to capture any potential differences of the crisis's impact on firms based in distant regions relative to those being close to cargo interchange stations usually located at major urban regions. Furthermore, exporting firms based in borderlands enjoy a relative favourable taxation scheme to rest of the firms. The geographical distribution of population follows the level one Nomenclature of Territorial Units for Statistics (NUTS 1) which describes major socioeconomic regions. Greece consists of 13 peripheries forming four major socioeconomic regions, namely: a) Northern Greece, b) Central Greece, c) Aegean islands and Crete and d) Attica). The firms' sector of activity is chosen as a factor intending to capture any potential differences on the impact of the financial crisis on firms of different sectors. Firms are divided in three categories according to their sector of activity: a) industry, b) commerce and c) services.

The third considered sampling factor is the number of firms' permanent employees which is used as an indicator of their size. This factor is relevant to the research objectives because the impact of the crisis might be uneven across firms of different size. Firms are divided into four categories according to their staff headcount. The classification follows the definitions for micro, small and medium-sized enterprises (SMEs) regarding their headcount staff. Actually, enterprises qualify as SMEs if they fulfill certain criteria about their headcount staff and annual turnover or balance sheet total. For example, according to E.U. classification

[6] Population and Sample Distributions, Table: A.1

standards, a firm is ‘micro’ when its permanent employees are up to 9 persons and its annual turnover does not exceed 2m euro. Firms employing 10-49 persons and have a turnover up to 10m euro are defined as ‘small enterprises’ while firms with staff between 50-249 persons and annual turnover up to 50m euro are defined as ‘medium enterprises’. Enterprises employing over 250 persons and whose annual turnover exceeds 50m euro are considered as large enterprises.

2.2 Data Collection Method

The main source of data is a survey conducted by using a structured questionnaire. Exporters' responses to the survey were combined with information available in HEPO's data set to form the database used. The survey was conducted during the second and third quarters of 2011 and the data was collected via Computer Assisted Telephone Interviewing (CATI) system. The questionnaire was electronically coded and exporters’ responses to survey were automatically transmitted to a central data processor. By doing so, potential error attributed to human mistakes was successfully avoided.

The present study follows the telephone interviews survey method because it is most suitable for achieving the research objectives given the nature of the population under examination. Specifically, the geographical distribution of population elements as well as the relatively large to total population sample size makes personal interviews and mail surveys not viable. Furthermore, the selection bias of telephone surveys is eliminated since it is rather reasonable to assume that any firm has a telephone line. To achieve the highest possible validity in the responses, the interviewees are the persons in charge of the firms’ exports. In regard to this element, since the survey was directed to exporting firms, depending on firm size, the person in charge of exports was either the owner of the firm or a high ranking officer.

2.3 The Questionnaire

The questionnaire was designed by considering a pre-test of the survey instrument as well as a feedback from a small number of exporters. In particular, the initial questionnaire draft was distributed to a small number of exporters who suggested improvements and the whole survey process has been pre-tested.

Questionnaires were completed by 63 exporters following the same methodology with the actual survey in order to ensure that questions were clear to exporters, allowing improvements and guaranteeing that the survey methodology followed is working in practice.

The primary aim of the questionnaire's format was to reflect literature's propositions on crisis aspects in trade companies in order to get relevant firm level data via the survey. The posed questions were based on literature suggested explanatory factors for the trade decline during the crisis, as well as to factors suggested by the exporters in the pre-test of the survey. In that way, exporters were able to define the extent in which each proposed factor had an actual impact on their export activity. Furthermore, it is generally accepted in the literature that the crisis hit was uneven among firms of different characteristics. Therefore, firms' characteristics that may differentiate the impact of the crisis on exports were also taken into consideration in the questionnaire design[7].

2.4 The Dependent Variable

By and large, empirical studies about the impact of the crisis on trade use time series data to define the dependent variable (Levchenko et al, 2010, Chor and Manova, 2010, e.g.). The few existing relevant studies using survey data focus on the so called extensive and intensive margin of trade (Navaretti et al, 2011, Minetti and Chun Zhu, 2011, e.g.)[8]. The extensive margin refers to the number of firms exporting and number of export destinations while the intensive margin refers to firms' level of exports (Manova, 2010). Usually, the margins of trade are estimated out of samples that include both exporting and non exporting firms. Hence, such a calculation of these variables requires data on both exporting and non exporting firms as well as information about firms' exports levels. In this study, the population under examination is solely consisted of exporters. Navaretti et al (2011) analyse export

[7] To achieve this study's research objective only a part of a greater questionnaire is utilized. The questionnaire is structured in three sections. The first section focuses on the characteristics profiling the interviewed firms. The second section examines various aspects of the crisis impact on the firms and the last section focuses on the future prospects of exporters. The set of questions presented in this study are the section one and part of section two of the questionnaire.

[8] These studies are not directly related to the crisis but they are relevant to this study in terms of identifying and defining variables that could be important to the analysis. With the exception of the study's part which estimates export changes between 2008 and 2009, Navaretti et al (2011) focuses in 2008. The main source of data for Minetti and Chun Zhu (2011) is a survey conducted in 2001.

changes over the crisis by restricting a large sample of European firms to firms that perform exports.

The considered dependent variable captures exporters' perception for their exporting performance over the period of the crisis. Instead of using financial statements' data, the dependent variable takes values respecting to exporters' responses to the survey. In particular, exporting firms' performance during the crisis was assessed by the following close ended question:

During the Global Financial Crisis, your firm's export volumes have[9]:

1. Increased 2. Remained Constant 3. Decreased

One would expect that in the presence of the crisis, the majority of firms would report decreasing exports. However, this is not the case since exports have decreased for the 39.1% of firms under examination. The majority of firms responded that their exports remained constant or even increased during the crisis period (41.1% and 21.3% respectively). These results indicate that a significant share of exporters declared increased exports during the crisis, considering the recession. At a national level, Greece's exports were declining between 2008 and 2010, then they started to considerably increase although the domestic economy was getting far deeper in recession.

Navaretti et al (2011) use 2009 survey data for seven European countries' exporters to argue that a relative large share of them managed to increase exports. Specifically, their results indicate a reduction of the volume of exports for the 51.5% of firms and an increase for the 18.7% of them. Although these results are not directly comparable to the survey results of this study since they examine the changes in export volumes between 2008 and 2009, it is notable that the percentage of sampled Greek firms reported in 2011 increased exports during the crisis is very close to the corresponding percentage in their results. In fact, the percentage of Greek firms reported increased exports during the crisis is slightly over the relative average percentage for the seven countries in the sample of Navaretti et al (2011) and it is almost the same with that of German exporting firms. Exporters were asked about the magnitude of their exports increase or decrease. Among those who reported

[9] From here on in this study, 'export performance' or just 'exports' refer to volumes of exports as they assessed by the question

"increased exports" during the crisis period, 64% stated that their exports increase was up to 20%. On the other hand, the reduction in export volumes is significantly larger for most of the firms. The 79% of exporters who reported "decreased exports" stated that the decrease was up to 60%[10].

2.5 The Explanatory Variables

The present study examines 13 potential predictors of firms' export performance over the crisis. The questionnaire considers three firms' attributes, these are: permanent staff[11], age and primary destination market. The considered trade factors are ten, namely: bank financing of trade credit, bank financing of operational costs, finding alternative sources of financing, taxation, Euro exchange rate, raw material prices, oil prices, protection policies in foreign countries, fiscal problems and foreign demand[12]. Information on the firms' stuff and age was obtained from the HEPO database. The data source for the rest of the examined variables is the survey responses.

Firms' employment level is commonly used in the literature as a key firm characteristic (Minetti and Chun Zhu, 2011, Behrens et al, 2010, e.g.). Empirical studies on exporting firms have shown that exporters are older than non exporters, (Minetti and Chun Zhu, 2011, e.g.). Furthermore, empirical evidence indicates that older firms export to more markets and are capable of reaching larger and dynamic markets in Asia (Navaretti et al, 2011). In general though, micro level studies in various fields of economics regard firms' age as a factor related to their economic performance. Firms' age is added as a predictor to export volumes in order to make inferences about the importance of firms' 'maturity' in dealing with the crisis. According to Navaretti et al (2011) findings, the changes in exports were less dramatic for the firms exporting out of the EU indicating that export destination markets is related to firms exporting performance during the crisis. The analysis accounts for this by considering the firms' primary export destination market. In order to obtain information for several destination markets, the variable is consisted of

[10] Detailed results are presented in the Appendix, Table A.1.1

[11] To avoid correlations between the trade discouraging factors and the firms' size at the time of the survey, firms' employment level at the out breaking of the crisis (2008) is used to account for their size.

[12] List of variables used in the analysis are presented in the Appendix, Table A.1.2

categories referring to various regions of the world. The relation between the firms primary exporting to the EU with the export performance over the crisis is assessed at a later stage of the study.

This study assesses ten trade factor variables for their effect on exports over the crisis period. These variables are proxies for literature suggested trade factors and other factors that according to exporters' responses in the pilot survey have affected their exporting activity. Exporters rank the examined variables on a scale range from one to five for their impact on their exporting activity during the crisis. By statement of the corresponding questions, variables are examined only for their negative impact on exports. On the scale range, one means 'absolutely not affected' and five means 'absolutely affected'.

Recent studies relate the emerging financial constraints to exporting firms' activity over the crisis. The limited availability of external financing has discouraged international exports. To cover their expenditures, exporters require external finance which is usually in the form of bank loans and bank provided trade credit (Manova, 2010). The increased cost of external capital has played an important role in trading activity during the crisis, especially for the financial vulnerable sectors (Chor and Manova, 2010). Nonetheless, Manova et al (2011) explain that international equity flows and foreign direct investments can alleviate credit constraints. Hence, whether or not a firm is able to raise capital from other sources except to banks is vital for its activities during the crisis. To account for these financial problems, bank financing availability of trade credit and operational cost as well as the finding of alternative sources of financing are considered for their effect on firms' exports.

Recent relevant studies suggest that various forms of protection policies have adopted and played an important role in trade activity during the crisis (Altomonte and Otaviano, 2009, Baldwin and Evenett, 2009, e.g.). Protectionism is regarded as a factor that exacerbated the trade drop (Freud, 2009). The analysis considers protectionism by examining the effect of protection policies in foreign countries on firms' exports. Furthermore, literature on export determinants documents the relationship between exports and exchange rates (Wakasugi, 2009, e.g.). In the first

period of global financial crisis the euro had considerably appreciated over US dollar and other major currencies[13].

Prior literature analyzes the vast contribution of falling demand in trade reduction during the crisis (Eaton et al, 2011, e.g.). Baldwin (2009) highlights the drop of private demand for postpone-able consumption as channel of the demand shock operation. Furthermore, Eichengreen (2009) argue that the impact of falling final demand on trade is magnified by the growth of global supply chains. To account for the falling demand effect in trade, the analysis assesses foreign demand impact on exporting firms' performance during the crisis. Moreover, relevant literature suggests that general trade costs have played an important role in trade reduction (Jacks et al, 2009. e.g.). Transportation costs are regarded as part of these costs.

The pilot survey results indicate the rationality for considering the above mentioned trade factors in the analysis since a large share of exporters regard them as trade discouraging factors. Moreover the oil price and raw material prices had been identified in the pilot survey as factors negatively affected exporting activity. Ferrantino and Larsen (2009) argued that the increase of global oil prices in 2007 and the first half of 2008 was a contributing factor to the global recession and that much of nominal trade reduction during the crisis was due to the falling oil prices. At the end of 2008 oil price fell and since then it was steadily rising. Beside the price of oil as a trading commodity, high oil prices are pointed out by many exporters as a crucial factor that increased production cost as well as transportation costs and hence negatively affected their exporting activity. Furthermore, the prices of raw materials are underlined in the pilot survey, mainly by exporters of manufactured goods, as a factor negatively affected their exports. Hence, the fluctuating price of oil that end up in an increasing trend and the prices of raw materials could damage firms' export performance during the crisis. For this reason, both oil and raw material prices are assessed by survey respondent for their effect on firms' exporting activity.

According to the pilot survey results, domestic or foreign fiscal problems as well as taxation have played a role in determining firms' exporting performance and hence are both considered in the analysis. Due to fiscal problems that have been exacerbated by the crisis, the Greek public sector faced severe difficulties in smoothly financing its obligations to private sector, exporting firms inclusive. Furthermore,

[13] Several economists support the idea that exports will increase after a potential exit of Greece from the euro zone (Skaperdas, 2011, e.g.).

foreign public funded projects in markets where Greek companies are involved have been postponed or even canceled due to fiscal problems. In addition, the rising public debt of the country led to increased indirect taxation and most importantly to delays in the VAT refund to exporters. These issues may explain why a large share of respondents identified taxation as an obstacle to their exporting activity over the crisis. To this end, the impact of fiscal problems and taxation are also assessed in the analysis for their role in explaining firms' export changes.

2.6 Some Survey Results and Expectations on Model predictions

Most of the sampled firms are in the industry sector and they mainly export final consumption goods. The majority of firms, export in three to five countries, which are mainly in the euro zone area. Almost half of the examined firms have an annual turnover of less than 2 million Euros and for most of them exports are less than 40% of their total sales. Trade factors related to financing have been evaluated with the greatest negative impact on exporting activity by the 25% of exporters roughly. For most of the firms, the factors with the greatest adverse impact on exporting activity are taxation and oil prices[14].

A picture of the interrelation between firms' export performance and firms' characteristics is given by crossing the survey results for firms' exports with results for firms' profile variables[15]. According to the corresponding cross tabulation table, as firms' size in terms of employment increases, the number of firms stated increased exports during the crisis also increases, and vice versa. Concerning the firms that primarily export to the EU, the 44.9% reported constant exports and the 37.6% decreased exports during the crisis. Among the firms that primarily export outside the EU, the larger share reported decreased exports (46.2%). In addition, there are no particular differences in export performance between firms that primarily export goods for final consumption and firms exporting intermediate goods. Similarly, firms' age does not provide any clear pattern regarding firms export changes over the crisis. To this end, the only clear indication concerning the firms' characteristics that is

[14] Descriptive statistics only for the variables considered in the analysis are presented in the Appendix, Table A.2

[15] Questions on firms' characteristics as stated in the questionnaire and Cross tabulation table crossing export performance with firms' characteristics is provided in the Appendix, Table A.3.1

derived from the survey results is that larger firms are expected to have fewer probabilities for being among firms with decreased exports over the crisis.

Regarding the trade factor variables, the relevant questions ask survey respondents to rank the negative influence of each examined factor on their exporting activity. Therefore, model predictions are expected to support the hypothesis that exporters that were not heavily affected by a particular factor variable are less likely to have seen their exports drop during the crisis. Except to the considered trade factors, exporters were asked to state any other export discouraging factor that is not included in the questionnaire. The responses to this open ended question provided various factors that according to exporters had an impact on exports over the crisis. Most of these factors have not been considered in the corresponding literature. Precisely, the 19.3% of examined exporters reported a factor that was not considered in the questionnaire. Some of these factors are: bureaucracy, insufficient state support, low competitiveness and negative county image[16].

2.7 Model Estimation and Determinants Selection

A multinomial logistic model is used to estimate firms' export volumes during the crisis (Agresti, 2007, 1990; Long, 1997). The model predicts the probabilities of the outcomes of the dependent variable given the considered set of explanatory variables. In particular, the analysis aims at modeling the odds of export volumes as a function of the explanatory variables and to express the results in terms of odds ratios for choice of different levels of export volumes (Hosmer and Lemeshow, 2000).

The multinomial response $y_i = (y_{i1}, y_{i2}, ..., y_{ip})^T$ is assumed to follow a multinomial distribution with index $n_i = \sum_{j=1}^{p} y_{ij}$ and parameter $\pi_i = (\pi_{i1}, \pi_{i2}, ..., \pi_{ip})^T$. By taking a baseline category (j*), the multinomial logistic model is:

$$\ln\left(\frac{\pi_{ij}}{\pi_{ij^*}}\right) = \mathbf{x}_i' \boldsymbol{\beta}_j \qquad (j \neq j^*) \qquad (1)$$

[16] Additional to the considered trade factors that reported by the exporters are provided in the Appendix, Table A.3.2

where $\pi_{ij} = \frac{\exp(\mathbf{x}_i' \boldsymbol{\beta}_j)}{1 + \sum_{k \neq j^*} \exp(\mathbf{x}_i' \boldsymbol{\beta}_k)}$ denotes the probabilities of the non baseline categories,

$\pi_{ij^*} = \frac{1}{1 + \sum_{k \neq j^*} \exp(\mathbf{x}_i' \boldsymbol{\beta}_k)}$ the probability of the baseline category, **x's** are the vectors of independent variables and **β's** are the vectors of coefficients. By choosing the last category as the baseline category[17], then $\beta = [\beta_1, \beta_2, ..., \beta_{p-1}]$. The signs of the coefficients indicate whether the corresponding explanatory variables cause an increase or a decrease in the dependent variable. The responses to the dependent variable are treated as nominal because the test of parallel lines for the estimated models indicate violation of proportional odds assumption and hence a multinomial logistic regression is preferred to an ordinal logistic analysis for the given data[18].

The logistic regression considers a set of strong statistically significant independent variables that aid in increasing the explanatory power for the econometric model[19]. The reference model for the econometric analysis is as follows:

$$\ln\left(\frac{odds(i)}{odds(baselinecategory)}\right) = \beta_0 + \beta_1 AGE + \beta_2 STAFF + \beta_3 TAX + \beta_4 EX + \beta_5 FD$$

where i=1, 2, 3. (2)

To assess literature suggestions that firms reaching markets outside the EU are suffered less by the crisis (Navaretti et al, 2011, e.g.), the above equation is extended to include a dummy variable indicating of firms' primary export destinations are in the

[17] Any chosen baseline category will give the same likelihood and fitted values. Nevertheless, category 3 (Decreased) is chosen as baseline category for results interpretation reasons. This is in order to analyze results relative to categories 1. (Increased) and 2. (Remained constant) which describe a relative 'good' exporting performance, considering the magnitude of the crisis.

[18] Test for parallel lines results for equation 2, for the same specification including DEU and for the model including all 13 explanatory variables are presented in the Table A.4. An ordinal regression by remodelling eq.2 to use Cauchit link or probit link function is also not appropriate according to the test of parallel lines significance.

[19] A backward elimination procedure is also utilized as a guide to select the independent variables included in the model. The backward elimination procedure selected the models' set of explanatory variables out of 13 potential predictors. According to this procedure, all the explanatory variables are fitted in the model and then the least significant variable is eliminated given that it is not statistically significant at the 5% critical level. In doing so, a set of the strongest statistically significant independent variables are included in the final logistic regression model. Model statistic information and parameters estimates resulted after having followed the backward elimination procedure are available in Tables A.5.1a and A.5.2.a.

EU[20]. The reference mode is further extended to account for the considered trade discouraging factors. On an alternative specification, the econometric analysis follows a binary logit regression analysis.

3. Econometric Results

3.1 The Reference Model

The econometric model is statistically significant (Chi square 91.192; p=0.000) indicating a significant relationship between exporting firms' performance during the crisis and the explanatory variables. The model has a 54.5% overall rate of correct classification of firms according to their exports' performance during the financial crisis. All the independent variables considered in this model are strong statistically significant predictors of firms' export performance over the crisis[21]. The set of independent variables consists of two firm profile variables and three trade factor variables: age, size, taxation, euro exchange rate and foreign demand[22].

In accordance with a great part of the corresponding literature, the econometric results indicated that firms' economic size is a determinant of economic performance during the crisis. As expected by the survey evidence, it appears that larger exporting enterprises are more likely to have performed better than their smaller counterparts over the crisis. In particular, the econometric model suggests that larger firms are more likely to have their exports increased or remained constant during the crisis period. This finding can be explained by large firms' ability to alleviate trade constraints over the crisis. For instance, it is plausible to assume that large firms are more capable in raising capital than smaller firms. Moreover, prior literature argues that it is more likely for small firms than larger to be financially dependent on banks (Bernanke et al, 1999). Relative large enterprises may have access to adequate internal capital to finance their exporting operations. In addition,

[20] Navaretti et al, 2011 uses a similar to the dummy used in the analysis variable to estimate export changes over the crisis. In particular, they use a dummy variable indicating whether firms export only to the EU while the variable used in this analysis describe firms intensity toward the EU as a destination market. This is because the corresponding question asks exporters to state their primary export destination.

[21] Multinomial Logistic Regression Model Statistic Information, Table A.5.1.b

[22] Multinomial Logistic Regression Model Parameters Estimates, Table A.5.2.b
Marginal Effects, Table A.5.3.B

banks would preferably direct their limited available lending capital to large firms than in small firms.

Another factor that is found to be related to export performance over the crisis is the exporting firms' market longevity as this is captured by their age, i.e., years of operations. Older firms are expected to perform better during the crisis because of their accumulative experience and tradition in doing business. However, the econometric results suggest that younger firms are more likely to exhibit increased or constant exports rather than older firms are. Every additional year of operations lowers the odds that a firm enters the category 'increased exports' or 'constant exports' rather than the baseline category 'decreased exports'. This may be attributed to the competitive advantages of younger firms over older enterprises. In general, younger firms are more innovative than their older counterparts and have greater adaptive ability. Further, the room for business expansion and growth is usually greater to newer businesses than to older firms

Another finding of this study is that the adverse impact of taxation in firms' export activity is a statistically significant predictor of exporting firms' performance over the crisis. Specifically, in the case where exporters are not negatively affected by taxation over the crisis the likelihood of transition from decreased exports to increased exports increases by a factor of 2.855. Even firms that have been negatively affected by taxation at a moderate level are more likely to have their exports increased compared to firms that have heavily affected by taxation. The identification of taxation as a factor influencing firms' exports is attributed to the fact that VAT transfers from the state to exporters were delayed at the time of survey. Furthermore, as a response to the country's high debt, indirect taxation has risen contributing to an increase in firms' operational costs.

Firms that were not heavily affected by foreign demand are less likely to have their exports decreased. In particular, the odds among firms that were absolutely not affected by foreign demand having increased exports within the crisis is 9.281 times greater than the odds among firms being heavily affected by foreign demand. Exporters that were unaffected by foreign demand during the crisis have 44.6% smaller probabilities to have their exports decreased over this period. It also holds that firms not being negatively affected by foreign demand at a high level are more likely to have reported constant exports over the crisis as compared to firms that were affected by foreign demand at the maximum level. This finding is in accordance with

the part of the literature attributing the trade decline over the crisis to reduced demand for consumption (Baldwin, 2009, e.g.).

The impact of the Euro currency in Greek firms' exporting activity is a field of fierce debate in the analyses concerning the management of the country's public debt. Arguments against the participation of Greece in the euro zone often focus on the euro exchange rate. Euro is criticized for negatively affecting the competitiveness of Greek exporters due to its exchange rate as compared to drachma. The econometric results indicate that firms which have been negatively affected by the euro exchange rate at a low or even high level are more likely to have their exports increased or remained constant during the crisis compared to firms that have been affected at the maximum level.

To assess the impact of firms' destination markets on firms export growth over the crisis, a dummy variable (DEU) indicating if a firm is primarily exporting to the European Union is included in the model. As expected due to prior literature evidence, the firms' destination is related to firms exports (Navaretti et al, 2011, e.g.). The variable is statistical significant and the corresponding results indicate that firms primarily exporting outside the EU are less likely to report constant exports and more likely to report increased exports[23]. Nevertheless, the later is not statistical significant.

3.2 Extensions of the Reference Model

The above analysis examined strong statistical significant predictors of firms' export performance during the crisis that has also been suggested by a backward elimination procedure. Some extensions of the reference model are further examined in order to provide information regarding the relation of several factors to exports. Different sets of variables were added to the variables examined in (2) to run multinomial logistic regressions on exports.

The reference model is extended to account for the effect of financial constraints on exports during the crisis. Three variables describing trade factors related to finance were added to the model. These factors are: Bank financing of trade credit (TC); Bank financing of operational costs (OC) and Finding alternative sources of finance (ASF). The produced model is statistically significant (p=0.000) but the

[23] Multinomial Logistic Regression Model Statistic Information, Parameters Estimates and Marginal Effects, Table A.5.1.c - A.5.3.c

financial factors are not[24]. This indicates that the considered trade discouraging factors related to financing are not related to firms exporting performance over the crisis.

Two factors related to costs were added to the reference model. These are raw material (RM) and oil (OP) prices. Both factors may influence firms exporting performance over the crisis since they are related to firms' energy and production costs. According to the multinomial logistic regression results, the final model specification is statistically significant (p=0.000). Nevertheless, both added to the model variables were not statistically significant[25]. An additional empirical specification allows getting information about state related factors effect on exports. In particular, protection policies (PROT) in foreign countries and fiscal problems (FP) were added to the reference model to run a subsequent multinomial logistic regression. Same as in the rest of the referenced model extensions, the final model is statistically significant (p=0.000) but all added variables were not significant[26].

3.3 Binary Logistic

The dependent variable used in the above econometric analysis is consisted of three categories describing firms' export volumes during the crisis: 1. Increased, 2. Remained Constant and 3. Decreased. In general, a firm that managed to increase or keep constant its exports, in such an adverse economic environment, has demonstrated a good exporting performance. On the other hand, firms that experienced decreasing exports during the crisis have demonstrated a relative bad exporting performance. Within this comparative framework, categories "Increased" and "Remained Constant" of the dependent variable are merged to form a dummy variable (EXPBIN) that takes on the values 1 (categories 1 and 2) and 0 (category 3).

A logistic regression analysis is followed to examine the relationship between EXBIN and the set of potential explanatory variables used in the previous sections. The link between the dependent variable and the set of explanatory variables has the form:

$$Logit(P) = \log\left[\frac{P}{(1-P)}\right] \quad (3)$$

[24] Multinomial Logistic Regression Model, Table A.6
[25] Multinomial Logistic Regression Model, Table A.7
[26] Multinomial Logistic Regression Model, Table A.8

Where $\left[\frac{P}{(1-P)}\right]$ in (3) is the odd of an exporting firm having demonstrated a good exporting performance during the crisis and equals to exp ($\mathbf{x}^{\mathbf{T}}\boldsymbol{\beta}$).

The logistic regression analysis is structured in the same way as the multinomial regression analysis of the previous sections, allowing comparisons between the findings of the two specifications. The initial logit model predicts EXBIN with the same set of independent variables as in (2) (i.e. the reference's model predictors). These variables are firms' age, size, the negative impact of taxation, euro exchange rate, and foreign demand in firms' exporting activity over the crisis. The last category of each categorical independent variable is omitted.

According to the econometric results, the addition of the above variables in the model is statistically significant (Chi-square: 65.211, p=0.000)[27]. In contrast to the equivalent multinomial logit model where all the considered independent variables are statistically significant, in the binary logit model the negative impact of taxation (TAX) is not statistically significant predictor of the exporting performance during the crisis. Smaller firms are less likely to have demonstrated a good performance over the crisis. Same as in the multinomial regression analysis, firms' age is also a statistically significant variable. A one unit increase in age decreases the odds of being among the firms that reported increased or constant exports during the crisis. The positive coefficients of predictors associated with the impact of euro exchange rate on firms exporting activity indicate an increase in the respective probabilities of a firm having well performed during crisis. For instance, the odds of having well performed over the crisis are 2.519 greater for firms that their exporting activity has not been negatively affected by euro exchange rate during this period than for those firms that have been affected by this factor at maximum level. Furthermore, firms that have not affected by foreign demand (FD=1) are 12.049 times as likely to have demonstrated a good export performance over the crisis than firms that have been affected by this factor at the maximum level. The inclusion of firms primary export destination dummy (DEU) in the above analyzed set of factors does not alter the variables overall significance neither the significance of the model. The DEU variable is statistically insignificant predictor of export performance in the binary expression of the model[28].

[27] Model Estimation, Table: A.10.1.a
Marginal Effects, Table: A.10.1.b
[28] Model Estimation, Table: A.10.2.a

The set of trade factors associated with financial constraints has been added in the reference model specification in order to reexamine their relationship with firms' exporting performance during the crisis in a binary logistic set up[29]. All the additional factors (TC, OC, ASF) are statistically insignificant. Two variables associated to prices have been added to the reference model specification. These variables are the impact on firms exporting activity of the raw material (RM) and oil prices (OP)[30]. Both added factors are overall insignificant. Following the same methodology as in the multinomial regression analysis, another specification of the reference model which accounts for the negative impact of state related issues on firms exporting activity during the crisis is also examined. In particular, the variables accounting for the impact of protection policies in foreign countries (PROT) and fiscal problems (FP) are added to the reference model[31]. Both variables are overall insignificant, though the second category of PROT is significant.

4. Conclusion

The analysis identified and quantified determinants of Greek firms exporting performance during the global financial crisis. In doing so, a specially designed questionnaire is utilized to obtain new and unique survey data that contributes in facing the problem of dearth firm level data. Moreover, survey respondents are the persons in charge of companies' exports, strengthen in that way the data validity. A large set of trade determinants have been assessed by the exporters for their actual impact on firms' exports during the crisis. In addition, the survey results provide various trade discouraging factors that suggested by the exporters, some of them are unexplored by the literature. A logistic regression analysis is followed in order to identify the most important predictors of exporting firms' performance during the crisis out of a wide range of variables. By doing so, the study's findings indicate the

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Marginal Effects, Table: A.10.2.b

[29] Model Estimation, Table: A.10.3.a
Marginal Effects, Table: A.10.3.b

[30] Model Estimation, Table: A.10.4.a
Marginal Effects, Table: A.10.4.b

[31] Model Estimation, Table: A.10.5.a
Marginal Effects, Table: A.10.5.b

areas that should draw attention in the analysis of Greek firms' exports behaviour over the crisis period.

In accordance with the relevant literature, various firms' attributes are found to be predictors of firms' export changes over the crisis. As far as trade factors are concerned, the findings are in line with previous studies that highlight the importance of foreign demand as trade determinant during the crisis. Exporting firms' size and age have a statistically significant impact on export performance over the crisis. In particular younger and larger firms are more likely to have demonstrated a good export performance over the crisis. A multinomial logistic regression analysis results suggest that firms' primary export destination is also a statistically significant predictor of firms export performance over the crisis. Nevertheless, this is not the case in a binary logistic regression analysis. Furthermore, the multinomial regression analysis results indicate that the levels in which foreign demand, euro exchange rate and taxation negatively affected firms' exporting activity are also statistically significant explanatory factors of firms' exports. The latter is not a significant variable in the logistic regression analysis. The implications for trade policy steaming from this research are exploitable by policy makers. According to our findings, a resilient to the crisis exporting firm is larger and younger. In addition, trade policy innervations should consider the effects of the above mentioned trade discouraging factors. On the other hand, our findings do not provide evidence that factors related to financial constraints, States' status such as protection policies or fiscal problems and international prices such as those of oil or raw material have played an important role in explaining Greek firms export volume changes over the crisis.

A suggestion for further research may be the application of the above methodology in other countries or/and in future to allow comparative results. In particular, the structured questionnaire utilized to conduct the survey can be used to monitor the crisis dynamics in Greece as well as in foreign exporters to allow comparisons. Furthermore, except for the examined trade determinants, the survey results reveal various trade factors that have not been sufficiently examined by the literature. Therefore, another topic for future research may also be the examination of the trade factors mentioned by the exporters, such as the country's image.

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Appendix

Table 1. Population and Sample Distributions

Location			Activity			Size		
Categories	Population	Sample	Categories	Population	Sample	Categories	Population	Sample
Northern Greece	3,796	154	Industry	5,601	270	0-9	4,574	179
Central Greece	1,049	46	Commerce	4,331	147	10-49	4,473	183
Aegean Islands & Crete	345	23	Services	486	13	50-249	1,150	54
Attica	5,228	207				Over 250	221	14

Table A.1.1 Exports Variation Magnitude

Question: To what extent have your firm's exports Increased?(%)			**Question: To what extent have your firm's exports Decreased?(%)**	
1-20	64%		1-20	30%
21-40	12%		21-40	27%
41-60	8%		41-60	23%
61-80	7%		61-80	11%
81-100	8%		81-100	10%

Table A1.2 List of Variables

STAFF	Firm's permanent employees
AGE	Firm's age
DEU	Dummy variable indicating if a firm's primary exports are in the EU
	Categorical variable consisting of five categories measuring different levels of the negative impact of:
TC	"Trade Credit financing" from the banking sector to firms exporting activity over the crisis
OC	"Operational Costs financing" from the banking sector to firms exporting activity over the crisis
ASF	"Finding Alternative to Banking sector sources of financing" to firms exporting activity over the crisis
TAX	"Taxation" to firms exporting activity over the crisis
EX	"Euro Exchange Rate" to firms exporting activity over the crisis
RM	" Raw material Prices" to firms exporting activity over the crisis
OP	"Oil prices" to firms exporting activity over the crisis
PROT	" Protectionism" to firms exporting activity over the crisis
FP	"Fiscal Problems" to firms exporting activity over the crisis
FD	"Foreign Demand" to firms exporting activity over the crisis

Table A.2 Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
EXPCH	348	1	3	2.16	.751
AGE	348	3	53	16.00	9.363
STAFF	348	0	920	37.87	83.114
TC	346	1	5	2.92	1.591
OC	347	1	5	2.90	1.559
ASF	345	1	5	2.78	1.602
TAX	345	1	5	3.46	1.488
EX	342	1	5	2.52	1.403
RM	348	1	5	3.31	1.360
OP	347	1	5	3.51	1.407
PROT	344	1	5	2.00	1.290
FP	344	1	5	2.42	1.444
FD	341	1	5	2.51	1.273

Table A.3.1 Crossing Results

DV. During the Global Financial Crisis. your firm's export volumes have:		**Increased**	**Remained Constant**	**Decreased**
What is the primary export activity of your firm?	Goods for final consumption(Man.)	21.2%	41.1%	37.7%
	Intermediate goods(Man.)	21.6%	41.2%	37.3%
Your firm's goods are primarily exported to:	Euro-zone Countries	19.0%	45.9%	35.1%
	EU outside Euro-zone	21.2%	40.4%	38.5%
	Europe outside EU	28.6%	19.0%	52.4%
	North America	35.7%	14.3%	50.0%
	Asia	25.0%	37.5%	37.5%
	Africa	25.0%	0%	75.0%
	Rest of the world	27.8%	38.9%	33.3%
Recoded in DEU	EU [1]	19.4%	44.9%	35.7%
	Rest of the World [0]	29.2%	24.6%	46.2%
Firms' year of establishment (classified according to the database)	Before 1980	23.1%	46.2%	30.8%
	1980-1989	15.9%	29.5%	54.5%
	1990-1999	20.4%	40.1%	39.4%
	After 2000	23.4%	44.7%	31.9%
Firms' of permanent employee in 2008 (classified according to the database)	Up to 9	17.1%	40.7%	42.1%
	10-49	20.8%	39.6%	39.6%
	50-249	33.3%	47.6%	19.0%
	Over 250	33.3%	41.7%	25.0%

Table A.3.2 Exporters Mentioned Trade Factors

FACTOR	**Percentage (%)**
Bureaucracy	2.3
Insufficient state support	2
Low competitiveness	4.0
Negative country image	1.7
Socioeconomic turbulence in Middle East	0.9
Strikes	1.1
Other	8.1

Table A.4 Test of Parallel Lines

Model Eq.1	-2 log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	650.644			
General	619.704	30.941	14	0.006
The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.				

Model Eq.2	-2 log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	650.644			
General	606.490	44.155	15	0.000
The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.				

Model All Variables	-2 log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	592.340			
General	529.803	62.510	.43	0.027
The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.				

Table A.5.1.a Model Statistic Information under Backward Elimination

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	594,054[a]	,000	0	.
STAFF	604,447	10,393	2	,006
DEU	603,848	9,794	2	,007
EX	609,360	15,306	8	,053
TAX	611,838	17,784	8	,023
FD	635,410	41,356	8	,000
AGE	604,112	10,058	2	,007

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	696,772			
Final	594,054	102,717	30	,000

Classification

Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	21	32	17	30%
Remained Constant	9	91	37	66.4%
Decreased	8	40	73	60.3%
Overall Percentage	11.6%	49.7%	38.7%	56.4%
Pseudo R-square:		Cox and Snell: 0.269	Nagelkerke: 0.305	McFadden: 0.147

Table A.5.2.a Parameter Estimates under Backward Elimination

DV. EXPCH:a		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Increased	Intercept	-2.113	.794	7.075	1	.008			
	STAFF	.007	.003	6.727	1	.009	1.007	1.002	1.013
	[DEU=0]	.418	.405	1.063	1	.303	1.518	.686	3.359
	[DEU=1]	0b	.	.	0	.	.	.	.
	[EX=1]	.434	.593	.534	1	.465	1.543	.482	4.936
	[EX=2]	1.124	.620	3.286	1	.070	3.076	.913	10.363
	[EX=3]	.757	.614	1.518	1	.218	2.132	.639	7.109
	[EX=4]	1.772	.671	6.971	1	.008	5.885	1.579	21.938
	[EX=5]	0b	.	.	0	.	.	.	.
	[TAX=1]	.972	.545	3.174	1	.075	2.643	.907	7.698

	[TAX=2]	.206	.609	.115	1	.735	1.229	.373	4.054
	[TAX=3]	.935	.484	3.734	1	.053	2.546	.987	6.569
	[TAX=4]	.348	.488	.510	1	.475	1.417	.545	3.685
	[TAX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.287	.684	11.189	1	.001	9.846	2.578	37.608
	[FD=2]	.695	.660	1.111	1	.292	2.005	.550	7.306
	[FD=3]	.235	.688	.117	1	.732	1.265	.329	4.872
	[FD=4]	.104	.746	.019	1	.889	1.110	.257	4.791
	[FD=5]	0b	.	.	0	.	.	.	.
	AGE	-.051	.020	6.720	1	.010	.950	.915	.988
Remained Constant	Intercept	-1.464	.652	5.050	1	.025			
	STAFF	.006	.003	5.596	1	.018	1.006	1.001	1.012
	[DEU=0]	-.823	.387	4.516	1	.034	.439	.205	.938
	[DEU=1]	0b	.	.	0	.	.	.	.
	[EX=1]	.998	.455	4.821	1	.028	2.714	1.113	6.617
	[EX=2]	1.035	.496	4.356	1	.037	2.816	1.065	7.445
	[EX=3]	.695	.484	2.065	1	.151	2.005	.776	5.176
	[EX=4]	1.021	.584	3.054	1	.081	2.775	.883	8.720
	[EX=5]	0b	.	.	0	.	.	.	.
	[TAX=1]	.042	.449	.009	1	.925	1.043	.432	2.516
	[TAX=2]	.450	.445	1.021	1	.312	1.568	.655	3.754
	[TAX=3]	-.440	.436	1.021	1	.312	.644	.274	1.513
	[TAX=4]	-.730	.411	3.164	1	.075	.482	.215	1.077
	[TAX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.757	.622	19.667	1	.000	15.754	4.658	53.279
	[FD=2]	1.196	.591	4.101	1	.043	3.308	1.039	10.533
	[FD=3]	1.611	.575	7.842	1	.005	5.007	1.622	15.462
	[FD=4]	1.000	.644	2.412	1	.120	2.718	.770	9.603
	[FD=5]	0b	.	.	0	.	.	.	.
	AGE	-.042	.016	7.217	1	.007	.959	.929	.989

a. The reference category is: Decreased.

b. This parameter is set to zero because it is redundant.

Table A.5.1.b Model Statistic Information

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	618.349[a]	.000	0	.
AGE	629.018	10.668	2	.005
STAFF	627.822	9.473	2	.009
TAX	635.875	17.526	8	.025
EX	635.863	17.514	8	.025
FD	655.296	36.946	8	.000
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	709.541			
Final	618.349	91.192	28	.000
Classification				
Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	19	35	17	26.8%
Remained Constant	11	89	38	64.5%
Decreased	6	45	74	59.2%
Overall Percentage	10.8%	50.6%	38.6%	54.5%
Pseudo R-square:		Cox and Snell: 0.239	Nagelkerke: 0.271	McFadden: 0.129

Table A.5.2.b Parameter Estimates

EXPCH:a		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Increased	Intercept	-2.165	.790	7.522	1	.006			
	AGE	-.049	.019	6.487	1	.011	.953	.918	.989
	STAFF	.006	.003	5.811	1	.016	1.006	1.001	1.012
	[TAX=1]	1.049	.532	3.884	1	.049	2.855	1.006	8.104
	[TAX=2]	.258	.602	.184	1	.668	1.294	.398	4.209
	[TAX=3]	1.002	.477	4.425	1	.035	2.725	1.071	6.934
	[TAX=4]	.441	.468	.889	1	.346	1.555	.621	3.891
	[TAX=5]	0b	.	.	0	.	.	.	.
	[EX=1]	.431	.587	.539	1	.463	1.539	.487	4.867
	[EX=2]	1.188	.605	3.857	1	.050	3.282	1.002	10.745
	[EX=3]	.676	.606	1.246	1	.264	1.967	.600	6.449
	[EX=4]	1.701	.662	6.600	1	.010	5.481	1.497	20.072
	[EX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.228	.674	10.929	1	.001	9.281	2.477	34.774
	[FD=2]	.802	.657	1.491	1	.222	2.231	.615	8.089
	[FD=3]	.463	.676	.470	1	.493	1.589	.423	5.978
	[FD=4]	.208	.743	.079	1	.779	1.232	.287	5.280
	[FD=5]	0b	.	.	0	.	.	.	.
Remained Constant	Intercept	-1.706	.642	7.063	1	.008			
	AGE	-.045	.016	8.267	1	.004	.956	.927	.986
	STAFF	.006	.003	5.506	1	.019	1.006	1.001	1.011
	[TAX=1]	.165	.443	.140	1	.709	1.180	.496	2.809
	[TAX=2]	.505	.436	1.342	1	.247	1.657	.705	3.894
	[TAX=3]	-.338	.426	.630	1	.427	.713	.309	1.644
	[TAX=4]	-.584	.398	2.149	1	.143	.558	.256	1.217
	[TAX=5]	0b	.	.	0	.	.	.	.
	[EX=1]	1.115	.445	6.280	1	.012	3.050	1.275	7.294
	[EX=2]	.956	.481	3.948	1	.047	2.602	1.013	6.682
	[EX=3]	.781	.470	2.762	1	.097	2.183	.869	5.483
	[EX=4]	.958	.570	2.820	1	.093	2.606	.852	7.968
	[EX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.630	.608	18.719	1	.000	13.875	4.215	45.677
	[FD=2]	1.296	.586	4.883	1	.027	3.654	1.158	11.530
	[FD=3]	1.655	.572	8.365	1	.004	5.234	1.705	16.070
	[FD=4]	1.121	.633	3.140	1	.076	3.069	.888	10.607
	[FD=5]	0b	.	.	0	.	.	.	.

a. The reference category is: Decreased.

b. This parameter is set to zero because it is redundant.

Table A.5.3.b Marginal Effects

	Average Change	1	2	3
AGE	.007059	-.00384959	-.00673891	.0105885
STAFF	.00092942	.00051063	.00088349	-.00139412
TAX=1	.1219619	.18294287	-.07352102	-.10942182
TAX=2	.06730095	-.00679787	.1009514	-.09415358
TAX=3	.15486617	.23229925	-.18084395	-.05145532
TAX=4	.11773423	.13474721	-.17660135	.04185414
EX=1	.15540984	-.03556515	.23311478	-.1975496
EX=2	.14021451	.10579026	.1045315	-.21032178
EX=3	.10634375	.03417383	.1253418	-.1595156
EX=4	.15617486	.2164503	.01781198	-.2342623
FD=1	.29759355	.07538028	.37101004	-.44639032
FD=2	.15805059	-.0011182	.2370759	-.23595767
FD=3	.23462499	-.08501492	.3519375	-.26692255
FD=4	.16911315	-.07333528	.25366971	-.18033448

Table A.5.1.c Model Statistic Information

	Model Fitting Criteria	**Likelihood Ratio Tests**		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	607.665[a]	.000	0	.
AGE	618.137	10.472	2	.005
STAFF	617.137	9.472	2	.009
TAX	627.703	20.038	8	.010
EX	622.845	15.180	8	.056
FD	645.509	37.844	8	.000
DEU	618.349	10.684	2	.005
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	709.541			
Final	607.665	101.876	30	.000
Classification				
Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	21	32	18	29.6%
Remained Constant	10	90	38	65.2%
Decreased	9	41	75	60.0%
Overall Percentage	12.0%	48.8%	39.2%	55.7%
Pseudo R-square:		Cox and Snell: 0.263	Nagelkerke: 0.299	McFadden: 0.144

Table A.5.2.c Parameter Estimates

EXPCH:a		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Increased	Intercept	-2.176	.792	7.556	1	.006			
	AGE	-.052	.019	7.066	1	.008	.949	.914	.986
	STAFF	.007	.003	6.259	1	.012	1.007	1.001	1.012
	[TAX=1]	1.098	.539	4.154	1	.042	2.999	1.043	8.624
	[TAX=2]	.316	.605	.272	1	.602	1.371	.419	4.489
	[TAX=3]	1.064	.478	4.954	1	.026	2.897	1.135	7.392
	[TAX=4]	.528	.477	1.225	1	.268	1.696	.666	4.320
	[TAX=5]	0b	.	.	0	.	.	.	.
	[EX=1]	.439	.588	.556	1	.456	1.551	.489	4.912
	[EX=2]	1.133	.607	3.486	1	.062	3.104	.945	10.192
	[EX=3]	.672	.605	1.234	1	.267	1.957	.598	6.402
	[EX=4]	1.677	.661	6.443	1	.011	5.350	1.465	19.534
	[EX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.168	.676	10.302	1	.001	8.743	2.326	32.859
	[FD=2]	.763	.658	1.342	1	.247	2.144	.590	7.793
	[FD=3]	.393	.682	.331	1	.565	1.481	.389	5.639
	[FD=4]	.155	.744	.044	1	.835	1.168	.272	5.023
	[FD=5]	0b	.	.	0	.	.	.	.
	[DEU=0]	.286	.399	.512	1	.474	1.330	.609	2.908
	[DEU=1]	0b	.	.	0	.	.	.	.
Remained Constant	Intercept	-1.536	.648	5.608	1	.018			
	AGE	-.042	.016	7.350	1	.007	.958	.930	.988
	STAFF	.006	.003	5.113	1	.024	1.006	1.001	1.011
	[TAX=1]	.113	.445	.065	1	.799	1.120	.468	2.679
	[TAX=2]	.525	.442	1.412	1	.235	1.690	.711	4.015
	[TAX=3]	-.380	.431	.779	1	.377	.684	.294	1.591
	[TAX=4]	-.692	.404	2.937	1	.087	.500	.227	1.105
	[TAX=5]	0b	.	.	0	.	.	.	.
	[EX=1]	1.034	.451	5.253	1	.022	2.812	1.162	6.809
	[EX=2]	.998	.489	4.173	1	.041	2.713	1.041	7.071
	[EX=3]	.703	.475	2.193	1	.139	2.020	.796	5.125
	[EX=4]	.978	.575	2.893	1	.089	2.660	.861	8.212
	[EX=5]	0b	.	.	0	.	.	.	.
	[FD=1]	2.677	.612	19.161	1	.000	14.544	4.386	48.224
	[FD=2]	1.271	.588	4.662	1	.031	3.563	1.124	11.289
	[FD=3]	1.685	.575	8.600	1	.003	5.391	1.748	16.624
	[FD=4]	1.134	.634	3.198	1	.074	3.108	.897	10.774
	[FD=5]	0b	.	.	0	.	.	.	.
	[DEU=0]	-.948	.383	6.141	1	.013	.387	.183	.820
	[DEU=1]	0b	.	.	0	.	.	.	.

a. The reference category is: Decreased.

b. This parameter is set to zero because it is redundant.

Table A.5.3.b Marginal Effects

	Average Change	1	2	3
AGE	.00699546	-.00460362	-.00588956	.01049318
STAFF	.00093797	.00058106	.00082589	-.00140695
TAX=1	.13296328	.19944493	-.09047297	-.10897195
TAX=2	.06734173	.00076526	.10024732	-.10101262
TAX=3	.16623577	.24935365	-.19481102	-.05454266
TAX=4	.13756565	.16117945	-.20634848	.04516903
EX=1	.14230643	-.02591738	.21345964	-.18754227
EX=2	.14227944	.08973822	.12368095	-.21341914
EX=3	.09982563	.04231401	.10742441	-.14973846
EX=4	.15753201	.20740213	.02889588	-.23629802
FD=1	.30096367	.06061442	.39083108	-.45144552
FD=2	.1575172	-.0037995	.23627582	-.23247629
FD=3	.24332358	-.09507231	.36498538	-.26991306
FD=4	.17441477	-.07986827	.26162216	-.18175387
FD=4	.1586153	.13247307	-.23792295	.10544989

Table A.6.1 Model Statistic Information (TC, OC, ASF added)

	Model Fitting Criteria	**Likelihood Ratio Tests**		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	594.627[a]	.000	0	.
AGE	605.876	11.248	2	.004
STAFF	605.598	10.971	2	.004
TC	604.478	9.851	8	.276
OC	601.421	6.794	8	.559
ASF	600.650	6.023	8	.645
TAX	613.645	19.018	8	.015
EX	615.215	20.588	8	.008
FD	629.637	35.010	8	.000
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	705.590			
Final	594.627	110.962	52	.000
Classification				
Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	20	34	17	28.2%
Remained Constant	12	88	38	63.8%
Decreased	7	38	78	63.4%
Overall Percentage	11.7%	48.2%	40.1%	56.0%
Pseudo R-square:		Cox and Snell: 0.284	Nagelkerke: 0.323	McFadden: 0.157

Table A.6.2 Parameter Estimates

EXPCH:[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Increased	Intercept	-2.090	.834	6.276	1	.012			
	AGE	-.051	.020	6.514	1	.011	.951	.915	.988
	STAFF	.007	.003	6.946	1	.008	1.007	1.002	1.012
	[TC=1]	.427	.823	.269	1	.604	1.533	.305	7.697
	[TC=2]	-1.370	.858	2.548	1	.110	.254	.047	1.366
	[TC=3]	.053	.731	.005	1	.942	1.055	.252	4.419
	[TC=4]	-.627	.719	.761	1	.383	.534	.130	2.186
	[TC=5]	0[b]	.	.	0	.	.	.	.
	[OC=1]	-.503	.923	.297	1	.586	.605	.099	3.692
	[OC=2]	.473	.831	.323	1	.570	1.604	.315	8.178
	[OC=3]	-.787	.695	1.283	1	.257	.455	.117	1.777
	[OC=4]	.208	.733	.080	1	.777	1.231	.292	5.181
	[OC=5]	0[b]	.	.	0	.	.	.	.
	[ASF=1]	.123	.668	.034	1	.854	1.131	.306	4.188
	[ASF =2]	-.700	.815	.738	1	.390	.496	.100	2.454
	[ASF =3]	.325	.655	.246	1	.620	1.384	.383	4.998
	[ASF =4]	.268	.599	.199	1	.655	1.307	.404	4.229
	[ASF =5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	1.045	.580	3.243	1	.072	2.843	.912	8.866
	[TAX=2]	.389	.632	.380	1	.537	1.476	.428	5.090
	[TAX=3]	1.200	.512	5.495	1	.019	3.319	1.217	9.051
	[TAX=4]	.527	.500	1.112	1	.292	1.694	.636	4.515
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	.530	.609	.758	1	.384	1.699	.515	5.599
	[EX=2]	1.478	.634	5.439	1	.020	4.384	1.266	15.178
	[EX=3]	.585	.633	.856	1	.355	1.796	.520	6.203
	[EX=4]	2.083	.696	8.962	1	.003	8.026	2.053	31.383
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.281	.710	10.317	1	.001	9.790	2.433	39.384
	[FD=2]	.820	.695	1.393	1	.238	2.271	.582	8.867
	[FD=3]	.397	.714	.309	1	.578	1.487	.367	6.026
	[FD=4]	.281	.785	.128	1	.721	1.324	.284	6.171
	[FD=5]	0[b]	.	.	0	.	.	.	.
Remained Constant	Intercept	-1.676	.680	6.078	1	.014			
	AGE	-.049	.016	9.072	1	.003	.952	.922	.983
	STAFF	.006	.003	5.673	1	.017	1.006	1.001	1.011
	[TC=1]	.253	.668	.143	1	.705	1.287	.347	4.772
	[TC=2]	-.524	.667	.617	1	.432	.592	.160	2.189
	[TC=3]	.618	.601	1.059	1	.304	1.856	.571	6.027
	[TC=4]	-.119	.594	.040	1	.841	.887	.277	2.844
	[TC=5]	0[b]	.	.	0	.	.	.	.
	[OC=1]	-.387	.730	.281	1	.596	.679	.162	2.838
	[OC=2]	.171	.675	.064	1	.800	1.187	.316	4.457
	[OC=3]	-.790	.568	1.932	1	.165	.454	.149	1.383
	[OC=4]	.270	.594	.206	1	.650	1.310	.409	4.197
	[OC=5]	0[b]	.	.	0	.	.	.	.
	[ASF=1]	.319	.551	.335	1	.563	1.375	.468	4.046
	[ASF =2]	.183	.587	.097	1	.755	1.201	.380	3.792
	[ASF =3]	-.260	.565	.211	1	.646	.771	.255	2.334
	[ASF =4]	-.179	.516	.121	1	.728	.836	.304	2.298
	[ASF =5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	.167	.472	.125	1	.724	1.181	.468	2.979

	[TAX=2]	.508	.457	1.235	1	.267	1.661	.679	4.068
	[TAX=3]	-.397	.447	.790	1	.374	.672	.280	1.614
	[TAX=4]	-.657	.425	2.395	1	.122	.518	.226	1.191
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	1.143	.465	6.045	1	.014	3.137	1.261	7.804
	[EX=2]	1.132	.506	4.999	1	.025	3.103	1.150	8.372
	[EX=3]	.809	.489	2.734	1	.098	2.246	.861	5.862
	[EX=4]	1.217	.601	4.100	1	.043	3.379	1.040	10.978
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.732	.632	18.662	1	.000	15.357	4.447	53.034
	[FD=2]	1.385	.609	5.179	1	.023	3.994	1.212	13.166
	[FD=3]	1.633	.591	7.640	1	.006	5.118	1.608	16.288
	[FD=4]	1.167	.652	3.200	1	.074	3.213	.894	11.544
	[FD=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Decreased.

b. This parameter is set to zero because it is redundant.

Table A.7.1 Model Statistic Information (RM and OP added)

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	597.195[a]	.000	0	.
AGE	608.070	10.876	2	.004
STAFF	607.628	10.433	2	.005
RM	608.892	11.697	8	.165
OP	606.095	8.900	8	.351
TAX	616.940	19.745	8	.011
EX	615.118	17.923	8	.022
FD	632.427	35.232	8	.000
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	707.571			
Final	597.195	110.376	44	.000
Classification				
Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	24	28	19	33.8%
Remained Constant	17	88	33	63.8%
Decreased	4	43	77	62.1%
Overall Percentage	13.5%	47.7%	38.7%	56.8%
Pseudo R-square:		Cox and Snell: 0.282	Nagelkerke: 0.320	McFadden: 0.156

Table A.7.2 Parameter Estimates

EXPCH:[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Increased	Intercept	-1.873	.805	5.411	1	.020			
	AGE	-.055	.020	7.554	1	.006	.947	.910	.984
	STAFF	.007	.003	5.694	1	.017	1.007	1.001	1.012
	[RM=1]	.909	.823	1.221	1	.269	2.482	.495	12.447
	[RM =2]	-.675	.723	.873	1	.350	.509	.123	2.098
	[RM =3]	-1.402	.660	4.516	1	.034	.246	.068	.897
	[RM =4]	-.250	.531	.221	1	.638	.779	.275	2.206
	[RM =5]	0[b]	.	.	0	.	.	.	.
	[OP=1]	-1.596	.880	3.292	1	.070	.203	.036	1.136
	[OP =2]	-.155	.681	.052	1	.820	.856	.225	3.255
	[OP =3]	.551	.596	.853	1	.356	1.734	.539	5.579
	[OP =4]	-.077	.521	.022	1	.883	.926	.333	2.574
	[OP =5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	1.284	.568	5.104	1	.024	3.611	1.185	10.997
	[TAX=2]	.256	.619	.171	1	.679	1.292	.384	4.345
	[TAX=3]	1.079	.502	4.625	1	.032	2.941	1.100	7.859
	[TAX=4]	.591	.488	1.467	1	.226	1.806	.694	4.702
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	.575	.628	.838	1	.360	1.777	.519	6.091
	[EX=2]	1.235	.629	3.853	1	.050	3.440	1.002	11.810
	[EX=3]	1.040	.645	2.599	1	.107	2.829	.799	10.019
	[EX=4]	1.861	.689	7.289	1	.007	6.430	1.665	24.828
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.228	.719	9.612	1	.002	9.282	2.269	37.961
	[FD=2]	.775	.689	1.267	1	.260	2.171	.563	8.374
	[FD=3]	.437	.704	.386	1	.535	1.548	.390	6.149
	[FD=4]	.205	.764	.072	1	.789	1.227	.275	5.483
	[FD=5]	0[b]	.	.	0	.	.	.	.
Remained Constant	Intercept	-1.730	.669	6.694	1	.010			
	AGE	-.045	.016	7.594	1	.006	.956	.926	.987
	STAFF	.007	.003	6.011	1	.014	1.007	1.001	1.012
	[RM=1]	.186	.714	.068	1	.795	1.204	.297	4.880
	[RM =2]	-.681	.597	1.303	1	.254	.506	.157	1.630
	[RM =3]	-.464	.518	.800	1	.371	.629	.228	1.737
	[RM =4]	-.230	.448	.264	1	.607	.794	.330	1.912
	[RM =5]	0[b]	.	.	0	.	.	.	.
	[OP=1]	-.047	.669	.005	1	.944	.954	.257	3.542
	[OP =2]	.093	.570	.027	1	.870	1.098	.359	3.353
	[OP =3]	.389	.503	.596	1	.440	1.475	.550	3.954
	[OP =4]	-.273	.439	.388	1	.533	.761	.322	1.798
	[OP =5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	.133	.464	.083	1	.774	1.143	.461	2.835
	[TAX=2]	.517	.449	1.322	1	.250	1.676	.695	4.044
	[TAX=3]	-.352	.437	.647	1	.421	.703	.298	1.658
	[TAX=4]	-.609	.411	2.197	1	.138	.544	.243	1.217
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	1.248	.471	7.022	1	.008	3.482	1.384	8.762
	[EX=2]	1.014	.496	4.170	1	.041	2.756	1.042	7.290
	[EX=3]	1.072	.505	4.501	1	.034	2.921	1.085	7.861
	[EX=4]	1.072	.587	3.327	1	.068	2.920	.923	9.235
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.831	.635	19.842	1	.000	16.956	4.880	58.914

	[FD=2]	1.439	.606	5.648	1	.017	4.218	1.287	13.826
	[FD=3]	1.800	.591	9.287	1	.002	6.053	1.901	19.268
	[FD=4]	1.254	.648	3.741	1	.053	3.503	.983	12.482
	[FD=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Decreased.
b. This parameter is set to zero because it is redundant.

Table A.8.1 Model Statistic Information (PROT and FP added)

	Model Fitting Criteria	Likelihood Ratio Tests		
Effect	**-2 Log Likelihood of Reduced Model**	**Chi-Square**	**df**	**Sig.**
Intercept	589.215[a]	.000	0	.
AGE	599.725	10.510	2	.005
STAFF	599.635	10.421	2	.005
PROT	598.793	9.579	8	.296
FP	596.871	7.657	8	.468
TAX	604.088	14.874	8	.062
EX	605.707	16.492	8	.036
FD	634.510	45.295	8	.000
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.				
Model	**-2 Log Likelihood**	**Chi-Square**	**df**	**Sig.**
Intercept Only	702.708			
Final	589.215	113.494	44	.000
Classification				
Observed	**Predicted**			
	Increased	Remained Constant	Decreased	Percent Correct
Increased	24	33	13	34.3%
Remained Constant	10	94	33	68.6%
Decreased	9	36	79	63.7%
Overall Percentage	13.0%	49.2%	37.8%	59.5%
Pseudo R-square:		Cox and Snell: 0.290	Nagelkerke: 0.330	McFadden: 0.162

Table A.8.2 Parameter Estimates

Parameter Estimates

EXPCH:[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
	Intercept	-1.667	.892	3.494	1	.062			
	AGE	-.052	.020	6.836	1	.009	.949	.913	.987
	STAFF	.007	.003	6.867	1	.009	1.007	1.002	1.013
	[PROT=1]	-1.358	.813	2.790	1	.095	.257	.052	1.266
	[PROT =2]	-1.357	.866	2.456	1	.117	.258	.047	1.405
	[PROT =3]	.114	.853	.018	1	.894	1.120	.210	5.964
	[PROT =4]	-.715	.968	.545	1	.460	.489	.073	3.261
Increased	[PROT =5]	0[b]	.	.	0	.	.	.	.
	[FP=1]	.508	.729	.485	1	.486	1.662	.398	6.934
	[FP=2]	-.136	.821	.028	1	.868	.873	.175	4.361
	[FP=3]	.886	.757	1.368	1	.242	2.425	.550	10.700
	[FP=4]	.403	.795	.256	1	.613	1.496	.315	7.105
	[FP=5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	1.036	.578	3.208	1	.073	2.817	.907	8.749
	[TAX=2]	.275	.638	.186	1	.666	1.317	.377	4.600

	[TAX=3]	.751	.518	2.103	1	.147	2.119	.768	5.846
	[TAX=4]	.069	.498	.019	1	.890	1.071	.404	2.840
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	.562	.615	.835	1	.361	1.754	.525	5.857
	[EX=2]	1.306	.637	4.211	1	.040	3.692	1.060	12.854
	[EX=3]	.646	.630	1.051	1	.305	1.908	.555	6.567
	[EX=4]	1.681	.680	6.117	1	.013	5.369	1.417	20.339
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.669	.715	13.933	1	.000	14.431	3.553	58.615
	[FD=2]	1.134	.722	2.463	1	.117	3.107	.754	12.802
	[FD=3]	.429	.727	.348	1	.555	1.536	.369	6.386
	[FD=4]	-.087	.800	.012	1	.913	.916	.191	4.395
	[FD=5]	0[b]	.	.	0	.	.	.	.
Remained Constant	Intercept	-1.691	.774	4.772	1	.029			
	AGE	-.046	.016	7.928	1	.005	.955	.926	.986
	STAFF	.006	.003	5.359	1	.021	1.006	1.001	1.011
	[PROT=1]	-.836	.676	1.529	1	.216	.433	.115	1.631
	[PROT =2]	-1.022	.731	1.953	1	.162	.360	.086	1.509
	[PROT =3]	-.088	.748	.014	1	.907	.916	.211	3.968
	[PROT =4]	-.245	.811	.091	1	.763	.783	.160	3.841
	[PROT =5]	0[b]	.	.	0	.	.	.	.
	[FP=1]	.941	.556	2.861	1	.091	2.563	.861	7.627
	[FP=2]	.854	.613	1.942	1	.164	2.349	.707	7.807
	[FP=3]	.611	.637	.921	1	.337	1.843	.529	6.426
	[FP=4]	.731	.638	1.315	1	.251	2.078	.595	7.254
	[FP=5]	0[b]	.	.	0	.	.	.	.
	[TAX=1]	.017	.472	.001	1	.972	1.017	.403	2.566
	[TAX=2]	.388	.462	.708	1	.400	1.475	.597	3.644
	[TAX=3]	-.492	.451	1.191	1	.275	.612	.253	1.479
	[TAX=4]	-.783	.418	3.516	1	.061	.457	.201	1.036
	[TAX=5]	0[b]	.	.	0	.	.	.	.
	[EX=1]	1.205	.470	6.563	1	.010	3.338	1.327	8.393
	[EX=2]	1.069	.507	4.455	1	.035	2.913	1.079	7.861
	[EX=3]	.819	.495	2.731	1	.098	2.268	.859	5.988
	[EX=4]	.907	.596	2.321	1	.128	2.478	.771	7.962
	[EX=5]	0[b]	.	.	0	.	.	.	.
	[FD=1]	2.782	.634	19.278	1	.000	16.152	4.665	55.923
	[FD=2]	1.259	.625	4.064	1	.044	3.522	1.036	11.980
	[FD=3]	1.637	.601	7.431	1	.006	5.139	1.584	16.675
	[FD=4]	.908	.665	1.862	1	.172	2.479	.673	9.129
	[FD=5]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Decreased.

b. This parameter is set to zero because it is redundant.

Table: A.10.1.a Model Estimation

Block 0: Beginning Block

Classification Table[a.b]

a. Constant is included in the model. b. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 0	EXBIN	0	0	125	.0
		1	0	209	100.0
	Overall Perc.				62.6

Variables in the Equation

	B	S.E.	Wald	df	
Step 0 Constant	.514	.113	20.667	1	
	Exp(B)	1.672	Sig.	.000	

Variables not in the Equation (Step 0)

	Score	df	Sig.
AGE	3.893	1	.048
STAFF	4.662	1	.031
TAX	6.002	4	.199
[TAX=1]	3.261	1	.071
[TAX=2]	.680	1	.409
[TAX=3]	.323	1	.570
[TAX=4]	.749	1	.387
EX	13.604	4	.009
[EX=1]	4.560	1	.033
[EX=2]	.903	1	.342
[EX=3]	1.014	1	.314
[EX=4]	.189	1	.664
FD	37.209	4	.000
[FD=1]	25.744	1	.000
[FD=2]	.060	1	.806
[FD=3]	.446	1	.504
[FD=4]	5.438	1	.020
Overall Statistics	59.379	14	.000

Block 1: Method = Enter

Classification Table[a]

a. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 1	EXBIN	0	61	64	48.8
		1	34	175	83.7
	Overall Perc.				70.7

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1			
Step	65.211	14	.000
Block	65.211	14	.000
Model	65.211	14	.000

Model Summary

-2 Log likelihood	376.457[a]
Cox & Snell R Square	.177
Nagelkerke R Square	.242

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation (Step 1)

	B	S.E.	Wald	df	Sig.	Exp(B)
AGE	-.046	.014	10.075	1	.002	.955
STAFF	.006	.002	6.127	1	.013	1.006
TAX			3.182	4	.528	
[TAX=1]	.416	.418	.994	1	.319	1.517
[TAX=2]	.440	.418	1.105	1	.293	1.552
[TAX=3]	.136	.380	.128	1	.720	1.146
[TAX=4]	-.249	.359	.480	1	.488	.780
EX			8.332	4	.080	
[EX=1]	.924	.409	5.114	1	.024	2.519
[EX=2]	1.038	.439	5.599	1	.018	2.823
[EX=3]	.746	.428	3.040	1	.081	2.108
[EX=4]	1.273	.505	6.363	1	.012	3.572
FD			27.627	4	.000	
[FD=1]	2.489	.518	23.123	1	.000	12.049
[FD=2]	1.111	.487	5.213	1	.022	3.037
[FD=3]	1.276	.479	7.096	1	.008	3.582
[FD=4]	.815	.531	2.361	1	.124	2.260
Constant	-1.182	.546	4.682	1	.030	.307

a. Variable(s) entered on step 1: AGE.STAFF.TAX.EX.FD.

Table: A.10.1.b Marginal Effects

	min->max	0->1	-+1/2	-+sd/2	MargEfct
AGE	-0.5143	-0.0074	-0.0103	-0.0960	-0.0103
STAFF	0.3960	0.0015	0.0014	0.1157	0.0014
[TAX=1]	0.0893	0.0893	0.0937	0.0344	0.0939
[TAX=2]	0.0936	0.0936	0.0989	0.0336	0.0992
[TAX=3]	0.0303	0.0303	0.0307	0.0112	0.0307
[TAX=4]	-0.0574	-0.0574	-0.0560	-0.0214	-0.0561
[EX=1]	0.1958	0.1958	0.2059	0.0983	0.2084
[EX=2]	0.2056	0.2056	0.2304	0.0926	0.2341
[EX=3]	0.1551	0.1551	0.1668	0.0695	0.1682
[EX=4]	0.2322	0.2322	0.2805	0.0911	0.2872
[FD=1]	0.4329	0.4329	0.5141	0.2483	0.5615
[FD=2]	0.2232	0.2232	0.2461	0.1081	0.2506
[FD=3]	0.2516	0.2516	0.2811	0.1245	0.2879
[FD=4]	0.1631	0.1631	0.1822	0.0616	0.1839

Table: A.10.2.a Model Estimation

Block 0: Beginning Block

Classification Tablea.b

a. Constant is included in the model. b. The cut value is .500

			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 0	EXBIN	0	0	125	.0
		1	0	209	100.0
	Overall Perc.				62.6

Variables in the Equation

	B	S.E.	Wald	df	
Step 0 Constant	.514	.113	20.667	1	
	Exp(B)	1.672	Sig.	.000	

Variables not in the Equation (Step 0)

	Score	df	Sig.
AGE	3.893	1	.048
STAFF	4.662	1	.031
TAX	6.002	4	.199
[TAX=1]	3.261	1	.071
[TAX=2]	.680	1	.409
[TAX=3]	.323	1	.570
[TAX=4]	.749	1	.387
EX	13.604	4	.009
[EX=1]	4.560	1	.033
[EX=2]	.903	1	.342
[EX=3]	1.014	1	.314
[EX=4]	.189	1	.664
FD	37.209	4	.000
[FD=1]	25.744	1	.000
[FD=2]	.060	1	.806
[FD=3]	.446	1	.504
[FD=4]	5.438	1	.020
[DEU=1]			
Overall Statistics	59.379	14	.000

Block 1: Method = Enter

Classification Tablea

a. The cut value is .500

			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 1	EXBIN	0	63	62	50.4
		1	36	173	82.8
	Overall Perc.				70.7

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1			
Step	67.372	15	.000
Block	67.372	15	.000
Model	67.372	15	.000

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Model Summary

-2 Log likelihood	374.296a
Cox & Snell R Square	.183
Nagelkerke R Square	.249

Variables in the Equation (Step 1)

	B	S.E.	Wald	df	Sig.	Exp(B)
AGE	-.045	.014	9.606	1	.002	.956
STAFF	.006	.002	5.768	1	.016	1.006
TAX			3.422	4	.490	
[TAX=1]	.386	.418	.852	1	.356	1.471
[TAX=2]	.436	.420	1.075	1	.300	1.546
[TAX=3]	.139	.382	.132	1	.716	1.149
[TAX=4]	-.305	.362	.708	1	.400	.737
EX			8.347	4	.080	
[EX=1]	.868	.412	4.448	1	.035	2.383
[EX=2]	1.061	.441	5.783	1	.016	2.889
[EX=3]	.696	.429	2.624	1	.105	2.005
[EX=4]	1.274	.505	6.360	1	.012	3.576
FD			28.232	4	.000	
[FD=1]	2.530	.521	23.614	1	.000	12.556
[FD=2]	1.124	.488	5.303	1	.021	3.078
[FD=3]	1.313	.481	7.436	1	.006	3.716
[FD=4]	.831	.532	2.445	1	.118	2.297
[DEU=1]	-.476	.324	2.166	1	.141	.621
Constant	-1.086	.551	3.879	1	.049	.338

						a. Variable(s) entered on step 1: AGE.STAFF.TAX.EX.FD.DEU.

Table: A.10.2.b Marginal Effects

	min->max	0->1	-+1/2	-+sd/2	MargEfct
AGE	-0.5051	-0.0073	-0.0100	-0.0938	-0.0100
STAFF	0.3933	0.0014	0.0013	0.1131	0.0013
[TAX=1]	0.0829	0.0829	0.0867	0.0318	0.0869
[TAX=2]	0.0925	0.0925	0.0978	0.0332	0.0981
[TAX=3]	0.0308	0.0308	0.0313	0.0114	0.0313
[TAX=4]	-0.0706	-0.0706	-0.0686	-0.0262	-0.0686
[EX=1]	0.1844	0.1844	0.1934	0.0922	0.1955
[EX=2]	0.2089	0.2089	0.2350	0.0945	0.2389
[EX=3]	0.1453	0.1453	0.1556	0.0648	0.1567
[EX=4]	0.2317	0.2317	0.2803	0.0910	0.2870
[FD=1]	0.4370	0.4370	0.5204	0.2518	0.5698
[FD=2]	0.2250	0.2250	0.2485	0.1092	0.2532
[FD=3]	0.2570	0.2570	0.2883	0.1278	0.2956
[FD=4]	0.1654	0.1654	0.1854	0.0627	0.1872
[DEU=1]	0.1115	0.1115	0.1069	0.0415	0.1073

Table: A.10.3.a Model Estimation

Block 0: Beginning Block

Classification Tablea.b

a. Constant is included in the model. b. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 0	EXBIN	0	0	123	.0
		1	0	209	100.0
	Overall Perc.				63

Variables in the Equation

	B	S.E.	Wald	df	
Step 0 Constant	.530	.114	21.763	1	
	Exp(B)	1.699	Sig.	.000	

Variables not in the Equation (Step 0)

	Score	df	Sig.
AGE	4.007	1	.045
STAFF	4.520	1	.033
TAX	5.461	4	.243
[TAX=1]	3.057	1	.080
[TAX=2]	.595	1	.441
[TAX=3]	.258	1	.612
[TAX=4]	.872	1	.350
EX	12.936	4	.012
[EX=1]	4.168	1	.041
[EX=2]	.779	1	.378
[EX=3]	1.178	1	.278
[EX=4]	.380	1	.537
FD	35.333	4	.000
[FD=1]	25.009	1	.000
[FD=2]	.108	1	.743
[FD=3]	.567	1	.452

Block 1: Method = Enter

Classification Tablea

a. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 1	EXBIN	0	66	57	53.7
		1	37	172	82.3
	Overall Perc.				71.7

Omnibus Tests of Model Coefficients

Step 1	Chi-square	df	Sig.
Step	75.719	26	.000
Block	75.719	26	.000
Model	75.719	26	.000

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Model Summary

-2 Log likelihood	361.998a
Cox & Snell R Square	.204
Nagelkerke R Square	.278

Variables in the Equation (Step 1)

	B	S.E.	Wald	df	Sig.	Exp(B)
AGE	-.049	.015	10.538	1	.001	.952
STAFF	.006	.002	6.820	1	.009	1.006
TAX			3.199	4	.525	
[TAX=1]	.417	.449	.864	1	.353	1.517
[TAX=2]	.487	.439	1.228	1	.268	1.627
[TAX=3]	.144	.398	.130	1	.718	1.155
[TAX=4]	-.267	.383	.487	1	.485	.765
EX			10.801	4	.029	
[EX=1]	.978	.428	5.229	1	.022	2.660
[EX=2]	1.237	.463	7.148	1	.008	3.444
[EX=3]	.756	.446	2.872	1	.090	2.129
[EX=4]	1.573	.537	8.578	1	.003	4.820
FD			26.236	4	.000	
[FD=1]	2.537	.541	21.959	1	.000	12.638
[FD=2]	1.149	.511	5.055	1	.025	3.156
[FD=3]	1.231	.499	6.080	1	.014	3.426

[FD=4]	4.847	1	.028		[FD=4]	.841	.554	2.303	1	.129	2.318
TC	5.418	4	.247		TC			6.981	4	.137	
[TC=1]	3.048	1	.081		[TC=1]	.302	.628	.231	1	.631	1.353
[TC=2]	3.318	1	.069		[TC=2]	-.746	.627	1.413	1	.235	.474
[TC=3]	.212	1	.645		[TC=3]	.462	.561	.677	1	.411	1.587
[TC=4]	.145	1	.704		[TC=4]	-.285	.550	.269	1	.604	.752
OC	2.109	4	.716		OC			6.341	4	.175	
[OC=1]	.679	1	.410		[OC=1]	-.418	.685	.372	1	.542	.659
[OC=2]	.000	1	.989		[OC=2]	.217	.633	.117	1	.732	1.242
[OC=3]	1.666	1	.197		[OC=3]	-.826	.526	2.467	1	.116	.438
[OC=4]	.258	1	.612		[OC=4]	.227	.556	.167	1	.683	1.255
ASF	2.825	4	.588		ASF			.511	4	.972	
[ASF=1]	1.361	1	.243		[ASF=1]	.268	.508	.279	1	.597	1.308
[ASF =2]	.324	1	.569		[ASF =2]	-.002	.550	.000	1	.997	.998
[ASF =3]	.018	1	.893		[ASF =3]	-.037	.517	.005	1	.942	.963
[ASF =4]	.235	1	.628		[ASF =4]	.008	.470	.000	1	.987	1.008
Overall Statistics	68.026	26	.000		Constant	-1.113	.582	3.659	1	.056	.329
						. a. Variable(s) entered on step 1: AGE.STAFF.TAX.EX.FD.TC.OC.ASF					

Table: A.10.3.b Marginal Effects

	min->max	0->1	-+1/2	-+sd/2	MargEfct
AGE	-0.5422	-0.0075	-0.0108	-0.1013	-0.0108
STAFF	0.3892	0.0015	0.0014	0.1196	0.0014
[TAX=1]	0.0880	0.0880	0.0926	0.0340	0.0928
[TAX=2]	0.1012	0.1012	0.1080	0.0368	0.1084
[TAX=3]	0.0314	0.0314	0.0320	0.0117	0.0320
[TAX=4]	-0.0611	-0.0611	-0.0594	-0.0228	-0.0595
[EX=1]	0.2033	0.2033	0.2148	0.1028	0.2177
[EX=2]	0.2335	0.2335	0.2694	0.1090	0.2752
[EX=3]	0.1543	0.1543	0.1668	0.0696	0.1681
[EX=4]	0.2639	0.2639	0.3382	0.1099	0.3500
[FD=1]	0.4319	0.4319	0.5171	0.2501	0.5644
[FD=2]	0.2259	0.2259	0.2511	0.1105	0.2557
[FD=3]	0.2399	0.2399	0.2683	0.1188	0.2740
[FD=4]	0.1642	0.1642	0.1852	0.0622	0.1871
[TC=1]	0.0657	0.0657	0.0671	0.0309	0.0672
[TC=2]	-0.1766	-0.1766	-0.1646	-0.0579	-0.1659
[TC=3]	0.0965	0.0965	0.1024	0.0359	0.1027
[TC=4]	-0.0652	-0.0652	-0.0633	-0.0238	-0.0634
[OC=1]	-0.0952	-0.0952	-0.0927	-0.0424	-0.0929
[OC=2]	0.0469	0.0469	0.0482	0.0167	0.0482
[OC=3]	-0.1954	-0.1954	-0.1821	-0.0688	-0.1838
[OC=4]	0.0492	0.0492	0.0505	0.0185	0.0505
[ASF=1]	0.0588	0.0588	0.0597	0.0283	0.0597
[ASF =2]	-0.0005	-0.0005	-0.0005	-0.0002	-0.0005
[ASF =3]	-0.0084	-0.0084	-0.0083	-0.0029	-0.0083
[ASF=4]	0.0017	0.0017	0.0017	0.0006	0.0017

Table: A.10.4.a Model Estimation

Block 0: Beginning Block						**Block 1: Method = Enter**					
Classification Tablea.b						**Classification Tablea**					
a. Constant is included in the model. b. The cut value is .500			Predicted			a. The cut value is .500			Predicted		
			EXBIN		Perc. Correct				EXBIN		Perc. Correct
Observed			0	1		Observed			0	1	
Step 0	EXBIN	0	0	124	.0	Step 1	EXBIN	0	61	63	49.2
		1	0	209	100.0			1	33	176	84.2
	Overall Perc.				62.8		Overall Perc.				71.2
						Omnibus Tests of Model Coefficients				**Model Summary**	
						Step 1	Chi-square	df	Sig.	-2 Log likelihood	364.964a

Variables in the Equation						Step	74.734	22	.000	Cox & Snell R Square	.201
	B	S.E.	Wald	df		Block	74.734	22	.000	Nagelkerke R Square	.274
Step 0 Constant	.522	.113	21.211	1		Model	74.734	22	.000		
	Exp(B)	1.685	Sig.	.000		a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.					
Variables not in the Equation (Step 0)						**Variables in the Equation (Step 1)**					
	Score	df	Sig.			B	S.E.	Wald	df	Sig.	Exp(B)
AGE	3.516	1	.061		AGE	-.047	.015	9.853	1	.002	.954
STAFF	5.068	1	.024		STAFF	.007	.003	6.405	1	.011	1.007
TAX	5.726	4	.221		TAX			2.926	4	.570	
[TAX=1]	3.159	1	.076		[TAX=1]	.443	.440	1.017	1	.313	1.558
[TAX=2]	.637	1	.425		[TAX=2]	.437	.430	1.036	1	.309	1.549
[TAX=3]	.289	1	.591		[TAX=3]	.111	.394	.080	1	.778	1.118
[TAX=4]	.809	1	.368		[TAX=4]	-.231	.370	.389	1	.533	.794
EX	13.388	4	.010		EX			9.041	4	.060	
[EX=1]	4.363	1	.037		[EX=1]	1.070	.436	6.010	1	.014	2.915
[EX=2]	.840	1	.359		[EX=2]	1.084	.454	5.704	1	.017	2.957
[EX=3]	.771	1	.380		[EX=3]	1.066	.462	5.332	1	.021	2.905
[EX=4]	.168	1	.682		[EX=4]	1.386	.525	6.969	1	.008	3.998
FD	38.659	4	.000		FD			26.828	4	.000	
[FD=1]	27.170	1	.000		[FD=1]	2.652	.548	23.435	1	.000	14.179
[FD=2]	.082	1	.775		[FD=2]	1.227	.508	5.821	1	.016	3.410
[FD=3]	.504	1	.478		[FD=3]	1.397	.498	7.855	1	.005	4.041
[FD=4]	5.580	1	.018		[FD=4]	.917	.548	2.800	1	.094	2.502
RM	8.535	4	.074		RM			4.986	4	.289	
[RM=1]	8.430	1	.004		[RM=1]	.353	.673	.275	1	.600	1.423
[RM=2]	.285	1	.593		[RM=2]	-.680	.554	1.504	1	.220	.507
[RM=3]	.744	1	.388		[RM=3]	-.709	.482	2.166	1	.141	.492
[RM=4]	.373	1	.542		[RM=4]	-.216	.410	.278	1	.598	.806
OP	1.843	4	.765		OP			2.782	4	.595	
[OP=1]	.263	1	.608		[OP=1]	-.400	.639	.392	1	.531	.670
[OP=2]	.116	1	.733		[OP=2]	.023	.531	.002	1	.966	1.023
[OP=3]	.914	1	.339		[OP=3]	.432	.465	.863	1	.353	1.541
[OP=4]	.211	1	.646		[OP=4]	-.232	.403	.331	1	.565	.793
Overall Statistics	66.985	22	.000		Constant	-1.114	.569	3.839	1	.050	.328
						. a. Variable(s) entered on step 1: AGE.STAFF.TAX.EX.FD.RM.OP.					

Table: A.10.4.b Marginal Effects

	min->max	0->1	-+1/2	-+sd/2	MargEfct
AGE	-0.5260	-0.0074	-0.0105	-0.0975	-0.0105
STAFF	0.3928	0.0016	0.0015	0.1237	0.0015
[TAX=1]	0.0935	0.0935	0.0987	0.0362	0.0989
[TAX=2]	0.0918	0.0918	0.0973	0.0331	0.0976
[TAX=3]	0.0245	0.0245	0.0248	0.0091	0.0248
[TAX=4]	-0.0527	-0.0527	-0.0514	-0.0197	-0.0515
[EX=1]	0.2211	0.2211	0.2349	0.1125	0.2387
[EX=2]	0.2102	0.2102	0.2379	0.0958	0.2419
[EX=3]	0.2093	0.2093	0.2341	0.0978	0.2379
[EX=4]	0.2430	0.2430	0.3010	0.0982	0.3092
[FD=1]	0.4452	0.4452	0.5373	0.2606	0.5916
[FD=2]	0.2395	0.2395	0.2679	0.1181	0.2736
[FD=3]	0.2673	0.2673	0.3032	0.1348	0.3115
[FD=4]	0.1774	0.1774	0.2022	0.0686	0.2046
[RM=1]	0.0751	0.0751	0.0786	0.0269	0.0787
[RM=2]	-0.1600	-0.1600	-0.1507	-0.0572	-0.1516
[RM=3]	-0.1663	-0.1663	-0.1570	-0.0634	-0.1581
[RM=4]	-0.0490	-0.0490	-0.0482	-0.0210	-0.0482
[OP=1]	-0.0932	-0.0932	-0.0890	-0.0277	-0.0892
[OP=2]	0.0050	0.0050	0.0051	0.0019	0.0051
[OP=3]	0.0913	0.0913	0.0962	0.0356	0.0964
[OP=4]	-0.0527	-0.0527	-0.0517	-0.0217	-0.0517

Table: A.10.5.a Model Estimation

Block 0: Beginning Block

Classification Tablea.b

a. Constant is included in the model. b. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 0	EXBIN	0	0	124	.0
		1	0	207	100.0
	Overall Perc.				62.5

Variables in the Equation

	B	S.E.	Wald	df	
Step 0 Constant	.512	.114	20.363	1	
	Exp(B)	1.669	Sig.	.000	

Variables not in the Equation (Step 0)

	Score	df	Sig.
AGE	3.860	1	.049
STAFF	4.671	1	.031
TAX	6.087	4	.193
[TAX=1]	3.287	1	.070
[TAX=2]	.690	1	.406
[TAX=3]	.330	1	.566
[TAX=4]	.955	1	.328
EX	13.922	4	.008
[EX=1]	4.622	1	.032
[EX=2]	1.085	1	.298
[EX=3]	1.229	1	.268
[EX=4]	.194	1	.660

Block 1: Method = Enter

Classification Tablea

a. The cut value is .500			Predicted		
			EXBIN		Perc. Correct
Observed			0	1	
Step 1	EXBIN	0	6	62	50
		1	32	175	84.5
	Overall Perc.				71.6

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1			
Step	78.594	22	.000
Block	78.594	22	.000
Model	78.594	22	.000

Model Summary

-2 Log likelihood	359.233a
Cox & Snell R Square	.211
Nagelkerke R Square	.288

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Variables in the Equation (Step 1)

	B	S.E.	Wald	df	Sig.	Exp(B)
AGE	-.048	.015	10.154	1	.001	.953
STAFF	.007	.003	6.619	1	.010	1.007
TAX			4.019	4	.403	
[TAX=1]	.290	.448	.420	1	.517	1.337
[TAX=2]	.374	.444	.707	1	.400	1.453
[TAX=3]	-.072	.409	.031	1	.861	.931
[TAX=4]	-.511	.381	1.805	1	.179	.600
EX			8.539	4	.074	
[EX=1]	1.044	.434	5.801	1	.016	2.842
[EX=2]	1.165	.464	6.310	1	.012	3.207
[EX=3]	.772	.451	2.927	1	.087	2.163
[EX=4]	1.227	.526	5.442	1	.020	3.412

FD	39.332	4	.000		FD			31.675	4	.000	
[FD=1]	27.722	1	.000		[FD=1]	2.735	.549	24.866	1	.000	15.415
[FD=2]	.056	1	.812		[FD=2]	1.185	.532	4.968	1	.026	3.271
[FD=3]	.580	1	.446		[FD=3]	1.294	.513	6.370	1	.012	3.649
[FD=4]	6.145	1	.013		[FD=4]	.610	.565	1.167	1	.280	1.840
PROT	3.986	4	.408		PROT			7.246	4	.123	
[PROT =1]	1.322	1	.250		[PROT =1]	-1.001	.609	2.701	1	.100	.368
[PROT =2]	2.087	1	.149		[PROT =2]	-1.153	.660	3.053	1	.081	.316
[PROT =3]	.507	1	.476		[PROT =3]	-.039	.677	.003	1	.954	.962
[PROT =4]	.040	1	.842		[PROT =4]	-.388	.739	.276	1	.599	.678
FP	8.157	4	.086		FP			2.705	4	.608	
[FP=1]	3.207	1	.073		[FP=1]	.804	.516	2.428	1	.119	2.234
[FP=2]	.013	1	.908		[FP=2]	.583	.570	1.048	1	.306	1.792
[FP=3]	.005	1	.944		[FP=3]	.761	.579	1.727	1	.189	2.140
[FP=4]	.015	1	.901		[FP=4]	.624	.586	1.136	1	.286	1.867
Overall Statistics	70.695	22	.000		Constant	-1.009	.655	2.375	1	.123	.364
						. a. Variable(s) entered on step 1: AGE.STAFF.TAX.EX.FD.PROT.FP.					

Table: A.10.5.b Marginal Effects

	min->max	0->1	-+1/2	-+sd/2	MargEfct
AGE	-0.5349	-0.0075	-0.0107	-0.1002	-0.0107
STAFF	0.3949	0.0016	0.0015	0.1232	0.0015
[TAX=1]	0.0627	0.0627	0.0649	0.0239	0.0650
[TAX=2]	0.0795	0.0795	0.0834	0.0284	0.0836
[TAX=3]	-0.0161	-0.0161	-0.0160	-0.0059	-0.0160
[TAX=4]	-0.1194	-0.1194	-0.1140	-0.0435	-0.1144
[EX=1]	0.2172	0.2172	0.2300	0.1103	0.2336
[EX=2]	0.2234	0.2234	0.2557	0.1022	0.2607
[EX=3]	0.1582	0.1582	0.1711	0.0712	0.1726
[EX=4]	0.2232	0.2232	0.2687	0.0875	0.2745
[FD=1]	0.4572	0.4572	0.5520	0.2696	0.6119
[FD=2]	0.2336	0.2336	0.2599	0.1147	0.2651
[FD=3]	0.2517	0.2517	0.2827	0.1251	0.2895
[FD=4]	0.1248	0.1248	0.1357	0.0454	0.1364
[PROT =1]	-0.2195	-0.2195	-0.2207	-0.1116	-0.2238
[PROT =2]	-0.2740	-0.2740	-0.2530	-0.1017	-0.2579
[PROT =3]	-0.0088	-0.0088	-0.0087	-0.0029	-0.0087
[PROT =4]	-0.0908	-0.0908	-0.0867	-0.0242	-0.0869
[FP=1]	0.1732	0.1732	0.1782	0.0878	0.1798
[FP=2]	0.1217	0.1217	0.1298	0.0512	0.1304
[FP=3]	0.1536	0.1536	0.1688	0.0629	0.1702
[FP=4]	0.1274	0.1274	0.1389	0.0460	0.1397