Does New Entry Drive Out Incumbents?
Evidence from establishment-level data in Japan

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Abstract

Using establishment-level data in Japan, we examine the effects of new business entries on the probability of incumbents exiting the market. In particular, we estimate how the effects vary depending on the size of both the entrants and incumbents, which has not been explored in the literature.

We find that while new business entries increase the probability that incumbents will exit, the effect differs significantly across sectors and depends on entrant and incumbent size. Although small establishments are the most likely to be driven out by new entries in all sectors, large incumbents are not always the most competitive, and, in the case of the tradable services sector, medium-sized establishments are the least likely to be affected by new entries.

Moreover, our simple regression analysis shows a positive relationship between entry rates and employment growth in a region. New entries may promote resource reallocation and stimulate regional economies, possibly resulting in regional employment growth.

Keywords: New entry, Entrant, Incumbent, Survival, Exit, Japan
JEL classification: L10, M10

1. Introduction

It is widely recognized that market entry of new firms plays an important role in driving economic growth. New firms create new job opportunities while at the same time potentially improving efficiency of the economy overall by driving less efficient firms out of the market. Firm entry thus is expected to contribute to the reallocation of resources from less efficient incumbent firms (or industries) to more efficient firms (or industries). In other words, new entries are likely to lead to increased competition among incumbent firms and/or lead incumbents to lose market share or even exit the market.

On the other hand, theories of agglomeration suggest that new entries may create and enlarge industry agglomerations, where firms benefit from specialized labor and other inputs as well as knowledge spillovers from nearby firms. If such agglomeration benefits are large enough, incumbents should be able to survive and not necessarily be forced out from the market. However, previous studies suggest that exit rates are high in industries or regions where entry rates are high (e.g., Geroski 1995), and that new entry increases the probability of exit of existing young businesses (e.g., Mata et al. 1995, Honjo 2000).

Although such previous studies imply that new entries are likely to drive out incumbents from the market, the exit of incumbents facing new entries has not been adequately investigated. A number of studies, using region- or industry-level data, focus on the impact of new entry on regional productivity, employment, or competition among incumbent firms within the region or industry (e.g., Bosma et al. 2011, Fritsch and Schroeter 2011, Koster et al. 2010), while studies using firm- or

plant-level data focus on the survival/exit of new firms (e.g., Mata and Portugal 1994, Fritsch et al. 2006). Thus, the effect of new entry on the survival/exit of incumbents, including both young and old incumbents, has not been examined yet using micro-level data, and our knowledge on this issue is still limited. In particular, little is known about what type of incumbents tend to be crowded out, and in which sectors or in what circumstances incumbents are more likely to be forced out.

This paper tries to fill this gap and to examine the exit of incumbents when new firms enter in the same industry and region, using establishment-level data for Japan. In particular, we examine whether the effects of new entries on incumbents differ depending on incumbents' size and/or on entrants' size. The entry of large firms is expected to have quite a different impact on incumbents than small-scale entries, and the reaction of incumbents can also be expected to differ depending on their size. For example, while large incumbents may try to counteract large entrants, small incumbents may not react in this manner and instead seek out a different product space or different customers (i.e., they engage in judo strategy).[1] Moreover, the reaction of incumbents is likely to differ across sectors. While small incumbents may be more likely to be forced out in industries where scale economies are important, even large incumbents may be driven out by entrants in industries where local demand stagnates and it is difficult to expand their customer base outside the region. Therefore, we also investigate the different effects of new business entry across sectors, i.e., the manufacturing, the tradable services, and the non-tradable services sectors, and compare the estimated results.

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[1] For a discussion of judo strategy, see, for example, Gelman and Salop (1983) and Yoffe and Kwak (2001).

The issue of firm entry is particularly pertinent in Japan, where the entry rate is very low and, in fact, lower than the exit rate. As a result, the number of private establishments in Japan decreased by 416,000 between 2001 and 2006, with employment falling by 728,000 during the same period (Statistics Bureau 2007). This means that firm entry and exit is an issue of great policy importance that will shape Japan's economic prospects in years to come.

The major findings of this paper are as follows: while new business entries increase the probability that incumbents will exit, the effect differs significantly across sectors and depends on entrants' and incumbents' size. The effect is largest in the non-tradable services sector, where it is difficult for incumbents to expand to customers outside the region due to the non-tradable nature of the services they offer. In contrast, the impact of new entries on the exit of incumbents is fairly limited in the case of the manufacturing and the tradable services sectors, implying that new entries have some positive spillover or agglomeration effects on incumbents, and/or that incumbents can avoid competition by expanding their market outside the region or by differentiating their products or services. We also find that while small establishments are the most likely to be driven out by new entries in all sectors, very large incumbents are not always the most competitive, and in the case of the tradable services sector medium-sized establishments are the least likely to be affected by new entries.

The remainder of the paper is organized as follows. The next section provides some background and discusses the literature related to this study. The data used in the analysis are explained in Section 3. In Section 4, we then describe our empirical

model and explain the variables used in the analysis. Section 5 provides the estimation results regarding the effect of new business entries on the probability that incumbents will exit. Next, Section 6 discusses the effect of new business entries on regional employment growth. Finally, Section 7 concludes.

2. Background and related literature

The effects of new entry on firm survival/exit have been the subject of a number of studies in the fields of industrial organization and entrepreneurship. One strand in the literature, using region- or industry-level data, examines the impact of new entry on regional development or on competition among incumbent firms within the region or industry. For example, Bosma et al. (2011) examine the effect of entry or turbulence (taking into account both entry and exit) on regional productivity growth, while Fritsch and Schroeter (2011) investigate the employment effects of new business formation in a region. On the other hand, Koster et al. (2010) investigate the impact of start-up rates on market mobility (i.e., changes in the ranking of a population of firms in terms of economic performance) by region and sector, and find that the start-up rate has a significant positive impact on mobility among establishments, suggesting that new entry increases competition among incumbent firms.

Another strand in the literature examines survival/exit at the establishment or firm level, focusing mainly on the survival/exit of new firms. For example, Mata and Portugal (1994) and Mata et al. (1995) examine the determinants of the longevity of new plants or firms, and find that entrants are more likely to live longer if they enter industries with a low rate of entry. Studies such as Honjo (2000) and Fritsch et al.

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(2006) also find similar results, suggesting that new firms tend to have more difficulties in surviving in an industry characterized by a high entry rate.[2]

Thus, previous micro-level studies focus on the survival/exit of new firms/plants, and the effect of new entry on the survival/exit of incumbents, including old incumbents, has not been adequately explored. Fritsch (2008), however, providing a survey of a recent strand of empirical research at the regional level, suggests that new entries lead to increased competition among incumbent firms and/or lead incumbents to lose market share or even exit the market. Given the scarcity of empirical research on the exit of incumbents in the face of new entries, many questions remain, such as what type of incumbents tend to be crowded out, in which sectors or in what circumstances incumbents are more likely to be forced out, and so on.[3]

Moreover, most previous studies on the impact of new entry tend to treat entrants as homogeneous by measuring aggregated entry rates or the number of start-ups in each region and/or industry. However, the entry of a large business may obviously have a larger impact on existing businesses than that of a small business. Neumark et al. (2008), for example, find that the entry of a mega supermarket, Wal-Mart, has a significant negative impact on employment in the region. On the other hand, Igami (2011) shows that the impact of the entry of a large-scale supermarket on incumbents' performance (exit and growth) differs depending on incumbents' size. These studies suggest that the extent of the impact of entry is likely to depend on the size of both

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[2] For a survey of empirical studies on the survival and exit of plants or firms, see Parker (2009) and Storey and Greene (2010).

[3] While there are studies such as Koster et al. (2010) that examine competition among incumbents in response to new entries, they do not consider the exit of incumbents. They focus on competition among incumbents that survived and only consider changes in productivity ranking over time for establishments which existed both at the beginning and the end of the period in question.

entrants and incumbents. Assuming that firms of different sizes provide differentiated products and/or services, these studies further suggest that the extent of the impact of entry is likely to depend on the degree of product/service differentiation, substitutability, and complementarity between the products/services provided by entrants and incumbents.

Understanding how new entry affects the survival/exit of incumbents is not only of academic interest, but potentially also has important implications for competition and regulatory policies. In the Japanese retail market, for example, the entry of large-scale retail stores was strictly regulated until early 2000s due to the large potential impact on small shops. In fact, it is widely feared that large-scale entries threaten the survival of small incumbents in the same industry/region. Yet, some studies suggest that large-scale entries do not necessarily have a negative effect on existing businesses, including small businesses, and indicate that large-scale entries actually may potentially even help small businesses to survive through knowledge/information spillovers by increasing variety within an agglomeration (e.g., Igami, 2011). Therefore, it is not a foregone conclusion that large-scale entries will always drive out small incumbents.

3. Data and descriptive analysis

3.1. Data sources

The data used for this study are the establishment-level data underlying the

Establishment and Enterprise Census collected by the Statistics Bureau, Ministry of Internal Affairs and Communications. The Census is mandatory and covers all establishments and enterprises in Japan in order to capture the geographical and sectoral distribution of enterprises and establishments and to understand firm dynamics (i.e., entry and exit).[4] A comprehensive census was started in 1947 and has been conducted every five years since 1981, while a simplified survey also has been conducted every five years, three years after the comprehensive survey. Although the census covers both private and public establishments, the survey items for public establishments are different from those for private establishments. Therefore, in this study, we use the establishment-level panel data for private establishments only for the years 2001 and 2006 and examine the survival of establishments during this period.[5,6] Based on the available data, we identify new and existing establishments and capture whether incumbent establishments survived or not.

In addition, we use the *Min Ryoku* database published by Asahi Shimbun Publications, Inc. for data on regional characteristics, such as regional population, employment, and income data. The advantage of the *Min Ryoku* database is that regional data are available not only at the prefecture level, but also at the level of the commercial area, which is defined by commuting distances and retail trading zones. Although scholars tend to use prefecture- or state-level data in previous literature, we think that to analyze competition and the interaction among entrants and incumbents,

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[4] The micro-data underlying the census are available to researchers for academic purposes only due to considerations of confidentiality. The micro-data were obtained and compiled for the purpose of our research project at RIETI.

[5] Although in some industries the number of public establishments is relatively large, their share in the total number of establishments in 2006 was only 2.5 percent. Moreover, public establishments are concentrated in certain industries, such as forestry, utilities, education, and public administration, and their share in most other industries is very small.

[6] Although comprehensive data are available from the early 1990s, we were unable to obtain reliable converters for establishment identification codes for the 1990s. We were therefore not able to link the establishment-level data over time from the early 1990s and decided to restrict our analysis to the 2000s.

it is more appropriate to use a more detailed level. The *Min Ryoku* database divides all of Japan into 152 commercial areas, which is considerably more detailed than the classification into 47 prefectures.[7] The third data source we use is the Japan Industrial Productivity (JIP) Database 2011 provided by RIETI, which we employ to construct industry-specific variables.

In order to examine how the effects of new entry differ across sectors, this paper classifies industries into three sectors: manufacturing, tradable services, and non-tradable services. As services industries are very diverse in terms of the characteristics of services provided, we group services based on their "tradability," which we believe is a relevant factor for determining the degree of competition among proximate firms. In the information service industry, for example, local demand may not matter for a firm selling software, because such a service product can be delivered via the internet in a flash at very low cost. On the other hand, in the medical services industry, local demand is likely to be important, since seeing a doctor regularly incurs time and transportation costs and most customers are therefore likely to live in the region or nearby. In order to identify whether the product of a particular service industry is tradable or non-tradable, we use the tradability measure employed by Jensen and Kletzer (2005), which is based on the methodology proposed by Ellison and Glaeser (1997). The basic idea of the tradability measure is that when something is traded, production of the activity is concentrated in a particular region to take advantage of scale economies in production. Therefore, the more tradable a particular type of good or service is, the more likely it is that production of the good or service will be concentrated in certain regions. Based on this logic, the tradability measure

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[7] In fact, a number of studies on Europe, such as Koster et al. (2010), Bosma et al. (2011), Fritsch and Schroeter (2011) employ data at the detailed regional level akin to the commercial areas used here rather than larger administrative units.

classifies industries in terms of their degree of geographic concentration, and in our definition of service industries, we define the least concentrated industries as non-tradable industries. A full list of industries and whether they are classified as tradable or non-tradable is shown in Appendix Table 1. We exclude primary industries (JIP industry codes 1 – 6), mining (7), waterworks (64), public services industries (79, 98-107), and activities not elsewhere classified (108) from our analysis unless noted otherwise.[8]

3.2. Descriptive statistics

Table 1 shows the aggregate number of establishments and employment for the years 2001 and 2006. The figures for "All establishments" cover all private establishments in Japan, including those in the primary and public service sectors. In addition, the table shows the number and percentage share of establishments that exited, entered, and survived between 2001 and 2006. Furthermore, the table shows a decomposition of the change in the number of establishments and employment into the contribution of establishments that exited, entered, and survived. Exited establishments here are defined as establishments that existed in the 2001 Census but not in the 2006 Census. Similarly, entered establishments are defined as establishments that did not exist in the 2001 Census but did in the 2006 Census.[9]

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[8] The reason for excluding the mail industry (JIP industry code 79) is that Japan's postal services were privatized in 2006. This means that in 2001, most establishments in the mail industry were in the database for public establishments, while in 2006 they were in the database for private establishments. As we were unable to obtain consistent data for such privatized postal service establishments, we excluded this industry from our analysis.

[9] We link establishments in the 2001 Census and the 2006 Census using converters of establishment ID codes (establishment ID codes for individual establishments are not permanent). The figures in Table 1 are largely consistent with figures reported in the official statistics published by the Ministry of Internal Affairs and Communications, suggesting that we were able to link the two Censuses successfully. However, we should note that we treat relocated establishments as new establishments, which is also true for the official publication. In the Census, establishment codes

The table shows that the total number of establishments and the total number of employees were 6.1 million and 54.9 million in 2001, respectively, which decreased to 5.7 million and 54.2 million in 2006, respectively. In terms of the rate of change, the drop in the number of establishments represents a fall of 6.8 percent, while that in the number of employees amounts to a decline of 1.3 percent. Looking at the contribution of establishments that exited, entered, and survived to the change in the number of employees, we find that although establishments that entered increased the total number of employees by 27.2 percentage points, this was more than offset by the decline in the number of jobs due to the exit of establishments (25.3 percentage points) and the reduction in the number of employees at establishments that survived (3.2 percentage points). Next, looking at the total number of establishments for each sector, we find that it decreased in all sectors. As for total employment by sector, while employment slightly increased in the tradable services sector, it significantly decreased in the other two sectors. The largest decline can be seen in the manufacturing sector, where employment dropped by 9.0 percent. Although entries created new jobs (+13.2 percentage points), this was more than offset by job losses through exits (-18.1 percentage points) and the decline in employment at surviving establishments (-4.1 percentage points). Another notable feature is that not only in the manufacturing sector, but also in the two services sectors, employment at surviving establishments declined.

Thus, Table 1 shows that the number of exits exceeds that of entries in all sectors

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consist of the location (prefecture and city/town/village) information and the establishment-level code. If an establishment moved outside a particular municipality (city/town/village), the establishment is given a new code in a new location. Therefore, in our analysis such establishments are classified as exits in the previous location and as new entries in the new location, since, unfortunately, we cannot identify whether establishments truly entered or exited or simply relocated.

and that newly entered and surviving establishments do not create sufficient employment to offset the reduction in jobs due to exits in the manufacturing and the non-tradable services sectors. The table thus suggests that the absolute number of new entries may be too small to create sufficient employment or that new entries potentially crowd out incumbents resulting in the reduction in the total number of establishments and employment.

INSERT Table 1

Next, Table 2 shows the numbers of establishments by more detailed industry for 2001. In addition, the table shows the number of new establishments among the total, with new establishments defined as those that were set up in 1996 or later and existed in the 2001 Census.[10] New establishments are identified using the information on the year of establishment. Further, the table shows the number of small establishments among new establishments, defined as firms whose number of employees is equal to or below the industry median, and the number of very large new establishments, defined as firms in the 99th percentile in their industry in terms of employment.[11]

Looking at the figures in the table, it can be seen that the rate of new business entries, defined as the share of new establishments (B/A in Table 2), varies considerably across industries. For example, while the rate of new business entries is fairly high in services industries, such as telecommunications or business services, it is

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[10] The figures exclude establishments set up in or after 1996 that exited before the 2001 Census.
[11] It should be noted that while Table 2 shows figures for relatively broad industry categories, the number of small and very large new establishments in each industry was calculated for each JIP industry (see Appendix Table 1), and the figures were then aggregated for Table 2.

much lower in most manufacturing industries.[12] Next, let us look at the patterns for small and very large new establishments. If the size distribution of new establishments was the same as that of incumbent establishments, the share of small establishments and that of very large establishments in the total number of new establishments (C/B and D/B in Table 2) by definition should be around 50% and 1%.[13] Looking at the actual figures, however, we find that in light manufacturing industries such as food & beverages, textiles, lumber & wood, and furniture, the share of small establishments is lower than 50% and the share of very large establishments is higher than 1%, suggesting that new establishments tend to be relatively large in these industries. New establishments also tend to be relatively large in wholesale and retail trade, but relatively small in services such as telecommunications and health services. Moreover, the share of very large new establishments is relatively small in machinery industries and the transportation equipment industry, suggesting that not many large new establishments enter these industries.

The table also suggests that not only the rate of business entry but also the exit rate of establishments varies significantly across industries. Although the exit rate is fairly high at 25 percent or higher in most industries, it is particularly high in low-tech industries such as textiles and leather. Moreover, industries with a high entry rate tend to show a high exit rate, too, such as the petroleum and coal, electrical machinery, wholesale and retail trade, telecommunications, and business services industries, suggesting a positive relationship between new business entry and the exit of

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[12] The very high entry and exit rates for the telecommunications industry are explained by the entry and exit of many small shops owned by major telecommunications companies. The number of such shops has increased since the mid-1990s along with the rapid spread of the use of mobile phones. Such shops sell and provide various services related to mobile phones.

[13] Size distributions for entrants and incumbents as of 2001 are shown in Appendix Table 3. Although the size difference between the two groups is not large, the difference of means is statistically significant and entrants tend to be larger than incumbents.

incumbents. In the following section, we examine this relationship in detail.

INSERT Table 2

4. Empirical model

Having looked at the broad patterns of business entry and exit in Japan, we now turn our attention to the effects of new business entry on incumbent survival, taking heterogeneity among entrants and incumbents into account.

To examine the effects of new business entry on the survival of incumbents, we use a probit model for the analysis. Our empirical model is specified as follows:

$$y_{i,j,r}^* = \boldsymbol{\beta}' \boldsymbol{x_{i,j,r}} + \varepsilon_{i,j,r},$$

where $y_{i,j,r}^*$ is the dependent variable, which takes a value of one if incumbent establishment i in industry j in region r exited between 2001 and 2006, $\boldsymbol{\beta}$ is the vector of estimated parameters, $\boldsymbol{x_{i,j,r}}$ is the vector of independent variables, and $\varepsilon_{i,j,r}$ is the error term.[14]

The vector of independent variables includes various measures of business entry. The first of these is the overall rate of new business entry (*ENTRY*), which is measured as the number of establishments set up between 1996 and 2001 and captured in the 2001 Census, divided by the total number of establishments in the 2001 Census, by industry and region. In order to examine whether the effects of new business entry at the industry-region level on the survival of incumbent establishments in the same

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[14] In order to take possible endogeneity into account, our explanatory variables are constructed using data before 2001, while the dependent variable is constructed based on information for the period 2001 and 2006.

industry and the region vary depending on the size of new establishments, the entry rate is further decomposed into the three variables *L_ENTRY*, *M_ENTRY* and *S_ENTRY. L_ENTRY* is the entry rate for very large new establishments, i.e., new establishments who fall into the 99th percentile of their industry in terms of employment. Similarly, *S_ENTRY* denotes the entry rate for small new establishments, i.e., establishments whose employment is equal to or below the median of their respective industry, while *M_ENTRY* represents the entry rate for all remaining establishments. In all cases, the denominator for the entry rate is the total number of establishments by industry and region in the 2001 Census.

Another set of independent variables refers to the size of existing establishments. The first of these is the logarithm of the number of employees (*EMP*). In addition, we employ a number of dummy variables. Similar to the way we distinguish among entrants of different sizes, we distinguish existing establishments by including a dummy for very large establishments (*L_ESTAB*), which takes a value of one for establishments falling into the 99th percentile of their industry in terms of their employment, a dummy for small establishment (*S_ESTAB*) for establishments whose employment is equal to or below the industry median, and a dummy for medium-sized establishments (*M_ESTAB*), i.e., all remaining establishments.

Another establishment-level variable we include is the logarithm of the number of years since an establishment was set up, i.e., establishments' age (*AGE*). Further, we use a number of region-specific variables. These include the population density of a particular region, measured as the average of the values for 1995 and 2000 (*POPDENS*, persons per square meter multiplied by 10,000), the population growth rate from 1995

to 2000 (*POPGR*), and per capita income (*PCINCOME,* million yen per person) as of 2000. [15] Moreover, in order to control for agglomeration (or congestion) of establishments within a region, establishment density (*ESTDENS*) is also included. *ESTDENS* is calculated as the number of establishments in 2001 in each industry and region divided by the area (km^2) of each region.

Finally, we use two industry-specific variables. The first is the Hirschman–Herfindahl Index (*INDHHI,* original figures in the JIP Database divided by 10,000) for each industry in 2001. The Hirschman–Herfindahl Index is taken from the JIP Database 2011, where the index is calculated using the employment share of each establishment in total employment for each industry. And second, we include a variable representing the growth of a particular industry (*INDGR*). The variable is obtained by regressing each industry's annual real output on the time trend for the period from 1990 to 2006, and the estimated coefficient is then taken as our measures of industry growth.[16] Summary statistics for all variables are provided in Appendix Table 2.[17]

5.   Empirical results

5.1. Effects of New Entry on Probability of Incumbent Exit

We start our empirical analysis by presenting the average marginal effects of new business entries on the probability of exit of incumbent establishments calculated

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[15] The population variables are constructed using data from the Population Census, which is conducted in years ending in 0 or 5. Therefore, the variables are constructed using the 1995 and 2000 Population Censuses.

[16] Our construction of the variable for industry growth follows the example of Sakakibara and Porter (2001). Industry-level real gross output data are taken from the JIP Database 2011.

[17] Correlation matrices for all variables are shown in Appendix Table 10.

based on the estimation results for the probit model shown in the previous section.

Table 3 presents the average marginal effects of the entry rate (*ENTRY*) and the entry rate by size of entrants (*L_ENTRY*, *M_ENTRY*, and *S_ENTRY*). While the estimated average marginal effects for all the explanatory variables are shown in Appendix Tables 4 - 6, here we focus on the effects of new business entry based and the size of establishments. The figures show by how much the probability that incumbents will exit increases or decreases on average when the entry rate increases by one point. The results suggest that the impact of new business entry is largest in the non-tradable services sector, where a one point increase in the entry rate increases the probability of exit by 0.6 points (first row in Table 3). As the standard deviation of the entry rate (*ENTRY*) for the non-tradable services sector is 0.08 (8 percent) (see Appendix Table 2), this implies that a one standard deviation increase in the entry rate on average increases the probability of exit by 4.9 percentage points. Given that the average exit rate (i.e., the share of firms that exited during the period from 2001 to 2006) is 29.9 percent (see Appendix Table 2), the impact of a one standard deviation increase in the entry rate is not negligible. Based on similar calculations, a one standard deviation increase in the entry rate in the tradable services sector increases the probability of exit by 2.7 percentage points, while in the manufacturing sector the equivalent value is 1.3 percentage points. Comparing the effect of entry in each sector with the average exit rate of that sector, the impact seems particularly large in the non-tradable services sector. The reason likely is that for establishments in the non-tradable services sector it is difficult to sell their services to customers outside their region, so that unless inefficient incumbents change their business strategy or the customers they target they will be forced to exit the market.

Looking at the average marginal effect on establishments of different sizes (Equation (2) in Table 3), we find that new business entry increases the probability of exit the most for small establishments. Moreover, while in the case of the tradable services sector the average marginal effect is almost the same for medium-sized and large establishments, in the non-tradable services sector the effect is larger for medium-sized than for large establishments and, moreover, considerably larger than in the tradable services sector. While medium-sized establishments are greatly affected by new business entries in the non-tradable services sector, in the tradable services sector the effect is limited. Taken together, the results suggest that in the case of the non-tradable services sector new entries intensify competition among establishments and drive out incumbents if they fail to differentiate their services or strategies from entrants, while in the tradable services sector medium-sized establishments may be able to find ways to survive by expanding their customer base outside the region.

As for the effects of new entries by entrants' size (Equation (3) in Table 3), in the manufacturing sector it is the entry of large establishments that has the greatest impact, while in the tradable and non-tradable services sectors it is the entry of medium-sized establishments that has the greatest impact. However, when taking incumbents' size into account (Equation (4) in Table 3), we find that the effect of the entry of large establishments becomes insignificant in the case of the manufacturing and non-tradable services sectors, while it becomes negative in the case of the tradable services sector. In other words, in the former two sectors, the entry of large establishments does not appear to affect the likelihood that incumbents will exit, while in the latter sector, the entry of large establishments reduces the probability that

incumbents will exit, suggesting that large entries generate some sort of positive spillover effects.

Turning to the effects of medium-sized and small entries, the results indicate that medium-sized entries tend to have a larger impact than small entries. Particularly in non-tradable services medium-sized entries significantly increase the probability that incumbents will exit. A possible interpretation is that since the business strategies employed by medium-sized establishments are likely to overlap with those employed by both large and small establishments, it may be difficult for them to differentiate themselves.

INSERT Table 3

To check the robustness of our results, we also estimated the equations including industry dummies (by JIP industry classification) and regional dummies (for the 152 Min Ryoku commercial areas) instead of the industry- and region-specific variables used in Appendix Tables 4, 5, and 6. The results are shown in Appendix Tables 7, 8, and 9, and the average marginal effects based on the results in the Appendix Tables are shown in Table 4. Although the results for the models with the dummy variables are largely consistent with those in Table 3, the average marginal effects in Table 4 are much smaller than those in Table 3. For example, while a one standard deviation increase in the entry rate on average increases the probability of exit by 4.9 percentage points in the non-tradable services sector based on the results in Table 3, the equivalent value calculated based on Table 4 is 1.3 percentage points. Nevertheless, it is confirmed that new business entry increases in an industry in a region significantly increases the probability of exit of establishments in the same industry and in the

same region even industry- and region-specific effects are very strictly controlled for.

INSERT Table 4

5.2. Effects of Other Factors

In this section, we briefly discuss the average marginal effects of other variables based on the results shown in Appendix Tables 4 - 9. First, the effect of establishment size (*EMP*) is negative and significant, indicating that larger establishments are less likely to exit than smaller ones. The dummy variables for establishment size, *L_ESTAB* and *M_ESTAB* also have a negative and significant impact, indicating that large and medium-sized establishments are less likely to exit than small establishments. Moreover, the average marginal effects of *L_ESTAB* are larger in absolute terms than those of *M_ESTAB* in the manufacturing and the non-tradable services sectors, suggesting that the probability of exit becomes smaller the larger the establishment. However, in the tradable services sector, no such pattern emerges. The variable for establishment age (*AGE*) has a negative and significant impact on the probability that incumbent will exit in all cases. This suggests that young establishments are less likely to survive than older ones, which is consistent with previous studies such as Honjo (2000).

As for region-specific characteristics, while population density (*POPDENS*) has a positive and significant impact in all industries, meaning that greater population density is associated with a higher exit rate, the impacts of population growth (*POPGR*) and per capita income growth (*PCINCOME*) differ across sectors. The result

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for the population density variable suggests that the probability of exit is higher in congested regions. Exit rates are also higher in regions with a greater establishment density (*ESTDENS*), which may similarly point to a congestion effect, but could also be interpreted as indicating that exit rates are higher in agglomerations, where greater competition results in greater industry dynamism.

Meanwhile, the results for the population growth variable suggest that establishments are more likely to exit in high-growth regions in the case of the manufacturing and tradable services sectors, while they are less likely to exit in high-growth regions in the case of the non-tradable services sector, suggesting that regional demand is more important for the non-tradable sector. As for per capita income, manufacturing establishments are more likely to exit in high-income regions where the wages they need to pay are likely to be higher. In the case of the tradable services sectors, establishments are more likely to survive in high-income regions. Possible explanations for this result are that establishments in this sector require ready access to high-wage skilled workers or that customers' purchasing power may contribute to the survival of establishments. In the case of non-tradable services, however, the sign of the effect differs depending on the specification and the effect is ambiguous. A possible explanation is that the wage effect and the purchasing power effect may be offsetting each other in this sector.

Next, let us turn our attention to the role of industry characteristics. Starting with the Hirschman–Herfindahl Index (*INDHHI*), this has a positive and significant impact in all cases, suggesting that establishments are more likely to exit in industries with less competition. While this result is contrary to what one would expect, a possible

explanation is that *INDHHI* in fact captures technology differences across industries and indicates that scale economies are more important in industries with a higher *INDHHI.* On the other hand, industry growth (*INDGR*) affects incumbents' survival very differently across sectors. Specifically, in the manufacturing and non-tradable services sectors, establishments in growing industries are less likely to exit, while they are more likely to exit in the tradable services sector. This result suggests that in tradable services, industry growth gives rise to a selection mechanism, while in the other two sectors it allows less efficient establishments to "hang on."

6. New business entry and regional employment growth

So far we have found that new business entries tend to increase the probability that incumbents will exit, although the impact differs across sectors and depends on the size of entrants and incumbents. While this is not good news for incumbents, new entrants may drive out inefficient establishments and contribute to resource reallocation in the region. If resources are shifted from inefficient establishments to more efficient establishments or growing industries, economic conditions in the region should improve, resulting in an increase in total employment in the region.[18] In fact, policy makers and regional workers or residents may be more interested in the total employment growth in the region than the survival of incumbents. Therefore, in this section, we estimate the following simple model in order to examine whether new business entries increase regional total employment:

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[18] Economic conditions include supply-side factors such as the efficiency of firms and industries, structural change, innovation, product variety, etc. Fritsch (2008) argues that new business entries may lead to higher employment levels in the region, but whether new entries increase regional employment is subject to how much new entries improve the supply side of the regional or nation-wide economy.

$$\Delta EMP_r = \gamma' ENTRY_{r,j} + \gamma' ENTRY_{r,-j} + \mu_r + \eta_j + \varepsilon_{r,j}$$

The dependent variable is the growth rate of employment in region r from 2001 to 2006. We consider three kinds of dependent variable: the growth rate of regional total employment in industry j, the growth rate of regional total employment in all industries other than industry j, and the growth rate of regional total employment in all industries. The reason for using these variables is that although new business entry in a particular industry in a region may affect overall employment in that industry in the region, employment in the industry may also be affected by new business entry in other industries in the region. Similarly, new business entry in a particular industry in a region may affect overall employment in all other industries in the region. Even though new entry in an industry in a region may reduce employment in that industry, the workers released from that industry may move to other, growing industries, resulting in an increase in employment in other industries.

Taking such interactions into account, we examine how the entry rate of own industry j (*ENTRY_area_own*) and the entry rate of all other industries (*ENTRY_area_other*) in a region affects the overall employment growth in industry j and in all industries other than industry j. Moreover, we examine how the overall entry rate in a region (*ENTRY_area_total*) affects total employment growth in that region.[19] In order to control for region-specific and industry-specific factors, regional dummies (μ_r) and industry dummies (η_j) are included.

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[19] The variable *ENTRY_area_own* is the same as the variable *ENTRY* used in the analysis in the previous section and denotes the share of new establishments by industry and region. The variable *ENTRY_area_other* is the total number of new establishments in all industries except industry j in a region divided by the total number of establishments in all industries other than industry j in the region. The variable *ENTRY_area_total* is the total number of new establishments in a region divided by the total number of establishments in the region. Summary statistics and correlation matrix for all variables are provided in Appendix Tables 2 and 11, respectively.

The OLS regression results are shown in Table 5. According to the results shown in Column (1), employment growth in an industry is positively associated with new entries in all other industries in the region, even after region- and industry-specific factors are controlled for. This result suggests that although new entries do not necessarily increase employment in their own industry, they promote resource reallocation across industries and thereby increase employment in other industries. This result also suggests that there are some positive spillovers from new entries in other industries. Next, turning to the results in Column (2), we find that although the estimated coefficients are negative, they are very small in absolute terms and not statistically significant. This result suggests that new entries at least do not reduce regional employment even though they raise the probability that incumbent establishments in the same industry will exit, as shown in the analysis in the previous section.

Finally, Column (3) shows the results for the simple regression of total employment growth and the overall entry rate by region. The coefficient on *ENTRY_area_total* suggests that a one percentage point increase in the overall entry rate in a region will raise the total employment growth rate in the region by 0.4 percentage points. Thus, if the overall entry rate increased by one standard deviation (3.1 percentage points), the total employment growth rate would be raised by 1.3 percentage points. Given that the average regional employment growth rate during the period from 2001 to 2006 was minus 4 percent, the positive impact of new entries is quite significant for Japan. Therefore, although the magnitude of the impact calculated from this very simple cross-section regression result should be interpreted with a degree of caution, the result implies that new business entries make a

considerable contribution to employment growth.[20]

INSERT Table 5

7. Conclusion

This paper examined the effects of new business entries on the probability that incumbents will exit the market, using establishment-level data underlying Japan's *Establishment and Enterprise Census*. In particular, we estimated how the effects of new entries on the probability that incumbents will exit vary depending on the size of both entrants and incumbents, which has not been explored in the literature. We also examined the effects of region- and industry-specific factors on the probability that incumbents will exit.

Our major findings are as follows. First, while new business entries increase the probability that incumbents will exit, the effect differs significantly across sectors and depends on the size of entrants and incumbents. The effect is largest in the non-tradable services sector, suggesting that this is the sector where new entries intensify competition among establishments the most, since it is difficult for establishments to expand their customer base outside the region due to the non-tradable nature of their services. In the case of the manufacturing and the tradable services sectors, the impact of new entries on the likelihood that incumbents will exit is fairly limited compared with the average exit rate for these sectors,

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[20] In order to examine the effect of new entries on regional employment growth more rigorously, we need regional panel data for a long period and control for various region-specific factors. We should also take account of the time lags involved concerning the impact of new entries on regional growth. While the effect of new entries on regional employment growth is an issue of considerable importance that deserves further research, a more detailed analysis along these lines is beyond the scope of this paper and is something we would like to leave for the future.

implying that new entries have some positive spillover or agglomeration effects on incumbents, and/or that incumbents can avoid competition by expanding their market outside the region or by differentiating their products or services.

Second, in all sectors small establishments are the most likely to be driven out by new entries, suggesting that new entries may improve resource allocation by leading to the exit of small establishments which are likely to be less efficient than larger establishments. Moreover, in the manufacturing and the non-tradable services sectors the likelihood that incumbents exit as a result of new entries decreases the larger incumbents are, although in the case of tradable services it is medium-sized establishments which are least likely to be affected by new entries. This seems to suggest that in the tradable services sector very large establishments are not necessarily the most competitive ones.

Third, the way that the entry of establishments of different sizes affects exit rates also varies across sectors. A particularly interesting finding in this respect is that in the tradable services sector it is not large-scale entries that are most likely to drive out incumbents, but medium-scale entries. Moreover, when taking both entrants' and incumbents' size into account, the effect of large establishments becomes insignificant in the case of the manufacturing and non-tradable services sector. In the case of the tradable services sector, large-scale entries lower the likelihood that incumbents exit, suggesting that large-scale entries generate positive spillover effects. These results may imply that judging whether large-scale entries should be subject to regulation requires a careful consideration taking industry-specific characteristics into account.

Fourth, regional- and industry-specific factors also affect the probability that incumbents will exit, and these effects vary across sectors. In particular, industry

growth affects incumbents' survival very differently across sectors. While in the manufacturing and non-tradable services sectors it generally lowers the probability that incumbents will exit, in the tradable services sector it raises the probability, suggesting that in this sector industry growth is associated with an increase in resource reallocation or industry dynamism.

In sum, the results overall indicate that new entries drive out incumbent establishments and that it is small establishments that are the most likely to be driven out by new entries. Moreover, it is incumbents in the non-tradable services sector that are the most likely to be affected by new entries, probably because it is difficult for incumbents to expand their customer base outside the region.

With regard to the effect of entry on employment, our simple regression analysis showed a positive relationship between regional entry rates and regional employment growth. Although further rigorous examination is required, we can at least conclude that new entries appears to promote resource reallocation by driving out less efficient incumbents and stimulate regional economies, possibly resulting in regional employment growth. If this interpretation is correct, then our results suggest that such reallocation effects should be greatest in the non-tradable services sector and the impact should be significant. Therefore, our results suggest that although new business entries may drive out incumbents, they are unlikely to be detrimental from a broader perspective and, instead, are likely to contribute to better resource allocation. Our results also suggest that, at least in the tradable services sector, new large-scale entries may even help incumbents to survive due to positive spillover effects in growing industries.

Lastly, we should note some limitations of this study. While this study has the

advantage that it covered all establishments in almost all industries in Japan, this also meant that we were not able to control for various firm- or establishment-level characteristics other than employment size and establishment age due to data constraints. Moreover, because long-term panel data at the establishment level are not available, we were not able to control for unobservable establishment-specific factors. Further studies using micro-data with more firm- or establishment-specific information are desirable in order to further understand the mechanisms underlying resource reallocation and industry or regional employment growth through new business entries. In addition, although the Japanese economy started picking up around early 2002, overall employment growth was very weak during the period analyzed in this study and employment in most industries fell. In order to rigorously examine the relationship between new business formation and industry and regional employment growth, we need to further investigate this issue using data covering a much longer period. These are important issues that we leave for future research.

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Table 1: Employment Growth and Its Decomposition by Type of Establishment for the Period 2001 - 2006

		2001				2006				2006 - 2001[*]			
		No. of establishments (share)		Employment (share)		No. of establishments (share)		Employment (share)		No. of establishments (growth rate)		Employment (growth rate)	
All establishments		6,138,312	(100.0%)	54,912,703	(100.0%)	5,722,559	(100.0%)	54,184,428	(100.0%)	-415,753	(-6.8%)	-728,275	(-1.3%)
Exits between 2001 and 2006	(a)	1,893,476	(30.8%)	13,905,418	(25.3%)	-		-		-1,893,476	(-30.8%)	-13,905,418	(-25.3%)
Entries between 2001 and 2006	(b)	-		-		1,477,723	(25.8%)	14,913,662	(27.5%)	1,477,723	(24.1%)	14,913,662	(27.2%)
Surviving establishments for 2001 - 2006	(c)	4,244,836	(69.2%)	41,007,285	(74.7%)	4,244,836	(74.2%)	39,270,766	(72.5%)	0	(0.0%)	-1,736,519	(-3.2%)
Manufacturing establishments		641,851	(100.0%)	10,933,869	(100.0%)	551,931	(100.0%)	9,951,067	(100.0%)	-89,920	(-14.0%)	-982,802	(-9.0%)
Exits between 2001 and 2006	(a)	176,059	(27.4%)	1,981,543	(18.1%)	-		-		-176,059	(-27.4%)	-1,981,543	(-18.1%)
Entries between 2001 and 2006	(b)	-		-		86,139	(15.6%)	1,445,423	(14.5%)	86,139	(13.4%)	1,445,423	(13.2%)
Surviving establishments for 2001 - 2006	(c)	465,792	(72.6%)	8,952,326	(81.9%)	465,792	(84.4%)	8,505,644	(85.5%)	0	(0.0%)	-446,682	(-4.1%)
Tradable services		1,412,694	(100.0%)	13,520,408	(100.0%)	1,343,627	(100.0%)	13,624,615	(100.0%)	-69,067	(-4.9%)	104,207	(0.8%)
Exits between 2001 and 2006	(a)	477,552	(33.8%)	4,391,878	(32.5%)	-		-		-477,552	(-33.8%)	-4,391,878	(-32.5%)
Entries between 2001 and 2006	(b)	-		-		408,485	(30.4%)	4,703,976	(34.5%)	408,485	(28.9%)	4,703,976	(34.8%)
Surviving establishments for 2001 - 2006	(c)	935,142	(66.2%)	9,128,530	(67.5%)	935,142	(69.6%)	8,920,639	(65.5%)	0	(0.0%)	-207,891	(-1.5%)
				28,567,793									
Non-tradable services		3,864,727	(100.0%)	28,567,793	(100.0%)	3,567,525	(100.0%)	27,645,109	(100.0%)	-297,202	(-7.7%)	-922,684	(-3.2%)
Exits between 2001 and 2006	(a)	1,196,305	(31.0%)	7,217,990	(25.3%)	-		-		-1,196,305	(-31.0%)	-7,217,990	(-25.3%)
Entries between 2001 and 2006	(b)	-		-		899,103	(25.2%)	7,452,524	(27.0%)	899,103	(23.3%)	7,452,524	(26.1%)
Surviving establishments for 2001 - 2006	(c)	2,668,422	(69.0%)	21,349,803	(74.7%)	2,668,422	(74.8%)	20,192,585	(73.0%)	0	(0.0%)	-1,157,218	(-4.1%)

Notes: (a+c) equals the total number of establishments and total employment for 2001, while (b+c) equals the total number of establishments and total employment for 2006.

*Percentage figures in parentheses indicate the contribution of each component to the total rate of changes.

Table 2: Number of Establishments in 2001, by Sector

Sector	No. of establishments (A)	No. of new establishments (B)	(B/A)	No. of small new establishments (C)	(C/B)	No. of very large new (D)	(D/B)	No. of exits (E)	(E/A)
Agriculture & forestry	21,713	4,385	20.2%	2,563	58.4%	32	0.73%	5,101	23.5%
Fisheries	2,391	240	10.0%	143	59.6%	0	0.00%	723	30.2%
Mining	3,148	263	8.4%	164	62.4%	4	1.52%	1,010	32.1%
Food & beverages	64,910	6,376	9.8%	2,786	43.7%	77	1.21%	15,342	23.6%
Textiles	86,539	5,725	6.6%	2,226	38.9%	59	1.03%	31,710	36.6%
Lumber & wood	21,639	1,448	6.7%	568	39.2%	21	1.45%	5,979	27.6%
Furniture	33,130	2,218	6.7%	983	44.3%	23	1.04%	8,763	26.5%
Paper & pulp	14,673	1,217	8.3%	559	45.9%	9	0.74%	3,593	24.5%
Printing	50,059	5,685	11.4%	2,963	52.1%	43	0.76%	15,097	30.2%
Leather	9,571	852	8.9%	357	41.9%	8	0.94%	3,545	37.0%
Rubber	7,613	903	11.9%	460	50.9%	2	0.22%	2,372	31.2%
Chemicals	7,749	1,261	16.3%	817	64.8%	3	0.24%	1,970	25.4%
Petroleum & coal	690	119	17.2%	67	56.3%	2	1.68%	306	44.3%
Ceramic, stone & clay	24,928	2,158	8.7%	1,208	56.0%	13	0.60%	6,262	25.1%
Iron & steel	7,291	794	10.9%	454	57.2%	3	0.38%	1,833	25.1%
Non-ferrous metals	5,538	567	10.2%	376	66.3%	3	0.53%	1,454	26.3%
Fabricated metal	81,473	7,041	8.6%	3,331	47.3%	46	0.65%	20,281	24.9%
General machinery	73,400	7,596	10.3%	3,989	52.5%	42	0.55%	17,449	23.8%
Electrical machinery	41,228	5,860	14.2%	3,135	53.5%	31	0.53%	12,898	31.3%
Transportation equipment	49,426	5,334	10.8%	3,216	60.3%	16	0.30%	12,618	25.5%
Precision machinery	11,645	1,360	11.7%	637	46.8%	9	0.66%	3,298	28.3%
Plastics	28,091	3,183	11.3%	1,527	48.0%	24	0.75%	7,340	26.1%
Miscellaneous manufacturing	12,774	1,403	11.0%	652	46.5%	10	0.71%	3,949	30.9%
Construction	606,943	76,213	12.6%	36,015	47.3%	778	1.02%	164,927	27.2%
Electricity, gas, & water supply	17,021	2,828	16.6%	1,734	61.3%	15	0.53%	4,432	26.0%
Wholesale & retail trade	2,671,860	605,269	22.7%	296,111	48.9%	8,201	1.35%	929,652	34.8%
Finance, insurance & real estate	389,031	60,739	15.6%	39,688	65.3%	876	1.44%	112,863	29.0%
Transport	187,022	30,642	16.4%	15,711	51.3%	276	0.90%	56,429	30.2%
Telecommunications	15,372	11,730	76.3%	7,545	64.3%	82	0.70%	10,232	66.6%
Education, research & development	19,102	1,901	10.0%	552	29.0%	13	0.68%	2,621	13.7%
Health services	217,777	51,522	23.7%	28,607	55.5%	114	0.22%	46,079	21.2%
Business services	412,534	103,080	25.0%	59,872	58.1%	1,035	1.00%	146,271	35.5%
Personal services	612,699	114,385	18.7%	61,264	53.6%	1,682	1.47%	154,940	25.3%
Other services	125,439	27,577	22.0%	13,733	49.8%	227	0.82%	45,411	36.2%
Total	5,934,419	1,151,874	19.4%	594,013	51.6%	13,779	1.20%	1,856,750	31.3%

Notes: Some industries are excluded.

We confirmed that the high entry rate for the telecommunication industry is correct by cross-checking the data with other publications by the Statistics Bureau.

Table 3: Average Marginal Effects of New Entry on Probability of Incumbent Exit

	Manufacturing	Tradable Services	Non-Tradable Services
Equation (1)			
ENTRY	0.195 ***	0.266 ***	0.610 ***
	(0.009)	(0.005)	(0.003)
Equation (2)			
Overall (ENTRY)	0.110 ***	0.314 ***	0.590 ***
	(0.012)	(0.006)	(0.004)
Effects of ENTRY on:			
Large establishments	0.073 ***	0.306 ***	0.476 ***
	(0.008)	(0.006)	(0.004)
Medium-sized establishments	0.099 ***	0.304 ***	0.559 ***
	(0.011)	(0.006)	(0.004)
Small establishments	0.120 ***	0.320 ***	0.614 ***
	(0.013)	(0.006)	(0.004)
Equation (3)			
Large entry (L_ENTRY)	0.626 ***	0.248	0.647 ***
	(0.143)	(0.157)	(0.083)
Medium entry (M_ENTRY)	0.291 ***	0.397 ***	0.694 ***
	(0.013)	(0.010)	(0.007)
Small entry (S_ENTRY)	0.109 ***	0.188 ***	0.538 ***
	(0.012)	(0.007)	(0.006)
Equation (4)			
Large entry (L_ENTRY)	0.042	-1.003 ***	-0.148
	(0.238)	(0.227)	(0.109)
Effects of L_ENTRY on:			
Large establishments	0.028	-0.978 ***	-0.119
	(0.157)	(0.221)	(0.088)
Medium-sized establishments	0.038	-0.971 ***	-0.140
	(0.213)	(0.220)	(0.104)
Small establishments	0.046	-1.024 ***	-0.153
	(0.260)	(0.232)	(0.114)
Medium entry (M_ENTRY)	0.172 ***	0.470 ***	0.771 ***
	(0.018)	(0.014)	(0.009)
Effects of M_ENTRY on:			
Large establishments	0.114 ***	0.458 ***	0.620 ***
	(0.012)	(0.014)	(0.008)
Medium-sized establishments	0.154 ***	0.455 ***	0.730 ***
	(0.016)	(0.013)	(0.009)
Small establishments	0.188 ***	0.480 ***	0.802 ***
	(0.020)	(0.014)	(0.009)
Small entry (S_ENTRY)	0.066 ***	0.242 ***	0.459 ***
	(0.015)	(0.009)	(0.007)
Effects of S_ENTRY on:			
Large establishments	0.044 ***	0.236 ***	0.369 ***
	(0.010)	(0.009)	(0.006)
Medium-sized establishments	0.059 ***	0.234 ***	0.435 ***
	(0.014)	(0.009)	(0.007)
Small establishments	0.072 ***	0.247 ***	0.478 ***
	(0.017)	(0.009)	(0.008)

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Robustness Checks: Average Marginal Effects of New Entry on Probability of Incumbents Exit ---- Based on Estimation Results in Appendix Tables 7, 8, and 9 ----

	Manufacturing	Tradable Services	Non-Tradable Services
Equation (1)			
ENTRY	0.078 ***	0.089 ***	0.167 ***
	(0.010)	(0.009)	(0.007)
Equation (2)			
Overall (ENTRY)	0.012	0.115 ***	0.137 ***
	(0.013)	(0.009)	(0.007)
Effects of ENTRY on:			
Large establishments	0.008	0.112 ***	0.111 ***
	(0.008)	(0.009)	(0.006)
Medium-sized establishments	0.011	0.111 ***	0.130 ***
	(0.011)	(0.009)	(0.007)
Small establishments	0.013	0.117 ***	0.142 ***
	(0.014)	(0.010)	(0.007)
Equation (3)			
Large entry (L_ENTRY)	0.495 ***	0.205	0.575 ***
	(0.146)	(0.176)	(0.095)
Medium entry (M_ENTRY)	0.157 ***	0.086 ***	0.215 ***
	(0.014)	(0.014)	(0.010)
Small entry (S_ENTRY)	0.007	0.090 ***	0.111 ***
	(0.013)	(0.010)	(0.009)
Equation (4)			
Large entry (L_ENTRY)	-0.149	-2.351 ***	-0.912 ***
	(0.244)	(0.248)	(0.122)
Effects of L_ENTRY on:			
Large establishments	-0.098	-2.296 ***	-0.734 ***
	(0.161)	(0.242)	(0.098)
Medium-sized establishments	-0.133	-2.281 ***	-0.863 ***
	(0.218)	(0.241)	(0.116)
Small establishments	-0.163	-2.399 ***	-0.948 ***
	(0.266)	(0.253)	(0.127)
Medium entry (M_ENTRY)	0.049 **	0.156 ***	0.216 ***
	(0.019)	(0.017)	(0.012)
Effects of M_ENTRY on:			
Large establishments	0.032 **	0.152 ***	0.174 ***
	(0.013)	(0.017)	(0.010)
Medium-sized establishments	0.044 **	0.151 ***	0.204 ***
	(0.017)	(0.016)	(0.011)
Small establishments	0.054 **	0.159 ***	0.224 ***
	(0.021)	(0.017)	(0.012)
Small entry (S_ENTRY)	-0.015	0.118 ***	0.098 ***
	(0.016)	(0.011)	(0.010)
Effects of S_ENTRY on:			
Large establishments	-0.010	0.115 ***	0.079 ***
	(0.011)	(0.011)	(0.008)
Medium-sized establishments	-0.013	0.114 ***	0.093 ***
	(0.014)	(0.011)	(0.010)
Small establishments	-0.016	0.120 ***	0.102 ***
	(0.018)	(0.012)	(0.011)

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Entry and Regional Employment Growth (OLS regression results)

	(1) Own industry	(2) All other industries	(3) All industries
ENTRY_area_own			
	-0.031	-0.0002	
	(0.039)	(0.000)	
	{0.041}	{0.000}	
	<0.043>	<0.000>	
ENTRY__area_other	3.034	-0.009	
	(0.615) ***	(0.086)	
	{0.556} ***	{0.076}	
	<1.114> ***	<0.131>	
ENTRY__area_total			0.406
			(0.089) ***
Area dummies	Yes	Yes	
Industry dummies	Yes	Yes	
Constant term			Yes
No. of obs.	12,647	12,648	150
F value	39.520 ***	8965 ***	20.77 ***
R-squared	0.221	0.991	0.107

Notes: The numbers in parentheses are robust standard errors; those in curly brackets are standard errors corrected for clustering across areas; those in angled brackets are standard errors corrected for clustering across industries.
 * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 1: List of Industries

JIP Industry		Industry Classification	Tradability (Tradable =1, Non-Tradable=0)
1	Rice, wheat production	Agriculture & forestry	-
2	Miscellaneous crop farming	Agriculture & forestry	-
3	Livestock and sericulture farming	Agriculture & forestry	-
4	Agricultural services	Agriculture & forestry	-
5	Forestry	Agriculture & forestry	-
6	Fisheries	Fisheries	-
7	Mining	Mining	-
8	Livestock products	Food & beverages	-
9	Seafood products	Food & beverages	-
10	Flour and grain mill products	Food & beverages	-
11	Miscellaneous foods and related products	Food & beverages	-
12	Prepared animal foods and organic fertilizers	Food & beverages	-
13	Beverages	Food & beverages	-
14	Tobacco	Food & beverages	-
15	Textile products	Textiles	-
16	Lumber and wood products	Lumber & wood	-
17	Furniture and fixtures	Furniture	-
18	Pulp, paper, and coated and glazed paper	Paper & pulp	-
19	Paper products	Paper & pulp	-
20	Printing, plate making for printing and bookbinding	Printing	-
21	Leather and leather products	Leather	-
22	Rubber products	Rubber	-
23	Chemical fertilizers	Chemicals	-
24	Basic inorganic chemicals	Chemicals	-
25	Basic organic chemicals	Chemicals	-
26	Organic chemicals	Chemicals	-
27	Chemical fibers	Chemicals	-
28	Miscellaneous chemical products	Chemicals	-
29	Pharmaceutical products	Chemicals	-
30	Petroleum products	Petroleum & coal	-
31	Coal products	Petroleum & coal	-
32	Glass and its products	Ceramic, stone & clay	-
33	Cement and its products	Ceramic, stone & clay	-
34	Pottery	Ceramic, stone & clay	-
35	Miscellaneous ceramic, stone and clay products	Ceramic, stone & clay	-
36	Pig iron and crude steel	Iron & steel	-
37	Miscellaneous iron and steel	Iron & steel	-
38	Smelting and refining of non-ferrous metals	Non-ferrous metals	-
39	Non-ferrous metal products	Non-ferrous metals	-
40	Fabricated constructional and architectural metal products	Fabricated metal	-
41	Miscellaneous fabricated metal products	Fabricated metal	-
42	General industry machinery	General machinery	-
43	Special industry machinery	General machinery	-
44	Miscellaneous machinery	General machinery	-
45	Office and service industry machines	General machinery	-
46	Electrical generating, transmission, distribution and industrial apparatus	Electrical machinery	-
47	Household electric appliances	Electrical machinery	-
48	Electronic data processing machines, digital and analog computer equipment and accessories	Electrical machinery	-
49	Communication equipment	Electrical machinery	-
50	Electronic equipment and electric measuring instruments	Electrical machinery	-
51	Semiconductor devices and integrated circuits	Electrical machinery	-
52	Electronic parts	Electrical machinery	-
53	Miscellaneous electrical machinery equipment	Electrical machinery	-
54	Motor vehicles	Transportation equipment	-
55	Motor vehicle parts and accessories	Transportation equipment	-

56	Other transportation equipment	Transportation equipment	-
57	Precision machinery & equipment	Precision machinery	-
58	Plastic products	Plastics	-
59	Miscellaneous manufacturing industries	Miscellaneous manufactu	-
60	Construction	Construction	0
61	Civil engineering	Construction	0
62	Electricity	Electricity, gas, & water supply	0
63	Gas, heat supply	Electricity, gas, & water supply	1
64	Waterworks	-	-
65	Water supply for industrial use	Electricity, gas, & water supply	1
66	Waste disposal	Electricity, gas, & water supply	0
67	Wholesale	Wholesale & retail trade	1
68	Retail	Wholesale & retail trade	0
69	Finance	Finance, insurance & real estate	0
70	Insurance	Finance, insurance & real estate	1
71	Real estate	Finance, insurance & real estate	1
72	Housing	Finance, insurance & real estate	1
73	Railway	Transport	1
74	Road transportation	Transport	0
75	Water transportation	Transport	1
76	Air transportation	Transport	1
77	Other transportation and packing	Transport	1
78	Telegraph and telephone	Telecommunications	1
79	Mail	-	-
80	Education (private and non-profit)	Education, research & development	0
81	Research (private)	Education, research & development	1
82	Medical (private)	Health services	0
83	Hygiene (private and non-profit)	Health services	0
84	Other public services	Other services	0
85	Advertising	Business services	1
86	Rental of office equipment and goods	Business services	1
87	Automobile maintenance services	Business services	0
88	Other services for businesses	Business services	1
89	Entertainment	Other services	0
90	Broadcasting	Other services	0
91	Information services and internet-based services	Business services	1
92	Publishing	Other services	0
93	Video picture, sound information, character information production and distribution	Other services	1
94	Eating and drinking places	Wholesale & retail trade	0
95	Accommodation	Wholesale & retail trade	1
96	Laundry, beauty and bath services	Personal services	0
97	Other services for individuals	Personal services	1
98	Education (public)	-	-
99	Research (public)	-	-
100	Medical (public)	-	-
101	Hygiene (public)	-	-
102	Social insurance and social welfare (public)	-	-
103	Public administration	-	-
104	Medical (non-profit)	-	-
105	Social insurance and social welfare (non-profit)	-	-
106	Research (non-profit)	-	-
107	Other (non-profit)	-	-
108	Activities not elsewhere classified	-	-

Apendix Table 2: Summary Statistics of Variables

(a) Data for probit analysis

Variable	Manufacturing					Tradable Services					Non-Tradable Services				
	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.	Obs.	Mean	Std. Dev.	Min.	Max.
EXIT	624640	0.271	0.444	0	1	1357445	0.327	0.469	0	1	3722298	0.299	0.458	0	1
ENTRY	624640	0.101	0.066	0.010	1	1357445	0.206	0.102	0.013	1	3722298	0.201	0.080	0.012	1
L_ENTRY	624640	0.001	0.004	0	0.500	1357445	0.002	0.003	0	0.500	3722298	0.003	0.003	0	0.125
M_ENTRY	624640	0.050	0.044	0	1	1357445	0.085	0.052	0	1	3722298	0.098	0.043	0	1
S_ENTRY	624640	0.050	0.050	0	1	1357445	0.118	0.072	0	1	3722298	0.100	0.049	0	1
L_ESTAB	624640	0.010	0.100	0	1	1357445	0.011	0.103	0	1	3722298	0.010	0.101	0	1
M_ESTAB	624640	0.445	0.497	0	1	1357445	0.400	0.490	0	1	3722298	0.403	0.490	0	1
S_ESTAB	624640	0.545	0.498	0	1	1357445	0.589	0.492	0	1	3722298	0.587	0.492	0	1
EMP	624640	1.732	1.213	0	9.843	1357445	1.348	1.130	0	8.967	3722298	1.274	1.025	0	10.001
AGE	624640	2.972	0.828	0	3.932	1357445	2.587	0.975	0	3.932	3722298	2.680	1.021	0	3.932
POPDENS	624640	0.287	0.383	0.002	1.233	1357445	0.314	0.413	0.002	1.233	3722298	0.234	0.355	0.002	1.233
POPGR	624640	0.011	0.023	-0.282	0.134	1357445	0.013	0.024	-0.282	0.134	3722298	0.010	0.025	-0.282	0.134
PCINCOME	624640	1.492	0.310	0.870	2.662	1357445	1.542	0.420	0.870	2.662	3722298	1.458	0.335	0.870	2.662
ESTDENS	624640	2.621	7.908	0.000	64.062	1357445	29.023	78.589	0.000	331.648	3722298	19.826	54.431	0.000	363.415
INDGR	624640	-0.019	0.034	-0.080	0.081	1357445	0.014	0.023	-0.018	0.109	3722298	0.001	0.016	-0.027	0.140
INDHHI	624640	0.003	0.007	0.000	0.969	1357445	0.004	0.019	0.000	0.152	3722298	0.001	0.003	0.000	0.144

Apendix Table 2: Summary Statistics of Variables --- continued ---

(b) Data for OLS analysis : By area and industry

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
EMP_GR	12647	-0.329	0.353	-7.200	1.946
EMP_GR_other	12647	-0.032	0.038	-0.158	0.149
ENTRY_area_own	12647	0.196	0.165	0.006	1
ENTRY__area_other	12647	0.181	0.031	0.100	0.310

(c) Data for OLS analysis: By area

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
EMP_GR_ttl	150	-0.040	0.038	-0.139	0.085
ENTRY__area_ttl	150	0.178	0.031	0.117	0.298

Appendix Table 3: Size Differences Between Entrants and Incumbents in 2001

(persons)

	No. of establishments	Employment size of establishments Percentile						Mean	t-test
		10th	25th	50th	75th	90th	99th		
Manufacturing									
Entrants	61,072	2	3	6	13	30	182	6.4	***
Incumbent	579,030	2	2	5	11	30	210	5.6	
Tradable services									
Entrants	291,306	1	2	4	8	19	115	4.2	***
Incumbent	1,107,262	1	2	3	7	18	104	3.8	
Non-tradable services									
Entrants	793,117	1	2	4	8	17	64	4.2	***
Incumbent	3,040,341	1	2	3	6	14	72	3.5	

Notes: The size distribution is calculated based on the total number of workers in logarithm. However, we report the figures not in logarithm in the table.

 The t-tests are conducted to test whether the mean values of employment size for entrants and incumbents are significantly different, assuming unequal variances. The results indicate that the means are significantly different at the 1% level.

Appendix Table 4: Determinants of Market Exit: Average Marginal Effects (Probit Regressions)
   --- Manufacturing Industries -----

	(1)	(2)	(3)	(4)
ENTRY	0.195 ***	0.110 ***		
	(0.009)	(0.012)		
ENTRY*INDGR				
ENTRY*L_ESTAB		0.159 *		
		(0.088)		
ENTRY*M_ESTAB		0.104 ***		
		(0.017)		
ENTRY*INDGR*L_ESTAB				
ENTRY*INDGR*S_ESTAB				
L_ENTRY			0.626 ***	0.042
			(0.143)	(0.238)
L_ENTRY*L_ESTAB				1.449 **
				(0.630)
L_ENTRY*M_ESTAB				0.605 **
				(0.306)
M_ENTRY			0.291 ***	0.172 ***
			(0.013)	(0.018)
M_ENTRY*L_ESTAB				0.048
				(0.128)
M_ENTRY*M_ESTAB				0.133 ***
				(0.025)
S_ENTRY			0.109 ***	0.066 ***
			(0.012)	(0.015)
S_ENTRY*L_ESTAB				0.126
				(0.130)
S_ENTRY*M_ESTAB				0.049 **
				(0.023)
L_ESTAB		-0.219 ***		-0.214 ***
		(0.012)		(0.012)
M_ESTAB		-0.116 ***		-0.116 ***
		(0.002)		(0.002)
EMP	-0.056 ***		-0.057 ***	
	(0.000)		(0.000)	
AGE	-0.028 ***	-0.029 ***	-0.028 ***	-0.029 ***
	(0.001)	(0.001)	(0.001)	(0.001)
POPDENS	0.025 ***	0.030 ***	0.026 ***	0.031 ***
	(0.002)	(0.002)	(0.002)	(0.002)
POPGR	0.071 **	0.095 ***	0.072 **	0.096 ***
	(0.029)	(0.029)	(0.029)	(0.029)
PCINCOME	0.015 ***	0.013 ***	0.015 ***	0.013 ***
	(0.003)	(0.003)	(0.003)	(0.003)
ESTDENS	0.001 ***	0.001 ***	0.001 ***	0.001 ***
	(0.000)	(0.000)	(0.000)	(0.000)
INDGR	-0.572 ***	-0.891 ***	-0.557 ***	-0.882 ***
	(0.018)	(0.018)	(0.018)	(0.018)
INDHHI	0.701 ***	0.234 ***	0.811 ***	0.300 ***
	(0.086)	(0.083)	(0.087)	(0.084)
No. of obs.	624,640	624,640	624,640	624,640
LR chi2	18671.44 ***	14644 ***	18802 ***	14709 ***
Pseudo R2	0.0256	0.0201	0.0258	0.0202

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 5: Determinants of Market Exit: Average Marginal Effects (Probit Regressions)
    --- Tradable Services -----

	(1)	(2)	(3)	(4)
ENTRY	0.266 ***	0.314 ***		
	(0.005)	(0.006)		
ENTRY*INDGR				
ENTRY*L_ESTAB		-0.156 ***		
		(0.038)		
ENTRY*S_ESTAB		-0.081 ***		
		(0.008)		
ENTRY*INDGR*L_ESTAB				
ENTRY*INDGR*M_ESTAB				
L_ENTRY			0.248	-1.003 ***
			(0.157)	(0.227)
L_ENTRY*L_ESTAB				1.806 ***
				(0.591)
L_ENTRY*M_ESTAB				3.483 ***
				(0.289)
M_ENTRY			0.397 ***	0.470 ***
			(0.010)	(0.014)
M_ENTRY*L_ESTAB				-0.222 ***
				(0.077)
M_ENTRY*M_ESTAB				-0.103 ***
				(0.019)
S_ENTRY			0.188 ***	0.242 ***
			(0.007)	(0.009)
S_ENTRY*L_ESTAB				-0.170 ***
				(0.065)
S_ENTRY*M_ESTAB				-0.127 ***
				(0.012)
L_ESTAB		-0.030 ***		-0.029 ***
		(0.009)		(0.009)
M_ESTAB		-0.036 ***		-0.039 ***
		(0.002)		(0.002)
EMP	-0.025 ***		-0.025 ***	
	(0.000)		(0.000)	
AGE	-0.045 ***	-0.046 ***	-0.045 ***	-0.046 ***
	(0.000)	(0.000)	(0.000)	(0.000)
POPDENS	0.039 ***	0.039 ***	0.034 ***	0.033 ***
	(0.002)	(0.002)	(0.002)	(0.002)
POPGR	0.207 ***	0.193 ***	0.180 ***	0.168 ***
	(0.020)	(0.020)	(0.020)	(0.020)
PCINCOME	-0.010 ***	-0.009 ***	-0.013 ***	-0.013 ***
	(0.002)	(0.002)	(0.002)	(0.002)
ESTDENS	0.0003 ***	0.0002 ***	0.0003 ***	0.0003 ***
	(0.000)	(0.000)	(0.000)	(0.000)
INDGR	1.056 ***	0.882 ***	1.057 ***	0.892 ***
	(0.022)	(0.021)	(0.022)	(0.022)
INDHHI	0.979 ***	0.710 ***	1.105 ***	0.835 ***
	(0.022)	(0.022)	(0.023)	(0.023)
No. of obs.	1,357,445	1,357,445	1,357,445	1,357,445
LR chi2	46251.01 ***	45944.27 ***	46511.14 ***	46500.26 ***
Pseudo R2	0.027	0.0268	0.0271	0.0271

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 6: Determinants of Market Exit: Average Marginal Effects (Probit Regressions)
   --- Non-Tradable Services -----

	(1)	(2)	(3)	(4)
ENTRY	0.610 ***	0.590 ***		
	(0.003)	(0.004)		
ENTRY*INDGR				
ENTRY*L_ESTAB		-0.255 ***		
		(0.032)		
ENTRY*M_ESTAB		0.054 ***		
		(0.006)		
ENTRY*INDGR*L_ESTAB				
ENTRY*INDGR*M_ESTAB				
L_ENTRY			0.647 ***	-0.148
			(0.083)	(0.109)
L_ENTRY*L_ESTAB				6.623 ***
				(0.610)
L_ENTRY*M_ESTAB				3.233 ***
				(0.161)
M_ENTRY			0.694 ***	0.771 ***
			(0.007)	(0.009)
M_ENTRY*L_ESTAB				-0.670 ***
				(0.067)
M_ENTRY*M_ESTAB				-0.158 ***
				(0.013)
S_ENTRY			0.538 ***	0.459 ***
			(0.006)	(0.007)
S_ENTRY*L_ESTAB				-0.162 ***
				(0.060)
S_ENTRY*M_ESTAB				0.139 ***
				(0.011)
L_ESTAB		-0.103 ***		-0.095 ***
		(0.007)		(0.007)
M_ESTAB		-0.089 ***		-0.085 ***
		(0.001)		(0.001)
EMP	-0.047 ***		-0.047 ***	
	(0.000)		(0.000)	
AGE	-0.050 ***	-0.049 ***	-0.050 ***	-0.050 ***
	(0.000)	(0.000)	(0.000)	(0.000)
POPDENS	0.029 ***	0.027 ***	0.032 ***	0.029 ***
	(0.001)	(0.001)	(0.001)	(0.001)
POPGR	-0.082 ***	-0.087 ***	-0.101 ***	-0.108 ***
	(0.011)	(0.011)	(0.011)	(0.011)
PCINCOME	0.004 ***	-0.001	0.001	-0.006 ***
	(0.001)	(0.001)	(0.001)	(0.001)
ESTDENS	0.0001 ***	0.0002 ***	0.0001 ***	0.0001 ***
	(0.000)	(0.000)	(0.000)	(0.000)
INDGR	-2.319 ***	-2.141 ***	-2.265 ***	-2.061 ***
	(0.017)	(0.016)	(0.017)	(0.017)
INDHHI	3.059 ***	1.990 ***	3.128 ***	2.101 ***
	(0.084)	(0.085)	(0.084)	(0.085)
No. of obs.	3,722,298	3,722,298	3,722,298	3,722,298
LR chi2	139235.62 ***	128267.99 ***	139446.42 ***	129251.87 ***
Pseudo R2	0.0307	0.0283	0.0307	0.0284

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 7: Robustness Checks: Average Marginal Effects
  --- Manufacturing Industries -----

	(1)	(2)	(3)	(4)
ENTRY	0.078 ***	0.012		
	(0.010)	(0.013)		
ENTRY*L_ESTAB		0.145		
		(0.089)		
ENTRY*M_ESTAB		0.107 ***		
		(0.017)		
L_ENTRY			0.495 ***	-0.149
			(0.146)	(0.244)
L_ENTRY*L_ESTAB				1.782 ***
				(0.630)
L_ENTRY*M_ESTAB				0.638 **
				(0.310)
M_ENTRY			0.157 ***	0.049 **
			(0.014)	(0.019)
M_ENTRY*L_ESTAB				0.022
				(0.132)
M_ENTRY*M_ESTAB				0.144 ***
				(0.025)
S_ENTRY			0.007	-0.015
			(0.013)	(0.016)
S_ENTRY*L_ESTAB				0.103
				(0.132)
S_ENTRY*M_ESTAB				0.054 **
				(0.023)
L_ESTAB		-0.221 ***		-0.215 ***
		(0.012)		(0.012)
M_ESTAB		-0.119 ***		-0.119 ***
		(0.002)		(0.002)
EMP	-0.061 ***		-0.061 ***	
	(0.000)		(0.001)	
AGE	-0.026 ***	-0.027 ***	-0.026 ***	-0.027 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Area dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
No. of obs.	625,495	625,495	625,495	625,495
LR chi2	25996.65 ***	21105.11 ***	26078.59 ***	21160.74 ***
Pseudo R2	0.0356	0.0289	0.0357	0.029

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 8: Robustness Checks: Average Marginal Effects
   --- Tradable Services -----

	(1)	(2)	(3)	(4)
ENTRY	0.089 ***	0.115 ***		
	(0.009)	(0.009)		
ENTRY*L_ESTAB		-0.176 ***		
		(0.038)		
ENTRY*M_ESTAB		-0.062 ***		
		(0.008)		
L_ENTRY			0.205	-2.351 ***
			(0.176)	(0.248)
L_ENTRY*L_ESTAB				3.405 ***
				(0.600)
L_ENTRY*M_ESTAB				4.122 ***
				(0.292)
M_ENTRY			0.086 ***	0.156 ***
			(0.014)	(0.017)
M_ENTRY*L_ESTAB				-0.343 ***
				(0.077)
M_ENTRY*M_ESTAB				-0.146 ***
				(0.019)
S_ENTRY			0.090 ***	0.118 ***
			(0.010)	(0.011)
S_ENTRY*L_ESTAB				-0.108 *
				(0.065)
S_ENTRY*M_ESTAB				-0.067 ***
				(0.012)
L_ESTAB		-0.036 ***		-0.038 ***
		(0.009)		(0.009)
M_ESTAB		-0.049 ***		-0.051 ***
		(0.002)		(0.002)
EMP	-0.036 ***		-0.036 ***	
	(0.000)		(0.000)	
AGE	-0.045 ***	-0.045 ***	-0.045 ***	-0.045 ***
	(0.000)	(0.000)	(0.000)	(0.000)
Area dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
No. of obs.	1,357,445	1,357,445	1,357,445	1,357,445
LR chi2	58380.69 ***	55537.68 ***	58381.14 ***	55757.69 ***
Pseudo R2	0.034	0.0324	0.034	0.0325

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Appendix Table 9: Robustness Checks: Average Marginal Effects
   --- Non-Tradable Services -----

	(1)	(2)	(3)	(4)
ENTRY	0.167 ***	0.137 ***		
	(0.007)	(0.007)		
ENTRY*L_ESTAB		-0.274 ***		
		(0.032)		
ENTRY*M_ESTAB		0.063 ***		
		(0.006)		
L_ENTRY			0.575 ***	-0.912 ***
			(0.095)	(0.122)
L_ENTRY*L_ESTAB				6.873 ***
				(0.615)
L_ENTRY*M_ESTAB				2.774 ***
				(0.164)
M_ENTRY			0.215 ***	0.216 ***
			(0.010)	(0.012)
M_ENTRY*L_ESTAB				-0.563 ***
				(0.068)
M_ENTRY*M_ESTAB				-0.047 ***
				(0.013)
S_ENTRY			0.111 ***	0.098 ***
			(0.009)	(0.010)
S_ENTRY*L_ESTAB				-0.304 ***
				(0.061)
S_ENTRY*M_ESTAB				0.079 ***
				(0.011)
L_ESTAB		-0.101 ***		-0.094 ***
		(0.007)		(0.007)
M_ESTAB		-0.091 ***		-0.089 ***
		(0.001)		(0.001)
EMP	-0.051 ***		-0.051 ***	
	(0.000)		(0.000)	
AGE	-0.050 ***	-0.049 ***	-0.050 ***	-0.049 ***
	(0.000)	(0.000)	(0.000)	(0.000)
Area dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
No. of obs.	3,722,298	3,722,298	3,722,298	3,722,298
LR chi2	175522.99 ***	161128.3 ***	175605.73 ***	161528.09 ***
Pseudo R2	0.0387	0.0355	0.0387	0.0356

Notes: Standard errors are in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

Apendix Table 10: Correlation Matrix of Variables for Probit Analysis

(a) Manufacturing

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	EXIT	1															
(2)	ENTRY	0.0104	1														
(3)	L_ENTRY	0.0029	0.1017	1													
(4)	M_ENTRY	0.0107	0.6579	0.0824	1												
(5)	S_ENTRY	0.0042	0.7417	-0.013	-0.014	1											
(6)	L_ESTAB	-0.0308	0.0141	0.0355	0.0226	-0.0039	1										
(7)	M_ESTAB	-0.1106	0.0474	0.0203	0.0897	-0.0177	-0.0903	1									
(8)	S_ESTAB	0.1166	-0.0502	-0.0273	-0.0941	0.0184	-0.1106	-0.9798	1								
(9)	EMP	-0.1488	0.1306	0.0387	0.1333	0.0531	0.3217	0.6914	-0.7545	1							
(10)	AGE	-0.0431	-0.1505	-0.0185	-0.1141	-0.098	0.0274	-0.0728	0.0672	-0.0559	1						
(11)	POPDENS	0.0462	0.0702	0.0116	-0.0041	0.0961	-0.016	-0.0457	0.0488	-0.0703	0.0184	1					
(12)	POPGR	0.0177	0.0577	0.0254	0.017	0.0599	0.0039	-0.004	0.0032	-0.0019	-0.0111	0.2744	1				
(13)	PCINCOME	0.0353	0.0724	0.0398	0.0084	0.0859	0.0018	-0.0193	0.0189	-0.0219	0.0066	0.6491	0.5532	1			
(14)	ESTDENS	0.045	0.0164	-0.0013	-0.0024	0.024	-0.0096	-0.0268	0.0286	-0.0753	0.0201	0.5132	0.1434	0.4311	1		
(15)	INDGR	-0.0542	0.2835	0.0126	0.1245	0.2662	-0.0038	-0.0024	0.0032	0.1907	-0.0983	0.0537	0.0693	0.0867	-0.0654	1	
(16)	INDHHI	-0.0089	0.1722	-0.014	0.0241	0.2089	-0.0017	-0.0212	0.0215	0.0918	-0.0408	-0.0075	0.0193	0.0182	-0.0906	0.2895	1

(b) Tradable Services

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	EXIT	1															
(2)	ENTRY	0.1342	1														
(3)	L_ENTRY	0.0586	0.2711	1													
(4)	M_ENTRY	0.1078	0.7476	0.4494	1												
(5)	S_ENTRY	0.1105	0.8703	0.0189	0.3245	1											
(6)	L_ESTAB	-0.005	0.0164	0.0653	0.0375	-0.0063	1										
(7)	M_ESTAB	-0.0435	0.0498	0.0704	0.1233	-0.0206	-0.0852	1									
(8)	S_ESTAB	0.0444	-0.0531	-0.0838	-0.1306	0.0218	-0.1251	-0.9779	1								
(9)	EMP	-0.0296	0.1325	0.039	0.1358	0.0889	0.3272	0.6837	-0.7495	1							
(10)	AGE	-0.1245	-0.2405	-0.0599	-0.1797	-0.2096	0.0014	-0.0226	0.0222	-0.0188	1						
(11)	POPDENS	0.0738	0.2451	0.5275	0.3778	0.0539	0.0511	0.0706	-0.081	0.1013	-0.039	1					
(12)	POPGR	0.0431	0.1886	0.3059	0.29	0.0465	0.0326	0.0562	-0.0628	0.0684	-0.0586	0.3696	1				
(13)	PCINCOME	0.068	0.2565	0.5237	0.3867	0.0639	0.0529	0.0746	-0.0854	0.107	-0.0542	0.7773	0.522	1			
(14)	ESTDENS	0.0745	0.2114	0.3854	0.2194	0.1257	0.0432	0.0455	-0.0544	0.0975	-0.0337	0.649	0.2601	0.6307	1		
(15)	INDGR	0.0902	0.5567	0.0349	0.4454	0.4686	0.0013	0.0678	-0.0678	0.1623	-0.1614	-0.0003	0.0023	0.0114	-0.0136	1	
(16)	INDHHI	0.0412	0.2008	-0.0462	-0.0697	0.3362	-0.0048	-0.0614	0.0622	0.0862	-0.0413	-0.0445	-0.0241	-0.0346	-0.0768	-0.1108	1

(c) Non-Tradable Services

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	EXIT	1															
(2)	ENTRY	0.1095	1														
(3)	L_ENTRY	0.0515	0.3679	1													
(4)	M_ENTRY	0.1014	0.8392	0.4039	1												
(5)	S_ENTRY	0.0864	0.871	0.1813	0.4657	1											
(6)	L_ESTAB	-0.0228	0.0107	0.0321	0.0201	-0.0022	1										
(7)	M_ESTAB	-0.0587	0.0112	0.0154	0.0555	-0.0314	-0.084	1									
(8)	S_ESTAB	0.0632	-0.0134	-0.0219	-0.0595	0.0317	-0.1219	-0.9788	1								
(9)	EMP	-0.0793	-0.0047	-0.017	0.0344	-0.0367	0.3267	0.7148	-0.7792	1							
(10)	AGE	-0.1209	-0.2077	-0.0496	-0.1513	-0.2027	-0.013	-0.1334	0.1356	-0.1165	1						
(11)	POPDENS	0.0503	0.2063	0.3039	0.2525	0.0954	0.0268	0.0285	-0.0339	0.0484	-0.0281	1					
(12)	POPGR	0.0278	0.2146	0.2378	0.2991	0.0725	0.0218	0.0425	-0.0468	0.0571	-0.0497	0.3048	1				
(13)	PCINCOME	0.0374	0.1834	0.3434	0.3053	0.0093	0.0335	0.0554	-0.062	0.0795	-0.0314	0.7272	0.502	1			
(14)	ESTDENS	0.0582	0.2485	0.2599	0.3554	0.0769	0.018	0.0379	-0.0414	0.0286	-0.0359	0.6519	0.1974	0.5498	1		
(15)	INDGR	-0.0114	0.4187	0.0961	0.2293	0.4754	0.0017	-0.0454	0.0449	-0.0867	-0.0845	0.0591	0.0279	0.0471	0.039	1	
(16)	INDHHI	0.0118	0.0352	-0.0188	-0.0059	0.0637	0.0003	0.0059	-0.0059	0.066	-0.008	0.0159	0.0083	0.0132	-0.0037	0.0619	1

Apendix Table 11: Correlation Matrix of Variables for OLS Analysis

(a) Manufacturing

		(1)	(2)	(3)	(4)
(1)	EMP_GR	1			
(2)	EMP_GR_other	-0.0046	1		
(3)	ENTRY_area_own	-0.1886	-0.0012	1	
(4)	ENTRY__area_other	-0.0909	0.3305	0.0534	1

(b) Tradable Services

		(1)	(2)
(1)	EMP_GR_ttl	1	
(2)	ENTRY__area_ttl	0.3268	1