Trade in services: IT and task content



by Andrea Ariu and Giordano Mion

October 2010 No 200



Editorial Director

Jan Smets, Member of the Board of Directors of the National Bank of Belgium

Editoral

On October 14-15, 2010 the National Bank of Belgium hosted a Conference on "International trade: threats and opportunities in a globalised world".

Papers presented at this conference are made available to a broader audience in the NBB Working Paper Series (www.nbb.be).

Statement of purpose:

The purpose of these working papers is to promote the circulation of research results (Research Series) and analytical studies (Documents Series) made within the National Bank of Belgium or presented by external economists in seminars, conferences and conventions organised by the Bank. The aim is therefore to provide a platform for discussion. The opinions expressed are strictly those of the authors and do not necessarily reflect the views of the National Bank of Belgium.

Orders

For orders and information on subscriptions and reductions: National Bank of Belgium, Documentation - Publications service, boulevard de Berlaimont 14, 1000 Brussels.

Tel +32 2 221 20 33 - Fax +32 2 21 30 42

The Working Papers are available on the website of the Bank: http://www.nbb.be.

© National Bank of Belgium, Brussels

All rights reserved.

Reproduction for educational and non-commercial purposes is permitted provided that the source is acknowledged.

ISSN: 1375-680X (print) ISSN: 1784-2476 (online)

Trade in Services: IT and Task Content*

Andrea Ariu[†] Giordano Mion[‡]

October 2010

Abstract

In this paper we investigate the determinants of the dramatic increase in services tradability focusing on the extensive margin of the phenomenon. We use balance sheet and firm-level service trade information over the period 1995-2005 provided by the National Bank of Belgium and we merge it with information on the evolution of information technology use and tasks performed by workers from the qualification and career survey provided by the BIBB-IAB. We show that technological change, measured either by the more intensive use of information technologies or by changes in the task content of jobs, has substantially contributed to the increase in the number of service-trading firms. Interestingly, we find evidence of a churning effect. While technological change has induced net entry into service trading, it has also increased the likelihood of both gross entry and exit of firms. Furthermore, our evidence suggests that due to the peculiar nature of services provision, the change in the tasks content of jobs is a better measure of technological change than the use of information technologies. Our results are robust to controlling for service trade liberalization and offshoring.

Keywords: trade in services; extensive margin; technological change; task content. **JEL Classification:** F14, F16, O33, L80.

^{*}This work has been produced for the 2010 bi-annual conference of the National Bank of Belgium (NBB). The views expressed in this paper are our own and do not necessarily reflect those of the NBB. All remaining errors are ours. The authors thank Daniela Rohrbach-Schmidt for assistance with the BIBB data, Christian Viegelahn for help with translation from German, and Alexandra Spitz-Oener for providing the STATA classification code for tasks. We thank seminar participants at the NBB pre-conference meetings and the GIST conference for helpful comments and suggestions. Financial help under the Globalisation Investment and Trade in Services (GIST) project, funded by the EU 7th Framework Programme (ITN-2008-211429), is gratefully acknowledged by Andrea Ariu.

[†]IRES and CORE, Université catholique de Louvain, Belgium; and FELU, Slovenia. E-mail: andrea.ariu@uclouvain.be

[‡]Department of Geography and Environment, London School of Economics (LSE), UK; National Bank of Belgium (NBB), Belgium; CEP, UK; and CEPR, UK. E-mail: g.mion@lse.ac.uk

1 Introduction

Nowadays we live in the era of services: fifty years ago the service sector represented only 30% of GDP and a negligible share of trade while, according to Francois and Hoeckman (2009), it now accounts for 75% of GDP and at least 20% of total world trade¹. Services are the fastest growing component of trade over the past ten years, with a two-digit average annual growth rate.² During the period 1995-2005 the number of importers and exporters of services in the country we analyze (Belgium) has more than doubled, while the value of services traded has increased by more than 250%. These figures raise an intriguing and important question about the causes of this phenomenon. In this paper we investigate one of the key driving forces behind the dramatic increase in the tradability of services: the Information Technology (IT) revolution. We focus the analysis on the extensive margin side of the issue, i.e. the change in the number of trading firms, and analyze the heterogeneous proliferation of firms involved in the export and import of services across different sectors. We argue that the geographic anchor of service activities has been cast loose, as the IT revolution has modified the basic nature of activities that can be traded or more generally off-shored. Technological change has radically modified the way production and distribution are organized so that some formerly non-tradable services have entered the realm of tradability. Technology is shooting down distance barriers by dramatically reducing transport costs and making the transfer of information almost instantaneous. In the words of Blinder (2009): "Information and communications technology keeps getting both better and cheaper" thus increasing the scope for trade in services.

Despite the major role that services are currently playing in world trade, they have received little attention in the academic literature so far. On the theory side, services have traditionally been treated as a sector whose output is purely non-tradable. As a result, the existing body of research on international trade and trade policy is focused almost entirely on agriculture and (especially) manufacturing. On the empirical side the gap is mainly due to the fact that data on trade flows and FDI in services across countries have become available only very recently. Our paper contributes to the seminal literature on trade in services, recently surveyed by Francois and Hoeckman (2009), as well as to the relatively new empirical literature focusing on firm-level trade. Most previous analyses have used aggregate service trade data. Freund and Weinhold (2002),

¹Francois and Hoeckman (2009) further argue that if one also adds the indirect trade in goods generated by trade in services, the figure could rise to a whopping 50%.

²See (World Trade Organisation, 2008) for further details

who are no exception to the rule, study the impact of the internet on the increase in the value of trade in services by focusing on cross-country data. Their research topic is closely related to ours, some of the key differences being that we focus on a single country (Belgium), we use firm-level trade in order to look at the extensive margin, and we exploit the multi-dimensional measure of technological change provided by our task variables. The link between trade in services and the change in the task content of jobs has previously been analyzed by Oldenski (2009), albeit in a different setting. Using US sector-level data, Oldenski (2009) analyzes the determinants of the FDI vs. trade decision in the context of services. She shows that the usual trade-off between economies of scale and proximity to the final consumer, which is recognized to be a key element in the exporting versus FDI strategy for manufacturing goods, does not apply to services. We share the same job tasks approach, but we use firm-level trade and focus on the determinants of entry and exit into the export and import of services activities.

Our research is related to Breinlich and Criuscolo (2009) who provide the first descriptive portrait of trade in services at the firm level. Using firm-level panel data for the UK, they show that services traders share many common features with goods traders. In particular, they show that service exporting firms are larger, more productive, and have a more skilled labor force compared to non-traders. In our analysis of the impact of the IT revolution, we make use of similar firm-level data for Belgium and build on Breinlich and Criuscolo (2009) in the choice of our control variables. Our paper is also directly linked to the recent "task approach" developed by both labor and international economics. In particular our paper is related to that of Blinder (2006) and Grossman and Rossi-Hansberg (2008) for the international economics literature, and to Spitz-Oener (2006), Autor et al. (2003) and Levy and Murnane (1996) for the labor economics literature. Both strands consider the production process as a combination of different tasks. Grossman and Rossi-Hansberg (2008) argue that, in an era in which value added is created in different locations, international trade can be considered more and more as trade in tasks rather than trade in goods. From the labor perspective, Spitz-Oener (2006) and Autor et al. (2003) argue that technological change can modify the composition of the tasks involved in a typical job. We embrace these two complementary perspectives and investigate to what extent technological change has modified the tradability of services.

In order to achieve our goal, we take advantage of a firm-level trade in services dataset available at the National Bank of Belgium (NBB), along with balance sheet

information, over the period 1995-2005. We complement our data with the BIBB-IAB labor force surveys that provide us with a time-varying measure of technological change. More precisely, we proxy the differential impact of the IT revolution across sectors by either the change in the degree of use of computers, terminals and electronic data processing machines by workers, or the change in the different tasks (analytical, interactive, routine cognitive, routine manual, and non-routine manual) required in a typical job. In particular, we find evidence of a churning effect with technological change increasing the likelihood of both gross entry and gross exit from trade in services activity during the decade we study. Overall, the positive effect of entry dominates across the different firm-groups we consider. Furthermore, our evidence suggests that, due to the peculiar nature of some services provision, and in particular to the increasing need for interactive tasks, the change in the tasks content of jobs is a better measure for technological change than the use of IT.

We provide a number of additional results that further qualify our findings as well as some robustness checks that corroborate our discoveries. We document the existence of a heterogeneous effect of technological change on service tradability depending on firm size, capital and skill intensity, as well the presence of some form of increasing returns. We take into account the issue of omitted variables and focus on service trade liberalization and offshoring. Our results shows that neither service trade liberalization nor offshoring are driving our results.

The structure of the paper is as follows. In Section 2 we describe the data and the main variables used. Section 3 provides some key facts about trade in services in Belgium that will guide our analysis. In Section 4 we describe the econometric strategy, while in Section 5 we outline our main results. Section 6 is devoted to additional results and robustness checks. Finally, Section 7 concludes.

2 Data

2.1 What is Trade in Services?

Services are flows that do not cross custom frontiers inside a package, therefore their measurement is more problematic and difficult to sort. The need for a common understanding led to the General Agreement on Trade in Services (GATS) classification where one can distinguish four modes of trade in services:

• Mode 1 (Cross-Border): when the service is produced in the territory of one

country and consumed in the territory of another country;

- Mode 2 (*Consumption Abroad*): when the service is consumed in the territory of one country by the resident of another country;
- Mode 3 (*Presence Abroad*): when the service is provided by a supplier of one country through commercial presence in the territory of another country;
- Mode 4 (*Presence of Natural Person*): when the service supplier of one country, through presence of natural persons, provides the service in the territory of another country.

Examples of mode 1 transactions are software developed in the US and used by some UK companies, or a call-center in India providing its services to a UK firm. Mode 2 could be a medical service provided in Switzerland by a Swiss medical center to a French resident, or simply the services consumed by German tourists in Greece. Mode 3 implies the commercial presence of one company in another country, which falls into the common definition of FDI. An example would be a US internet provider selling its services via an affiliate in Ireland. Finally, mode 4 could be an Italian firm sending one of its employees to Spain to provide a service to a Spanish company. Our firm-level service trade dataset contains information about transactions belonging to modes 1 and 4.

2.2 Data Sources

The data we use for the analysis comprise two main pieces. The first is a firm-level dataset with balance-sheet information on Belgian firms covering the period 1995-2005, augmented with trade in services. The data on trade in services are collected by the NBB on a yearly basis and contain the universe of import and export transactions at the firm-level by product type and origin/destination. The second piece comes from the Qualification and Career Survey. The data are collected by the German Federal Institute for Vocational Training (BIBB) and the Research Institute of the Federal Employment Service (IAB). It includes five cross sections (1979, 1985/86, 1991/92, 1998/99 and 2006) each one covering about 30,000 individuals. From this dataset we retrieve information on how technological change has affected different sectors and in particular we focus on the use of IT and the tasks involved in different occupations.

Balance sheet information and firm-level data on trade in services. Firm-level balance sheet data over the period 1995-2005 come from the Business Registry covering the population of Belgian firms required to file their (unconsolidated) accounts to the NBB. The data combine annual accounts figures with data from the Crossroads Bank on firms' main sector, activity and legal status. Overall, most firms that are registered in Belgium (i.e., those that exist as a separate legal entity) and have limited liability are required to file annual accounts.³ There are two types of annual accounts: full and abbreviated. Firms have to file a full annual account when they exceed at least two of the following three cutoffs: (i) employ at least 50 employees; (ii) have an annual turnover of more than 7.3 million euros; and (iii) report total assets of more than 3.65 million euros.

For this study, we consider all companies that filed a full-format or abbreviated balance sheet in 1995 and 2005. Starting with 178,069 firms in 1995, 55,515 are no longer in the data in 2005 (exiters), 156,007 new firms are present in 2005 (entrants), and 122,554 are recorded in both years (stayers). We thus end up with 278,561 firms in 2005. In our analysis we make use of a number of firm-level variables derived from these data: value added, employment in full time equivalent, wage bill, tangible assets, intangible assets, and firm age. These variables are jointly available for about 55% of firms, allowing us to keep track of 29,581 exiters, 58,550 entrants and 95,512 stayers. The loss of information is essentially due to the unavailability of employment figures, which are not mandatory for small firms and are not recorded for firms with only self-employed persons, so that our final data represent the bulk of Belgian firms' employment and sales. We further assign each firm, based on its NACE rev 1.1 5-digit main activity code, to one of the sectors listed in Table 1. The choice of the sectoral disaggregation is dictated by the need to create a correspondence with the classification used in the Qualification and Career Survey, which provides us with measures of technological change. Based on the sectoral breakdown of Table 1 we finally construct,

³Exceptions include: sole traders; small companies whose members have unlimited liability; general partnerships; ordinary limited partnerships; cooperative limited liability companies; large companies whose members have unlimited liability, if none of the members is a legal entity; public utilities; agricultural partnerships; hospitals, unless they have taken the form of a trading company with limited liability; health insurance funds; professional associations; schools and higher education institutions.

⁴We exclude firms belonging to agriculture, fishery, and mining because of their little participation to service trade. Furthermore, banks (NACE rev 1.1 code 6512) and some insurance companies (NACE rev 1.1 code 6601 and 6603) are also excluded from our analysis because of the particular nature of their accounts which makes it impossible to measure some key variables like value added and intangible capital.

starting from firm-level balance-sheet information, the share of employment represented by white-collar workers in each sector in 1995 and 2005. Table 2 provides summary statistics of the variables obtained from balance sheet data for the group of firms for which such variables are jointly available.

Belgian service trade data by year, firm, product (IMF code), and country are provided by the NBB. We aggregate data across the country and product dimensions, which are not relevant to our analysis, thus concentrating on yearly exports and imports of services at the firm-level in 1995 and 2005. Micro service trade data are collected by the NBB on a yearly basis from declarations submitted by Belgian resident banks and financial firms.⁵ Whenever a Belgian resident makes (receives) a payment to (from) a non-resident above a certain amount,⁶ banks and financial firms are obliged to gather detailed information about the transaction. In the case of payments related to imports and exports of services, the IMF code of the traded service and the country of the non-resident are recorded along with the value of the transaction and the identifier (VAT code) of the Belgian resident.

We merge balance sheet and service trade data using the VAT number which uniquely identifies firms in Belgium. Due to the aforementioned requirements to file annual accounts, we loose track of about 30% (25%) of service trading firms in 1995 (2005). However, these are essentially small firms and/or firms which have a VAT number but do not exist as a separate legal entity in Belgium,⁷ so that in the end we are able to cover around 80% (90%) of total traded values in 1995 (2005). Considering the merged data, we end up with 5,346 firms exporting services in 1995 and 13,029 exporting in 2005. This means that the average increase in the number of firms trading (extensive margin) has been more than 9% per year over our 10 year period. Figures for imports of services are similar: 5,049 firms import in 1995 and 9,373 in 2005, with the annual increase in the extensive margin averaging more than 6%.

Measuring technological change. The second piece of the our dataset, the Qualification and Career Survey, was provided by the BIBB-IAB and is composed of five cross-sections (1979, 1985/86, 1991/92, 1998/99 and 2006). Our goal is to use these data to measure technological change, which means that we need a sufficiently long

⁵For payments made via non-resident banks and financial firms the Belgian resident involved in the operation must report the details of the transaction directly to the NBB.

⁶The threshold at which a legal obligation to report the transaction arises is rather low and has fluctuated between 12,500 and 25,000 euros during the period 1995-2005.

⁷The latter group includes Belgian affiliates of a foreign group which do not exist as a separate legal entity in Belgium and fiscal representatives.

time period. For the purpose of our investigation, we focus solely on the 1991/92 and 2006 waves in order to match the time coverage of our trade and balance sheet data.

In this Qualification and Career Survey dataset, every individual is classified by occupation and sector, resulting with more than 100 occupations and 42 sectors. A major advantage of this dataset is that workers directly indicate whether they perform a task or not. This procedure prevents the possibility of underestimating the change in occupational content. For example, in a similar US survey, the DOT (Dictionary of Occupational Titles), experts are called to assign frequency or importance scores to tasks used in different occupations. But as highlighted by Spenner (1983), this process leads to an underestimation of the changes in job content. Moreover, surveys like the DOT occupational classifications are not comparable over time. In order to derive our measure of technological change we follow Spitz-Oener (2006). We classify the different tasks by considering how repetitive is their nature and whether they imply manual, cognitive or interactive activities. We end up with five main categories: analytical tasks, interactive tasks, routine cognitive tasks, routine manual tasks and non-routine manual tasks. Table 3 shows the classification. The task intensity is observed at individual level and is defined as the number of activities pertaining to one of the five categories performed by a worker i in a particular year t:

$$Task_{i,j,t} = \frac{number\ of\ activities\ in\ category\ j,\ performed\ by\ i\ at\ time\ t}{total\ number\ of\ activities\ in\ category\ j\ at\ time\ t}$$

Where: t = (1992, 2006) and

$$j = \begin{cases} 1 : analytical \ tasks \\ 2 : interactive \ tasks \\ 3 : routine \ cognitive \ tasks \\ 4 : routine \ manual \ tasks \\ 5 : non-routine \ manual \ tasks \end{cases}$$

For instance, if the category interactive tasks contains six tasks and the worker indicates that he or she performs three of them, the task measure for this worker will be 0.5. We then aggregate this individual measure averaging across workers within each of the sectors (index k) listed in Table 1, thus obtaining a sector k-specific measure of the relative use of such task. Table 4 shows the evolution over time in the task intensities across all sectors: one can observe the increase in the use of non-routine cognitive tasks, both analytical and interactive, coupled with a steady decline in routine cognitive and manual tasks.

Our second (alternative) measure of technological change builds on the utilization of information technology. The Qualification and Career Survey provides us with a dummy variable taking value one if a worker uses computers, terminals and electronic data processing machines. In order to measure the change in the importance of IT, we count for each sector k the number of workers using computers, terminals and electronic data processing machines, and we divide the number obtained by the total number of individuals in that sector. Analytically:

$$Comp_k = \frac{number\ of\ workers\ in\ sector\ k\ using\ computers}{total\ number\ of\ workers\ in\ sector\ k}$$

The last column of Table 4 reveals the dramatic increase in the use of IT (across all sectors) over time, rising from a value of 6% in 1979 to 68% in 2006. The evolution of both IT and Task intensities over time are in line with the idea of Levy and Murnane (1996), Spitz-Oener (2006) and Autor et al. (2003) that the technological change induced by IT displaces routine cognitive and manual tasks, while complementing non-routine analytical tasks.

A possible issue with these data is that they refer to a country other than Belgium: Germany. In our view this should not matter. First, there is a great affinity between Germany and Belgium. They are close in terms of geographical location, economic development, sectoral specialization and culture with a significant proportion of the Belgian population speaking German. Second, we believe that the technology of services production and distribution across developed countries is very likely to follow a common trend dictated by world best practice. The technology used in a call center in Belgium is unlikely to differ substantially from that used in a German call center, nor will there be significant differences in the methods of reading and/or transmitting X-rays in the two countries. Another potential issue with these data concerns the comparability of the different waves. This is not much of a problem either since, as highlighted by Spitz-Oener (2006), the occupation and sector classifications, and in general the structure of the questionnaire for the variables we exploit, have only marginally changed over time. In every wave a worker states which tasks he/she performs in his/her occupation. In the 2006 wave, workers are also allowed to state how often they perform a certain task (frequently, occasionally or never). We tackle this problem by considering that a task is performed in 2006 only if a worker states that he/she performs it frequently.

3 Some Key Facts About Trade in Services

The main goal of our investigation is to assess whether technological change has affected the tradability of services and, in particular, the number of trading firms (extensive margin). In this Section we document a number of facts about trade in services in Belgium and the changes taking place over time that will guide us in the subsequent econometric analysis.

In order to better distinguish firms across time we divide firms into the following categories: exiters and entrants that do or do not export (import); stayers that never export (import), give-up exporting (importing) after 1995, start exporting (importing) before 2005 and those that export (or import) in both in 1995 and 2005. Figure 1 provides a visual representation. We build on this classification of firms in Table 5 (6) and decompose aggregate 1995 and 2005 exports (imports) of services into the extensive. (i.e. number of firms), and intensive, (i.e. average traded value per firm), margin for the different categories of firms. The pattern of exports in Table 5 is quite clear. Results for imports in Table 6 are qualitatively identical. First of all, one can observe that the remarkable increase in the total number of trading firms comes from two sources: newly created firms (Entrants exporters) outnumber exiters (Exiters exporters), and firms that were already present but were not exporting in 1995 (Stayers start exporting) outnumber firms who ceased to export after 1995 (Stayers give-up exporters). This is the variation we are interested in. The second point is that the huge increase in the intensive margin (11.3\% on average per year) is entirely driven by firms that export in both years (Stayers always exporters). Though interesting, the analysis of the intensive margin is beyond the scope of this paper.

To get a better understanding of the change occurred in service trade in Table 7 we distinguish between exporting and importing firms that have their primary activity in the group of service sectors and those whose primary activity is in the group of manufacturing sectors. We can see that the services sector accounts for the lion's share of both aggregate trade value and the number of firms. Companies with their main activity in the service sector account for about 80% of the firms involved in service trade, and a similar share of the total value of trade. In terms of trading firm dynamics, the service sector is expanding more strongly than the manufacturing sector. The share of trading firms belonging to the service sector increased from 84% in 1995 to 92% in 2005 for exports and from 72% to 80% for imports. On the other hand, the manufacturing sector has increased its weight in terms of aggregate trade values going from 10% in 1995 to 14% in 2005 for export and from 15% to 16% for imports. The two key messages

from the above analysis are: (i) the service sector has experienced a stronger increase in the extensive margin, which could be consistent with technological change affecting more firms in this sector; (ii) the manufacturing sector cannot be excluded from the analysis due to its significant share of trading firms and value.

But what are the sectors mainly involved in service trade? Table 8 shows the top 10 trading sectors in terms of traded values, while Table 9 shows the top 10 sectors in terms of the number of firms involved in service trade. As one can see from both Tables, the leading role is played by sectors belonging to the services group: only two out of the top ten sectors belong to the manufacturing group in each of the rankings. But have the sectors experienced the same evolution in terms of trading firms and traded values? Table 10 shows that the sector that experienced the largest increase in terms of number of trading firms, for both exports and imports, is *Professional*, *Scientific and Technical Activities*. On the other hand *Wholesale and retail trade* and *Chemical Industry*, *Rubber and Synthetic Material* lead in terms of increase the value of both exports and imports. Comparison of Tables 8, 9, and 10 further reveals that the relative change in the extensive margin has been quite heterogeneous across sectors. This last point is important. Had the extensive margin evolution been homogeneous across sectors, it would be difficult to identify the impact of technological change using its sectoral variation.

Finally, Tables 11 and 12 provide the list of the 10 top-trading countries in terms of, respectively, traded values and number of firms, for both exports and imports of services. Table 11 reveals that the geography of trade values in services has changed substantially over the period 1995-2005, with Great Britain and Japan dramatically increasing their importance. On the other hand, Table 12 indicates that, in terms of number of firms trading, the picture is very stable across time. This last finding is certainly useful in our analysis of the extensive margin because it suggests that the country dimension plays a secondary role.

4 Econometric Strategy

In our analysis we make use of a number of firm-level control variables obtained from balance sheet data: (log) firm age is used to model firm survival, (log) value added per worker is our measure of productivity, (log) employment is our measure of firm size, (log) wage per worker is a reduced-form measure of skill intensity and factor costs, (log) tangible assets value over employment captures capital intensity, and (log) intangible assets value per worker is our proxy for expenditure on technology. We also use our firm-level data to compute the sector share of white collar workers in both 1995 and 2005 as a measure of the general shift of the economy towards white collar jobs. Finally, from the Qualification and Career Survey provided by the BIBB-IAB, we retrieve our two alternative measures of technological evolution: the change in the use of computers, terminals and electronic data processing machines (IT change), and the change in the importance of analytical, interactive, routine cognitive, routine manual and non-routine manual tasks in workers' occupations (Task change).

In order to identify the effect of technological change on the increase in the number of firms trading services we must take into account the fact that we are not dealing with a homogeneous group of firms. Between 1995 and 2005, new firms appear: some of them are trading services while, within the group of firms active in 1995, some are still operating in 2005, and may have very different trade status, while others have closed down, leading to some exits from service trade participation. Since this feature of the data can cause results to be not comparable, we adopt different empirical strategies for each of the firm groups outlined in Figure 1:

• Stayers

Stayers are firms active in both 1995 and 2005. As these firms might share some unobservable features affecting service trade participation, we need to control for selection. To this end, we use a Heckman (1979) two-step procedure: first we run a selection equation on all firms active in 1995 using a probit model where the dependent variable $(Stayer_i)$ takes value one if firm i is still operating in 2005 and zero otherwise. Our exclusion restriction variable is firm age (Age_i) , while covariates are productivity $(Prod_i)$, firm size $(Size_i)$, tangible capital intensity $(\frac{k}{l_i})$, skill intensity $(\frac{w}{l_i})$, intangible capital intensity (Ind_k) :

$$Stayer_{i} = \beta^{0} + \beta^{1}Age_{i} + \beta^{2}Prod_{i} + \beta^{3}Size_{i} + \beta^{4}\frac{k}{l_{i}} + \beta^{5}\frac{w}{l_{i}} + \beta^{6}\frac{ik}{l_{i}} + Ind_{k} + \mu_{i}$$
 (1)

where μ_i is a iid error component.

In the second step we estimate an outcome equation which takes into account selection by means of the inverse Mill's ratio. We run 3 separate outcome regressions using a linear probability model where the dependent variable (Exp_i) takes value one if (i) firm i starts exporting (importing) between 1995 and 2005; (ii) gives-up exporting

(importing) between 1995 and 2005; (iii) exports (imports) in both 1995 and 2005. The reference category (zero) is represented by all stayers, so that coefficients can be directly related to gross entry and exit and from service trading in each sector.⁸ As control variables we use firm productivity, size, tangible capital intensity, skill intensity, intangible capital intensity (all being deflated by their sectoral mean), as well as the inverse Mill's ratio estimated in the first stage. Δ variables are defined as the time difference of the concerned variable over the period 1995-2005. In order to identify the role of technology in the increase in extensive margins we use two different strategies: in specification 1 we employ the sectoral change in the share of white collars workers $(\Delta White_{-}c_{k})$ and the sectoral change in IT use $(\Delta Comp_{k})$:

$$Exp_i = \alpha^0 + \alpha^1 Prod_i + \alpha^2 Size_i + \alpha^3 \frac{k}{l_i} + \alpha^4 \frac{w}{l_i} + \alpha^5 \frac{ik}{l_i} + \alpha^6 IM_i + \eta^0 \Delta White_c_k + \eta^1 \Delta Comp_k + v_i$$
(2)

From this specification we expect to grasp the overall effect that technological progress is having on the tradability of services. In specification 2 we use the sectoral change in the share of white collars workers and the sectoral change in the different tasks j intensity ($\Delta Task_{j,k}$):

$$Exp_i = \alpha^0 + \alpha^1 Prod_i + \alpha^2 Size_i + \alpha^3 \frac{k}{l_i} + \alpha^4 \frac{w}{l_i} + \alpha^5 \frac{ik}{l_i} + \alpha^6 IM_i + \eta^0 \Delta White_c_k + \eta^j \Delta Task_{i,k} + v_i$$

$$(3)$$

This specification will allow us to identify the different facets of technological change and highlight possible conflicting effects. For both specifications we report simple robust standard errors as well as sector-clustered ones.

• Exiters

For this group (firms active in 1995 but not in 2005), we also estimate (2) and (3) while taking into account selection by means of the inverse Mill's ratio derived from the estimation of (1). In particular, we estimate an outcome equation given by a linear probability model where the dependent variable (Exp_i) takes value one if the firm was exporting (importing) in 1995, and zero otherwise. Again, we report for both specifications simple robust standard errors as well as sector-clustered ones.

⁸We also experimented with choosing the group of never exporters as reference category obtaining qualitatively identical results.

• Entrants

Concerning Entrants (firms active in 2005 but not in 1995), we estimate specifications 1 and 2 without the inverse Mill's ratio, since no selection mechanisms can be implemented in such a case. The dependent variable of our linear probability model takes value one if the firm was exporting (importing) in 2005, and zero otherwise. We report simple robust standard errors as well as sector-clustered ones.

5 Results

In what follows we only discuss the results obtained from the estimation of specifications 1 and 2 for export. Tables 15 and 16 show the results for imports; the results are virtually identical. In the next Section we instead provide a number of additional results as well as robustness checks that corroborate our findings.

Estimations of specification 1 for service exporters are reported in Table 13 for the case of robust (left panel) and clustered standard errors (right panel). Table 14 instead displays results of specification 2 for both the case of robust and clustered standard errors. The first stage of the procedure (column 1) refers to both Stayers and Exiters and tells us that firm age, productivity, size, and tangible capital intensity have a positive and significant effect on the probability of survival, while the skill and intangible capital intensity measures work in the opposite direction. The negative sign of skill intensity is likely to be driven by the fact that average firm wage captures both the average skill level of the workforce and its cost. Furthermore, the negative sign on intangible capital intensity is not significant when clustering standard errors. As far as the inverse Mill's ratio is concerned, Tables 13 and (especially) 14 reveal that selection is at work, justifying the use of a Heckman procedure.

Concerning estimations of specification 1 we find that the signs of core variables are extremely consistent across very different firm groups. Technological change, measured by both the shift in white collar jobs $(\Delta White_c_k)$ and, of particular importance in our analysis, by the change in the use of IT $(\Delta Comp_k)$ lead stayers to have a higher probability of keep exporting services (Always firms) while increasing the likelihood of observing both more Start and Give up exporters. As for Entrants and Exiters, technological change increases the probability of Entrants becoming exporting firms, and increases the likelihood of observing exporting firms among Exiters. All in all, this suggests that technological change is inducing a churning effect in service export participation, with higher gross entry and exit, and an overall net increase (as confirmed

by the magnitude and signs across the different firm groups) in the number of trading firms. However, the impact of IT and education does not survive if we cluster standard errors by sector. To some extent, this is likely to be a pure estimation efficiency issue. But, another possible scenario is that technological change induces conflicting effects that balance each other to some degree. The multi-dimensional features of our task variables allow us to investigate that scenario further.

Spitz-Oener (2006) and Autor et al. (2003) show that, in the labor market, technological change is a substitute for routine-cognitive and routine-manual tasks and a complement for non-routine analytical and interactive tasks. However, as far as service tradability is concerned, there is no need for all changes in the task content of occupations induced by the evolution of technology to foster tradability. Table 14 reveals that the coefficients of routine cognitive and routine manual tasks are consistently negative across all specifications, while being significant in most cases. This is in line with the idea that technological change, by reducing the importance of these tasks, has a positive effect on the extensive margin of service trade. Again, churning is at work with the observed decrease over time in the frequency of these tasks inducing higher gross entry and exit a net positive effect. Crucially, non-routine interactive and analytical tasks display large and extremely significant coefficients while having the opposite sign. To the extent that technological change induces an increase in interactive tasks, which in the case of service provision is likely to entail costly face-to-face contacts, participation to service trade is negatively affected. This finding is reminiscent of Oldenski (2009), who finds that the more the production and/or provision of a particular service is intensive in interactive tasks, the lower the probability of engaging in exports activities as opposed to FDI. On the other hand, the increase in the importance of analytical tasks induced by technology does foster trade participation. As in the case of routine tasks, the sign and size of coefficients indicate that churning is at work with a net entry (exit) effect being implied by the observed *increase* in the importance of analytical (interactive) tasks.

6 Additional Results and Robustness Checks

In this Section we provide a number of additional results that further qualify our findings, as well as robustness checks that corroborate our discoveries.

6.1 Additional Results

Manufacturing or Service sector? One legitimate question is whether our results are driven by firms in the group of service sectors or rather by some peculiar behavior on the part of firms in the groups of manufacturing sectors. Tables 17 and 18 report the estimations of specification 1 and 2 for the sample of firms in the service sector only. Tables 19 and 20 display the same estimations for service firms only. Results strongly confirm that our previous findings hold within the group of service firms, which are actually those driving the overall pattern. Indeed, in unreported estimations where we consider only manufacturing firms, we find more mixed evidence about the effect of technological change on the extensive margin of service trade.

Heterogeneous effects? We push our analysis further by allowing the effect of technological change to be heterogeneous across firms. In particular, we consider interactions of either $\Delta Comp_k$ or $\Delta Task_{j,k}$ with firm productivity, size, tangible capital intensity and skill intensity. Results for exports are reported in Table 21, while results for imports are shown in Table 22. As for interactions with $\Delta Comp_k$, firm productivity and capital intensity matter in some cases (especially Entrants), with the effect being positive for the former and negative for the latter. This suggests that technological change, as measured by the use of IT, has been in some cases stronger for more productive firms and weaker for capital intensive firms. Concerning interactions with $\Delta Task_{j,k}$, the picture is rather complex. As far as Interactive (Analytical) tasks are concerned, our findings point to larger and more productive (larger and more skill intensive) firms experiencing a stronger negative (positive) impact of technological change on their likelihood to trade services. Again, churning is at work.

Level effects? We take another step in the direction of generalizing our result by allowing the effect of technology to matter not only in terms of its change across time but also via its level. In particular, we consider the level of either $Comp_k$ or $Task_{j,k}$ in 1995 as additional covariates in, respectively, specifications 1 and 2. Results for exports are reported in Tables 23 and 24, while results for imports are shown in Tables 25 and 26. Estimates of $\Delta Comp_k$ and $\Delta Task_{j,k}$ are in line with previous findings (except Routine Cognitive) though losing somehow in precision. Levels of IT use and task intensity in 1995 are almost always significant suggesting that a strong level effect is also at work. In particular, the sign of a level variable is in most cases equal to that of its time change suggesting that technological change displays some sort of increasing

returns.

6.2 Robustness Checks

Service trade liberalization? A possible issue arising in our analysis is the presence of some unobservable sector characteristics that are correlated with our measures of technological change. The most likely candidate is the process of liberalization of trade in services that GATS is slowly putting in place, and that may have some degree of sector specificity. To the extent that GATS has affected the tradability of the different service products in the same way, liberalization of service trade is not in fact an issue for us. Furthermore, as documented in Hoekman (2008), during the time span we consider (1995-2005), GATS has actually had a negligible impact on service tradability, because most of the agreements among partner countries have not been followed by concrete liberalization policies. All in all, this would suggest that GATS is not a problem in our analysis. However, in our period of analysis, the European Union has been actively promoting the tradability of services within the common market by means of various directives, each affecting a different group of service products. In order to address the concern that what is driving our results is ultimately not technological change but sector-specific service trade liberalization by the EU, we run the following robustness check: we consider a firm as trading services only if the country involved is outside the EU25. Tables 27 and 28 report the estimations of, respectively, specification 1 and 2 with export of services arising only when taking place outside the EU25. Tables 29 and 30 display the same estimations for imports. Results strongly confirm our previous findings.

Offshoring? Another candidate for omitted variables is offshoring. Using data on German multinationals, Becker et al. (2009) show that offshoring is associated with a statistically significant shift towards more non-routine and more interactive tasks, and a shift towards highly educated workers. Offshoring might thus contribute, along with technological change, to the observed evolution of the task content of occupations, and ultimately to service tradability. In order to investigate this possibility we restrict our analysis to non-offshoring firms only. To be on the safe side, we employ a broad definition of offshoring by including all sort of firms that can adapt their onshore workforce composition to the presence of a relationship with a foreign party: multinationals, for-

eign owned firms, and importers of services.⁹ Tables 31 and 32 report the estimations of specification 1 and 2 respectively, for export of services, and are obtained by dropping offshoring firms in both 1995 and 2005. Results strongly confirm our previous findings.

7 Conclusions

Using data for Belgium, we analyze the impact of the IT revolution on the remarkable increase in the number of service trading firms in the last decade. Our estimates clearly indicate that technological change has played a major role in enabling formerly non-tradable services to enter the realm of tradability. The more intensive use of information technologies creates a churning effect that increases both gross entry and exit in the import and export market for services, with a sizeable positive net effect. The change in the use of computers, terminals and electronic data processing machines as a proxy for technological change is sensitive to clustering and provides a narrow picture of how IT has reshaped service tradability. By enlarging our analysis to measures of tasks change over time we find that a much richer pattern emerges. In particular, the demise of routine cognitive and routine manual tasks has favored service tradability. On the other hand, while the rise of non-routine analytical tasks has also increased tradability, the need for more interactive tasks has worked in the opposite direction. This latter result might be rationalized by the peculiar nature of service provision.

References

- Autor, D., Levy, F., and Murnane, R. J. (2003). The Skill Content of Recent Technological Change: an Empirical Exploration. *Quarterly Journal of Economics*, 118(4):1279–1333.
- Becker, S. O., Ekholm, K., and Muendler, M.-A. (2009). Offshoring and the Onshore Composition of Tasks and Skills. *CEPR Discussion Paper*, 7391.
- Blinder, A. S. (2006). Offshoring: the Next Industrial Revolution? Foreign Affairs, 85(2):113–128.
- Blinder, A. S. (2009). How Many U.S. Jobs Might Be Offshorable? The World Economics, 10(2):41–78.

⁹Information on multinational status and foreign ownership of a firm come from the yearly survey of Foreign Direct Investments carried out by the NBB.

- Breinlich, H. and Criuscolo, C. (2009). International Trade in Services: a Portrait of Importers and Exporters. *CEP Discussion Paper*, (0901).
- Francois, J. J. and Hoeckman, B. (2009). Services Trade and Policy. *Journal of Economic Literature*, forthcoming.
- Freund, C. and Weinhold, D. (2002). The Internet and International Trade in Services. American Economic Review, 92(2):236–240.
- Grossman, G. M. and Rossi-Hansberg, E. (2008). Trading Tasks: A Simple Theory of Offshoring. *American Economic Review*, 98(5):1978–1997.
- Heckman, J. (1979). Sample Selection Bias as a Specification Error. *Econometrica*, 47:153–61.
- Hoekman, B. (2008). The General Agreement on Trade in Services: Doomed to Fail? Does it Matter? *Journal of Industry, Competition and Trade*, 8(3-4):295–318.
- Levy, F. and Murnane, R. J. (1996). With What Skills Are Computers a Complement? *American Economic Review*, 86(2):258–262.
- Oldenski, L. (2009). Export Versus FDI: A Task-Based Framework for Comparing Manufacturing and Services. *mimeograph*.
- Spenner, K. (1983). Deciphering Prometheus: Temporal Change in the Skill Level of Work. *American Sociological Review*, 48(6):824–837.
- Spitz-Oener, A. (2006). Technical Change, Job Tasks, and Rising Educational Demands: Looking Outside the Wage Structure. *Journal of Labor Economics*, 24(2):235–270.
- World Trade Organisation (2008). Statistics Database, International Trade and Tariffs Database. available at www.wto.org.

Table 1: Sectoral breakdown used

Sector

Food Beverages and Tobacco

Textile Industry

Leather and Leather Products

Wood and Wood Products

Cellulose and Paper Industry

Publishing, Printing and Reproduction

Chemical Industry, Rubber and Synthetic Materials

Stone and Clay, Glass and Ceramics

Manufacture of Basic Metals

Manufacture of Fabricated Metal Products

Precision and Optical Instruments

Electrical Engineering

Machinery Construction

Car Industry

Shipbuilding, Aircraft, and Aerospace I

Office and Data-Processing Machines

Other manufacturing

Distribution of Energy, Water, Gas and Electricity

Construction

Wholesale and retail trade

Transport Services

Postal Services

Hotels and Restaurants

Information, Art and Communication

Financial Service Activities

Insurance, Reinsurance and Pension Funding

Professional, Scientific and Technical Activities

Health and Veterinary

Schooling, Education

Other services

Table 2: Summary Statistics of variables coming from balance sheet data

Variable	Obs	Mean	Std.Dev.	5th percentile	95th percentile
			1995		
Age	125,093	9.9268	10.1164	0.0000	27.0000
Employment	125,093	13.0570	220.1779	1.0000	33.0000
Value added	125,093	0.7112	13.8106	0.0126	1.5379
Tangible capital	125,093	0.6195	25.1264	0.0022	0.9372
Intangible capital	125,093	0.0498	2.6342	0.0000	0.0521
Average firm wage	125,093	0.4531	8.8588	0.0067	1.0726
Share of white collars	125,093	0.5702	0.2425	0.2050	0.8528
			2005		
Age	126,510	13.7542	11.3493	1.0000	36.0000
Employment	126,510	13.7599	196.1708	0.3000	36.0000
Value added	126,510	1.0957	16.9470	0.0153	2.3180
Tangible capital	126,510	0.8691	17.9905	0.0029	1.4170
Intangible capital	126,510	0.1126	8.4972	0.0000	0.1010
Average firm wage	126,510	0.6480	9.8835	0.0033	1.5354
Share of white collars	126,510	0.5672	0.2462	0.2093	0.9807

Values for value added, wages, tangible and intangible capital are in million euros. Employment is in full time equivalent while age is number of years since firm creation.

Table 3: Classification of tasks

Classification	Task
Analytical	researching, analyzing, evaluating and planning,
	making plans, constructions, designing, sketch-
	ing, working out rules/prescriptions, using and
	interpreting rules
Interactive	negotiating, lobbying, coordinating, organizing,
	teaching or training, selling, buying, advising
	customers, advertising, entertaining or present-
	ing, employ or manage personnel
Routine Cognitive	calculating, bookkeeping, correct-
	ing of texts/data, measuring of
	length/weight/temperature
Routine Manual	operating or controlling machines, equip ma-
	chines
Non-Routine Manual	repairing or renovating houses, apartments and
	machines, restoring of art/monuments, serving
	or accommodating
·	

Table 4: Evolution of tasks and IT intensity over time

	Non	Non Routine Tasks				Routine Tasks		
	Analytic	Interactive	Manual	-	Cognitive	Manual		
1979	0.04	0.09	0.14		0.36	0.31	0.06	
1986	0.09	0.10	0.21		0.34	0.27	0.12	
1992	0.11	0.17	0.20		0.27	0.23	0.28	
1999	0.12	0.31	0.28		0.20	0.17	0.53	
2006	0.13	0.32	0.23		0.16	0.23	0.68	

Table 5: Decomposing the increase in the export of services: extensive and intensive margin

		Aggr	egate	Exter	nsive Margins	Intensi	ve Margins
		1995	2005	1995	2005	1995	2005
Entrants	Non Exp	-	0.00	-	-	-	-
	\mathbf{Exp}	-	$11,\!562.26$	-	6,360	-	1.8180
Stayers	Non Exp	0.00	0.00	-	-	-	-
	Give-up Exp	$1,\!435.59$	0.00	1,852	-	0.7752	-
	Start Exp	0.00	2,609.08	-	4,808	-	0.5427
	Always Exp	13,247.54	$50,\!258.96$	1,861	1,861	7.1185	27.0064
Exiters	Non Exp	0.00	-	-	-	-	-
	\mathbf{Exp}	$3,\!531.67$	-	1,633	-	2.1627	-
\mathbf{T}	OTAL	18,214.80	64,430.30	5,346	13,029	3.3521	9.7890
GROWTH		253.	73%		143.71%	19	02.02%
YEARLY	YEARLY GROWTH		5%		9.3%	1	.1.3%

Values are in million euros

Table 6: Decomposing the increase in the import of services: extensive and intensive margin

		Aggr	egate	Exter	nsive Margins	Intensi	ve Margins
		1995	2005	1995	2005	1995	2005
Entrants	Non Imp	-	0.00	-	=	-	=
	Imp	-	10,400.96	-	3,522	-	2.928
Stayers	Non Imp	0.00	0.00	-	-	-	-
	Give-up Imp	1,208.29	0.00	1,521	-	0.7944	-
	Start Imp	0.00	3,645.49	-	3,720	-	0.9799
	Always Exp	$14,\!103.75$	45,722.35	2,131	2,131	6.6183	21.455
Exiters	Non Imp	0.00	-	-	-	-	-
	Imp	3,303.99	-	1,397	-	2.3650	-
T	OTAL	18,616.03	59,768.80	5,049	9,373	3.6870	6.3766
GR	OWTH	221.	06%		85.64%	73	2.94%
YEARLY	Y GROWTH	12.	4%		6.3%		5.6%

Values are in million euros

Table 7: Trading values and firms: Manufacturing and Services

Aggregate Trade Value

		Export				Import			
	1995	1995 Perc. 2005 Perc.			1995	Perc.	2005	Perc.	
Manufacturing	1,866.11	10%	$9,\!110.94$	14%	2,864.85	15%	$9,\!585,\!93$	16%	
Services	16,348.69	90%	$55,\!318.36$	86%	15,751.18	85%	$50,\!182.87$	84%	
Total	18,214.80		64,430.30		18,616.03		59,768.80		

Extensive Margin

		Exp	ort			Imp	ort	
-	1995	Perc.	2005	Perc.	1995	Perc.	2005	Perc.
Manufacturing	868	16%	1,065	8%	1,439	28%	1,882	20%
Services	4,478	84%	11,964	92%	3,610	72%	7,490	80%
Total	5,346		13,029		5,049		9,373	

Values are in million euros

Table 8: Top 10 trading sectors (values traded)

Export

Rank	Sector	1995	Sector	2005
1	Wholesale and retail trade	9,410.64	Wholesale and retail trade	32,999.88
2	Professional, Scientific and Technical Activities	2,694.65	Chemical Industry, Rubber and Synthetic Material	7,930.21
3	Transport Services	2,580.43	Professional, Scientific and Technical Activities	6,327.07
4	Chemical Industry, Rubber and Synthetic Material	1,226.71	Financial services activities	5,399.97
5	Financial services activities	475.12	Transport Services	4,978.13
6	Information, art and communication	465.64	Insurance, reinsurance and pension funding	1,666.06
7	Construction	233.59	Information, art and communication	1,589.58
8	Postal Services	164.79	Other services	832.94
9	Other services	134.64	Construction	809,84
10	Car Industry	131.11	Manufacture of fabricated metal products	293.82

Import

Rank	Sector	1995	Sector	2005
1	Wholesale and retail trade	10,406.55	Wholesale and retail trade	32,748.97
2	Professional, Scientific and Technical Activities	2,099.28	Chemical Industry, Rubber and Synthetic Material	7,955.38
3	Transport Services	1,621.53	Professional, Scientific and Technical Activities	4,746.61
4	Chemical Industry, Rubber and Synthetic Material	1,949,79	Financial services activities	4,630.05
5	Financial services activities	876.31	Transport services	3,345.53
6	Information, art and communication	218.93	Insurance, reinsurance and pension funding	2,446.34
7	Machinery construction	210.91	Information, art and communication	930.30
8	Other services	206.63	Other services	659.11
9	Stone and clay, glass and ceramics	185.46	Construction	296.12
10	Car industry	169.96	Manufacture of fabricated metal products	243.49

Values are in million euros

Table 9: Top 10 trading sectors (number of firms)

Export

		ĽX	JOI t	
Rank	Sector	1995	Sector	2005
1	Wholesale and retail trade	1,611	Professional, Scientific and Technical Activities	4,702
2	Professional, Scientific and Technical Activities	1,163	Wholesale and retail trade	2,231
3	Transport Services	691	Transport Services	1,330
4	Construction	302	Information, art and communication	1,014
5	Information, art and communication	248	Construction	962
6	Other Services	192	Other Services	764
7	Chemical Industry, Rubber and Synthetic Material	160	Hotels and restaurants	329
8	Manufacture of fabricated metal products	108	Insurance, reinsurance and pension funding	253
9	Insurance, reinsurance and pension funding	195	Manufacture of fabricated metal products	183
10	Food Beverages and Tobacco	93	Chemical Industry, Rubber and Synthetic Material	179

Import

Rank	Sector	1995	Sector	2005
1	Wholesale and retail trade	1,732	Wholesale and retail trade	2,541
2	Professional, Scientific and Technical Activities	774	Professional, Scientific and Technical Activities	2,250
3	Transport Services	380	Transport Services	655
4	Chemical Industry, Rubber and Synthetic Material	275	Information, art and communication	502
5	Food Beverages and Tobacco	194	Construction	477
6	Construction	189	Other Services	460
7	Information, art and communication	171	Chemical Industry, Rubber and Synthetic Material	360
8	Other Services	160	Manufacture of fabricated metal products	255
9	Textile Industry	150	Food Beverages and Tobacco	239
10	Manufacture of fabricated metal products	142	Textile Industry	181

Table 10: Sector change in the number of trading firms and values traded

		- Lapo	10	
Rank	Sector	Δ # of firms	Sector	Δ values
1	Professional, Scientific and Technical Activities	3,539	Wholesale and retail trade	23,589.23
2	Information, art and communication	766	Chemical Industry, Rubber and Synthetic Material	6,703.50
3	Construction	660	Financial Services	4,924.88
4	Transport Services	639	Professional, Scientific and Technical Activities	3,632.42
5	Wholesale and retail trade	620	Transport Services	2,397.70
6	Other Services	572	Insurance, reinsurance and pension funding	1,590.80
7	Hotel and restaurants	257	Information, art and communication	1,123.94
8	Insurance, reinsurance and pension funding	158	Other services	698.30
9	Health and veterinary	144	Construction	576.25
10	Manufacture of fabricated metal products	75	Manufacture of fabricated metal products	197.57

Import

	Impo	10	
Sector	Δ # of firms	Sector	Δ values
Professional, Scientific and Technical Activities	1,476	Wholesale and retail trade	22,342.42
Wholesale and retail trade	809	Chemical Industry, Rubber and Synthetic Material	6,460.60
Information, art and communication	331	Financial services activities	3,753.74
Other Services	300	Professional, Scientific and Technical Activities	2,647.33
Construction	288	Insurance, reinsurance and pension funding	2,380.73
Transport Services	275	Transport Services	1,724.00
Information, art and communication	171	Information, art and communication	711.37
Hotel and restaurants	109	Other Services	452.86
Financial Services	88	Construction	196.74
Chemical Industry, Rubber and Synthetic Material	85	Manufacture of fabricated metal products	173.48
	Professional, Scientific and Technical Activities Wholesale and retail trade Information, art and communication Other Services Construction Transport Services Information, art and communication Hotel and restaurants Financial Services	Sector Δ # of firms Professional, Scientific and Technical Activities 1,476 Wholesale and retail trade 809 Information, art and communication 331 Other Services 300 Construction 288 Transport Services 275 Information, art and communication 171 Hotel and restaurants 109 Financial Services 88	Professional, Scientific and Technical Activities Wholesale and retail trade Wholesale and retail trade Information, art and communication Other Services Construction Transport Services Information, art and communication Transport Services Information, art and communication Transport Services Information, art and communication Tother Services Information, art and communication Tother Services Information, art and communication Tother Services Transport Services Information, art and communication Tother Services Tother Se

Values are in million euros

Table 11: Top 10 trading countries (values traded) $_{\mathbf{Export}}$

		E.X	port	
Rank	Country	1995	Country	2005
1	Germany	2,901.6	Great Britain	22,813.6
2	Great Britain	2,856.4	Japan	7,322.5
3	USA	2,287.6	France	6,765.5
4	France	1,928.3	USA	$6,\!128.2$
5	Nederland	1,667.2	Nederland	4,685.3
6	Switzerland	915.5	Germany	3,828.1
7	Italy	758.9	Switzerland	1,995.9
8	Japan	455.0	Luxembourg	1,351.1
9	Spain	437.4	Ireland	931.0
10	Sweden	361.8	Spain	910.2

Import

			r	
Rank	Country	1995	Country	2005
1	Great Britain	3,582.6	Great Britain	23,787.9
2	Germany	3,510.7	France	7,723.6
3	USA	3,302.5	Japan	$7,\!412.6$
4	France	2,509.9	USA	6,834.9
5	Nederland	2,344.5	Nederland	5,748.0
6	Switzerland	1,280.6	Germany	4,781.4
7	Italy	832.9	Switzerland	$2,\!290.5$
8	Japan	633.3	Luxembourg	1,586.5
9	Luxembourg	552.8	Spain	981.3
10	Sweden	521.2	Ireland	976.6

Values are in million euros

Table 12: Top 10 trading countries (number of firms)

		Exp	ort	
Rank	Country	1995	Country	2005
1	Nederland	1,978	Nederland	5,176
2	France	1,813	France	$4,\!512$
3	Germany	1,459	Germany	3,010
4	Great Britain	1,131	Great Britain	2,736
5	USA	1,095	Luxembourg	1,670
6	Switzerland	604	USA	1,530
7	Luxembourg	541	Switzerland	1,110
8	Italy	462	Italy	1,065
9	Spain	351	Spain	903
10	Sweden	272	Sweden	547

		Imp	ort	
Rank	Country	1995	Country	2005
1	Nederland	2,846	Nederland	4,749
2	France	2,330	France	4,226
3	Germany	1,960	Germany	3,158
4	Great Britain	1,705	Great Britain	2,985
5	USA	1,572	USA	1,742
6	Switzerland	933	Luxembourg	1,365
7	Luxembourg	706	Switzerland	1,331
8	Italy	658	Italy	1,296
9	Spain	488	Spain	1,072
_10	Sweden	344	Sweden	555

Table 13: Exports of Services: Extensive Margin, Specification 1

		Ro	Robust standard errors	ıdard err	ors			Clus	Clustered standard errors	ndard er	rors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always			'	Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0215^{a}	0.0131^{a}	0.0197^{a}	0.0327^{a}	0.0381^{a}	0.2050^{a}	0.0215^{a}	0.0131^{a}	0.0197^{a}	0.0327^{a}	0.0381^{a}
	(0.008)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.021)	(0.007)	(0.005)	(0.004)	(0.00)	(0.000)
Size	0.0538^{a}	0.0260^{a}	0.0178^{a}	0.0317^{a}	0.0432^{a}	0.0401^{a}	0.0538^{a}	0.0260^{a}	0.0178^{a}	0.0317^{a}	0.0432^{a}	0.0401^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.006)	(0.002)	(0.007)	(0.008)	(0.010)
Capital Intensity	0.0988^{a}	0.0043^{a}	-0.0001	0.0015^{a}	0.0051^{a}	-0.0051^{a}	0.0988^{a}	0.0043	-0.0001	0.0015	0.0051	-0.0051^{b}
	(0.003)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.002)
Skill Intensity	-0.1009^a	-0.0035^{a}	0.0010	-0.0020^{b}	0.0060^{a}	0.0077^{a}	-0.1009^a	-0.0035	0.0010	-0.0020	0.0000	0.0077^{b}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.003)	(0.002)	(0.002)	(0.005)	(0.003)
Intangible Capital Intensity	O	-0.0001	0.0003^{b}	0.0002	-0.0002	0.0005^{b}	-0.0035	-0.0001	0.0003	0.0002	-0.0002	0.0005
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ White Collar		0.0656^{a}	0.0271^{a}	0.0799^{a}	0.3804^{a}	0.4415^{a}		0.0656	0.0271	0.0799	0.3804^{b}	0.4415^{b}
		(0.015)	(0.000)	(0.011)	(0.035)	(0.021)		(0.102)	(0.044)	(0.065)	(0.166)	(0.187)
Δ Computer		0.0503^{a}	0.0075^{b}	0.0076^{c}	0.0495^{a}	0.1837^{a}		0.0503	0.0075	0.0076	0.0495	0.1837
		(0.000)	(0.004)	(0.004)	(0.012)	(0.000)		(0.082)	(0.012)	(0.049)	(0.06)	(0.129)
$_{ m IM}$		0.0968^{a}	0.0127^{b}	0.0514^{a}	0.1328^{a}			0.0968	0.0127	0.0514	0.1328	
		(0.011)	(0.000)	(0.008)	(0.020)			(0.070)	(0.045)	(0.044)	(0.086)	
Constant	0.7549^{a}	-0.0166^{a}	0.0067^{b}	-0.0087^{b}	-0.0293^{a}	0.0110	0.7549^{a}	-0.0166	0.0067	-0.0087	-0.0293	0.0110
	(0.027)	(0.005)	(0.003)	(0.004)	(0.010)	(0.003)	(0.001)	(0.048)	(0.019)	(0.030)	(0.049)	(0.037)
Sector Dummies	Yes						Yes					
Observations	125,093	95,512	95,512	95,512	29,563	58,550	125,093	95,512	95,512	95,512	29,563	58,550
R^2		0.0218	0.0310	0.0741	0.0825	0.0753		0.0218	0.0310	0.0741	0.0825	0.0753
	Robust si	tandard erre	Robust standard errors in parentheses a p<0.01, b p<0.05,	heses a p<0.	01 , b p<0.08	5, c p<0.1	Sector clustered st.err.	ered st.err.	in parenthe	ses a p<0.0	in parentheses a p<0.01, b p<0.05,	c p<0.1

2
Specification
$\overline{\Omega}$
gin,
Mar
lsive
Extens
Services:
f
Exports of
EX
14:
Table

		•	1,)	7				
		Ko	Robust standard errors	dard erre	ors			Clus	stered sta	Ulustered standard errors	ors	
	Selection		$_{ m Stayers}$		Exiters	Entrants	Selection		$_{ m Stayers}$		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0309^{a}	0.0165^{a}	0.0285^{a}	0.0413^{a}	0.0361^{a}	0.2050^{a}	0.0309^{a}	0.0165^{a}	0.0285^{a}	0.0413^{a}	0.0361^{a}
	(0.008)	(0.002)	(0.001)	(0.002)	(0.003)	(0.002)	(0.021)	(0.008)	(0.004)	(0.005)	(0.007)	(0.008)
Size	0.0538^{a}	0.0289^{a}	0.0188^{a}	0.0344^{a}	0.0455^{a}	0.0397^{a}	0.0538^{a}	0.0289^{a}	0.0188^{a}	0.0344^{a}	0.0455^{a}	0.0397^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.007)	(0.001)	(0.007)	(0.008)	(0.010)
Capital Intensity	0.0988^{a}	0.0089^{a}	0.0016^{a}	0.0058^{a}	0.0096^{a}	-0.0045^a	0.0988^{a}	0.0089^{b}	0.0016	0.0058^{c}	0.0096^{a}	-0.0045^{c}
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)	(0.001)	(0.003)	(0.003)	(0.002)
Skill Intensity	-0.1009^{a}	-0.0072^{a}	-0.0004	-0.0055^{a}	0.0020	0.0084^{a}	-0.1009^{a}	-0.0072^{c}	-0.0004	-0.0055^{c}	0.0020	0.0084^{b}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.004)	(0.002)	(0.003)	(0.004)	(0.003)
Intangible Capital Intensity	-0.0035^{a}	-0.0003	0.0003^{b}	0.0000	-0.0005	0.0009^{a}	-0.0035	-0.0003	0.0003	0.0000	-0.0005	0.0009
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ White Collar		0.0023	0.0070	0.0270^{b}	-0.2555^{a}	-0.1712^{b}		0.0023	0.0070	0.0270	-0.2555^{c}	-0.1712
		(0.017)	(0.010)	(0.012)	(0.077)	(0.067)		(0.060)	(0.044)	(0.042)	(0.148)	(0.292)
Δ Routine Cognitive		-0.0001^{a}	0.0000^{c}	-0.0001^{a}	-0.0002^{a}	-0.0004^{a}		-0.0001	0.0000	-0.0001	-0.0002^{c}	-0.0004
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Routine Manual		-0.0016^{a}	-0.0005^{a}	-0.0011^{a}	-0.0021^{a}	-0.0015^a		-0.0016^{c}	-0.00005^{c}	-0.0011^{b}	-0.0021^{a}	-0.0015
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Non-Routine Manual		0.0004^{a}	0.0004^{a}	0.0000^{a}	0.0011^{a}	0.0013^{a}		0.0004	0.0004^{c}	0.0000^{c}	0.0011^{a}	0.0013^{c}
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Δ Interactive		-0.0035^a	-0.0013^{a}	-0.0027^{a}	-0.0049^{a}	-0.0072^{a}		0.0035^{a}	-0.0013^{a}	-0.0027^{a}	-0.0049^{a}	-0.0072^{a}
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
Δ Analytical		0.0033^{a}	0.0008^{a}	0.0014^{a}	0.0019^{a}	0.0078^{a}		0.0033^{a}	0.0008^{b}	0.0014^{b}	0.0019^{b}	0.0078^{a}
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
$_{ m IM}$		0.2043^{a}	0.0518^{a}	0.1510^{a}	0.2262^{a}			0.2043^{b}	0.0518	0.1510^{b}	0.2262^{a}	
		(0.016)	(0.010)	(0.012)	(0.025)			(0.085)	(0.036)	(0.055)	(0.059)	
Constant	0.7549^{a}	0.0017	0.0104^{b}	-0.0114^{b}	0.0136	0.1518^{a}	0.7549^{a}	0.0017	0.0104	-0.0114	0.0136	0.1518^{a}
	(0.027)	(0.007)	(0.005)	(0.005)	(0.012)	(0.006)	(0.001)	(0.031)	(0.017)	(0.021)	(0.029)	(0.031)
Sector Dummies	Yes						Yes					
Observations	125,093	95,512	95,512	95,512	29,563	58,550	125,093	95,512	95,512	95,512	29,563	58,550
R^2		0.0328	0.0343	0.0864	0.0958	0.1053		0.0328	0.0343	0.0864	0.0958	0.1053
	Robust	Robust standard errors in parentheses a p<0.01, b p<0.05, c p<0.	ors in parent	heses a p<0.	$^{01, b}$ p<0.05	b, c p<0.1	Sector clu	stered st.err.	in parenthe	Sector clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1	, ^b p<0.05, '	; p<0.1

Table 15: Imports of Services: Extensive Margin, Specification 1

		Ro	bust star	Robust standard errors	ors			Clus	tered sta	Clustered standard errors	ors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.011)						(0.013)					
Productivity	0.2050^{a}	0.0201^{a}	0.0132^{a}	0.0257^{a}	0.0350^{a}	0.0343^{a}	0.2050^{a}	0.0201^{a}	0.0132^{a}	0.0257^{a}	0.0350^{a}	0.0343^{a}
	(0.008)	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.021)	(0.007)	(0.004)	(0.007)	(0.008)	(0.005)
Size	0.0538^{a}	0.0306^{a}	0.0154^{a}	0.0427^{a}	0.0446^{a}	0.0420^{a}	0.0538^{a}	0.0306^{a}	0.0154^{a}	0.0427^{a}	0.0446^{a}	0.0420^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.003)	(0.002)	(0.000)	(0.005)	(0.007)
Capital Intensity	0.0988^{a}	0.0026^{a}	0.0001	0.0022^{a}	0.0075^{a}	-0.0025^a	0.0988^{a}	0.0026	0.0001	0.0022	0.0075^{b}	-0.0025
	(0.003)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
Skill Intensity	-0.1009^a	-0.0034^{a}	-0.0009	-0.0078^{a}	-0.0012	0.0037^{a}	-0.1009^{a}	-0.0034	-0.0009	-0.0078^{b}	-0.0012	0.0037
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.003)	(0.002)	(0.003)	(0.005)	(0.003)
Intangible Capital Int.	-0.0035^a	0.0003	0.0001	0.0011^{a}	0.0004	0.0011^{a}	-0.0035	0.0003	0.0001	0.0011^{b}	0.0004	0.0011^{b}
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Δ White Collar		0.0676^{a}	0.0249^{a}	0.0789^{a}	0.4112^{a}	0.3571^{a}		0.0676	0.0249	0.0789	0.4112^{a}	0.3571^{a}
		(0.014)	(0.008)	(0.012)	(0.036)	(0.018)		(0.076)	(0.034)	(0.067)	(0.127)	(0.101)
Δ Computer		0.0329^{a}	0.0013	0.0325^{a}	0.0748^{a}	0.0886^{a}		0.0329	0.0013	0.0325	0.0748^{b}	0.0886^{c}
		(0.005)	(0.003)	(0.004)	(0.011)	(0.007)		(0.025)	(0.007)	(0.021)	(0.031)	(0.052)
$_{ m IM}$		0.0583^{a}	0.0161^{a}	0.0524^{a}	0.1555^{a}			0.0583	0.0161	0.0524	0.1555^{b}	
		(0.010)	(0.000)	(0.008)	(0.021)			(0.071)	(0.039)	(0.063)	(0.072)	
Constant	0.7546^{a}	-0.0052	-0.0016	-0.0154^{a}	-0.0442^{a}	0.0346^{a}	0.7549^{a}	-0.0048	0.0046	-0.0153	-0.0517	0.0191
	(0.027)	(0.005)	(0.003)	(0.004)	(0.011)	(0.003)	(0.001)	(0.031)	(0.016)	(0.029)	(0.036)	(0.015)
Observations	125,093	95,512	95,512	95,512	29,563	58,550	125,093	95,512	95,512	95,512	29,563	58,550
$ m R^2$		0.0383	0.0274	0.1096	0.0906	0.0945		0.0383	0.0274	0.1096	0.0906	0.0945
	Robust st	tandard erro	rs in parent	Robust standard errors in parentheses a p<0.01, b p<0.05,	$^{01, \ b}$ p<0.05	, c p<0.1	Sector clustered st.err.	ered st.err.	in parenthes	in parentheses a p<0.01, b p<0.05,		c p<0.1

2
; u
atio
pecifica
$\mathbf{\Omega}$
argin,
ij
ensive
Exte
ervices:
$\mathbf{\Omega}$
jo
nports
Im
16:
Table

		֓֞֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝֝	2 - J				2 (0	1				
		FC	odust star	Robust standard errors	Ors			Cius	tered sta	Unstered standard errors	ors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0262^{a}	0.0172^{a}	0.0300^{a}	0.0339^{a}	0.0339^{a}	0.2050^{a}	0.0262^{a}	0.0165^{a}	0.0300^{a}	0.0339^{a}	0.0339^{a}
	(0.008)	(0.002)	(0.001)	(0.002)	(0.003)	(0.001)	(0.021)	(0.005)	(0.004)	(0.000)	(0.008)	(0.005)
Size	0.0538^{a}	0.0324^{a}	0.0166^{a}	0.0439^{a}	0.0444^{a}	0.0421^{a}	0.0538^{a}	0.0324^{a}	0.0188^{a}	0.0439^{a}	0.0444^{a}	0.0421^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.002)	(0.001)	(0.005)	(0.005)	(0.007)
Capital Intensity	0.0988^{a}	0.0055^{a}	0.0021^{a}	0.0042^{a}	0.0073^{a}	-0.0023^a	0.0988^{a}	0.0055^{a}	0.0016	0.0042^{c}	0.0073^{b}	-0.0023
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)	(0.002)	(0.003)	(0.002)
Skill Intensity	-0.1009^{a}	-0.0058^{a}	-0.0025^a	-0.0094^{a}	-0.0008	0.0038^{a}	-0.1009^{a}	-0.0058^{a}	-0.0004	-0.0094^{a}	-0.0008	0.0038
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.002)	(0.002)	(0.003)	(0.005)	(0.002)
Intangible Capital Intensity	-0.0035^{a}	0.0002	0.0000	0.0011^{a}	0.0003	0.0013^{a}	-0.0035	0.0002	0.0003	0.0011^{b}	0.0003	0.0013^{a}
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
White Collar		0.0235	0.0026	0.0475^{a}	0.1450^{c}	0.2279^{a}		0.0234	0.0071	0.0471	0.1447	0.2279
		(0.016)	(0.010)	(0.014)	(0.086)	(0.06)		(0.074)	(0.044)	(0.065)	(0.218)	(0.252)
Routine Cognitive		0.0001^{a}	0.0001^{a}	0.0003^{a}	0.0002^{a}	0.0001^{b}		0.0001^{c}	0.0000	0.0003^{c}	0.0002	0.0001
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Routine Manual		-0.0011^{a}	-0.0005^{a}	-0.0008^{a}	-0.0009^{a}	-0.0002		-0.0011^{b}	-0.0005^{c}	-0.00008^{c}	-0.0009	-0.0002
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Non-Routine Manual		0.0000^{a}	0.00005^{a}	0.0007^{a}	0.0011^{a}	0.0010^{a}		0.0006^{a}	0.0004^{c}	0.0007	0.0011^{c}	0.0010
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Interactive		-0.0024^{a}	-0.0007^{a}	-0.0023^{a}	-0.0022^{a}	-0.0035^{a}		-0.0024^{a}	-0.0013^{a}	-0.0023^{a}	-0.0022^{b}	-0.0035^a
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Analytical		0.0020^{a}	0.0004^{a}	0.0019^{a}	0.0025^{a}	0.0044^{a}		0.0020^{a}	0.0008^{b}	0.0019^{a}	0.0025^{b}	0.0044^{a}
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
IM		0.1263^{a}	0.0611^{a}	0.0993^{a}	0.1477^{a}			0.1263^{a}	0.0518	0.0993	0.1477^{c}	
		(0.015)	(0.010)	(0.013)	(0.025)			(0.044)	(0.036)	(0.065)	(0.075)	
Constant	0.7549^{a}	0.0091	-0.0051	0.0062	-0.0005	0.0859^{a}	0.7549^{a}	0.0091	0.0104	0.0062	-0.0005	0.0859^{a}
	(0.027)	(0.007)	(0.005)	(0.000)	(0.012)	(0.005)	(0.001)	(0.020)	(0.017)	(0.032)	(0.034)	(0.016)
Sector Dummies	Yes						Yes					
Observations	125,093	95,512	95,512	95,512	29,563	58,550	125,093	95,512	95,512	95,512	29,563	58,550
R^2		0.0444	0.0297	0.1186	0.0957	0.1065		0.0444	0.0343	0.1186	0.0957	0.1065
	Robust s	tandard erre	ors in parent	Robust standard errors in parentheses a p<0.01,	01, ^b p<0.05,	i, c p<0.1	Sector clu	Sector clustered st.err. in parentheses a p<0.01,	in parenthe	ses a p<0.01	, b p<0.05, °	p<0.1

Figure 1: Partition of firms based on market presence and export participation

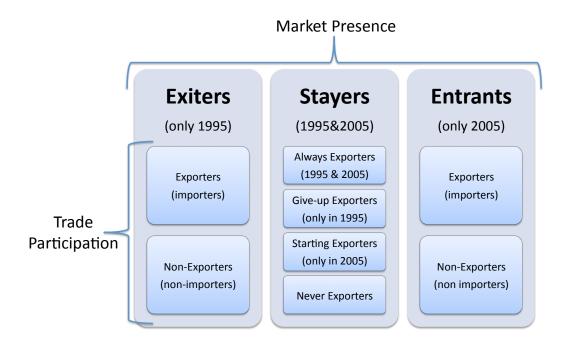


Table 17: Exports of Services: Extensive Margin, Specification 1, only firms belonging to the Service Sector

		Robust	standard	l errors			Clustered	1	standard errors	
		Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
	Start	Give up	Always			Start	Give up	Always		
Productivity	0.0246^{a}	0.0136^a	0.0213^{a}	0.0549^{a}	0.0383^{a}	0.0246^{b}	0.0136^{b}	0.0213^{a}	0.0549^{a}	0.0383^{a}
,	(0.002)	(0.001)	(0.001)	(0.004)	(0.002)	(0.000)	(0.005)	(0.000)	(0.017)	(0.010)
Size	0.0281^{a}	0.0152^{a}	0.0331^{a}	0.0510^{a}	0.0408^{a}	0.0281^{a}	0.0152^{a}	0.0331^{a}	0.0510^{a}	0.0408^{a}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.000)	(0.002)	(0.010)	(0.011)	(0.012)
Capital Intensity	0.0056^a	0.0002	0.0020^{a}	0.0146^{a}	-0.0053^{a}	0.0056	0.0002	0.0020	0.0146^{c}	-0.0053^{b}
	(0.001)	(0.000)	(0.001)	(0.002)	(0.001)	(0.004)	(0.002)	(0.002)	(0.008)	(0.002)
Skill Intensity	-0.0044^{a}	0.0014^{c}	-0.0022^{b}	-0.0027	0.0085^{a}	-0.0044	0.0014	-0.0022	-0.0027	0.0085^{b}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.004)	(0.002)	(0.002)	(0.008)	(0.004)
Intangible Capital Int.	-0.0003^{c}	-0.0000	-0.0001	-0.00008^{b}	0.0004^{c}	-0.0003	-0.0000	-0.0001	-0.0008	0.0004
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ White Collar	0.0987^{a}	0.0115	0.0856^{a}	0.7872^{a}	0.5141^{a}	0.0987	0.0115	0.0856	0.7872^{b}	0.5141^{b}
	(0.018)	(0.010)	(0.012)	(0.061)	(0.021)	(0.140)	(0.053)	(0.088)	(0.293)	(0.228)
Δ Computer	0.0663^{a}	-0.0026	0.0081^{c}	0.1370^{a}	0.2078^{a}	0.0663	-0.0026	0.0081	0.1370	0.2078
	(0.007)	(0.004)	(0.005)	(0.017)	(0.010)	(0.086)	(0.017)	(0.055)	(0.084)	(0.140)
$_{ m IM}$	0.1310^{a}	0.0239^{a}	0.0662^{a}	0.3456^{a}		0.1310	0.0239	0.0662	0.3456^{c}	
	(0.012)	(0.006)	(0.000)	(0.036)		(0.097)	(0.048)	(0.052)	(0.166)	
Constant	-0.0339^{a}	0.0035	-0.0149^{a}	-0.1401^{a}	0.0071^{b}	-0.0339	0.0035	-0.0149	-0.1401	0.0071
	(0.000)	(0.003)	(0.004)	(0.019)	(0.003)	(0.054)	(0.021)	(0.034)	(0.087)	(0.040)
Observations	82278	82278	82278	25661	53754	82278	82278	82278	25661	53754
R-squared	0.0224	0.0258	0.0732	0.0911	0.0775	0.0224	0.0258	0.0732	0.0911	0.0775
	Robust st	Robust st.err. in parentheses a p<0.01, b p<0.05,	ntheses a p<	$0.01, ^{b} p < 0.$	$05, ^{c} p < 0.1$	Ind. clust.	st.err. in	par.	a p<0.01, b p<0.05,	5, c p<0.1

Table 18: Exports of Services: Extensive Margin, Specification 2, only firms belonging to the Service Sector

		Robust	standard	lerrors			Clustered	1	standard errors	
		Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
	Start	Give up	Always			Start	Give up	Always		
Productivity	0.0413^{a}	0.0208^{a}	0.0338^{a}	0.0528^{a}	0.0363^{a}	0.0413^{a}	0.0208^{a}	0.0338^{a}	0.0528^{a}	0.0363^{a}
	(0.003)	(0.002)	(0.002)	(0.005)	(0.002)	(0.008)	(0.005)	(0.005)	(0.00)	(0.000)
Size	0.0334^{a}	0.0175^{a}	0.0370^{a}	0.0505^a	0.0404^{a}	0.0334^{a}	0.0175^{a}	0.0370^{a}	0.0505^{a}	0.0404^{a}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.000)	(0.002)	(0.010)	(0.010)	(0.012)
Capital Intensity	0.0138^{a}	0.0037^{a}	0.0082^{a}	0.0144^{a}	-0.0047^{a}	0.0138^{a}	0.0037^{b}	0.0082^{a}	0.0144^{a}	-0.0047^{c}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.004)	(0.001)	(0.003)	(0.004)	(0.003)
Skill Intensity	-0.01111^a	-0.0015	-0.0073^{a}	-0.0019	0.0091^{a}	-0.01111^{b}	-0.0015	-0.0073^{b}	-0.0019	0.0091^{b}
	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.004)	(0.001)	(0.003)	(0.005)	(0.004)
Intangible Capital Int.	-0.0000a	-0.0002	-0.0003^{b}	-0.0009^{b}	0.0009^{a}	-0.00006^{b}	-0.0002	-0.0003	-0.0009	0.0009
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ White Collar	-0.0031	-0.0180	0.0130	-0.4374^{a}	-0.5762^{a}	-0.0031	-0.0180	0.0130	-0.4374^{a}	-0.5762
	(0.021)	(0.011)	(0.014)	(0.127)	(0.095)	(0.091)	(0.053)	(0.055)	(0.126)	(0.370)
Routine Cognitive	0.0001^{a}	-0.0001^a	0.0000	-0.0002^{c}	0.0000	0.0001	-0.0001	0.0000	-0.0002^{b}	0.0000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Routine Manual	-0.0027^{a}	-0.0008^{a}	-0.0016^{a}	-0.0033^{a}	-0.0027^{a}	-0.0027^{a}	-0.0008^{b}	-0.0016^{a}	-0.0033^a	-0.0027^{c}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Non-Routine Manual	0.0008^{a}	0.0006^{a}	0.0008^{a}	0.0015^{a}	0.0016^{a}	0.0008	0.0006^{a}	0.0008^{c}	0.0015^{a}	0.0016
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Interactive	-0.0035^a	-0.0008^{a}	-0.0027^{a}	-0.0048^{a}	-0.0089^{a}	-0.0035^a	-0.0008^{a}	-0.0027^{a}	-0.0048^{a}	-0.0089^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Analytical	0.0048^{a}	0.00005^{a}	0.0018^{a}	0.0015^{b}	0.0079^{a}	0.0048^{a}	0.0005	0.0018^{b}	0.0015^{a}	0.0079^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.002)
$_{ m IM}$	0.3198^{a}	0.1049^{a}	0.2084^{a}	0.3350^{a}		0.3198^{a}	0.1049^{b}	0.2084^{a}	0.3350^{a}	
	(0.023)	(0.013)	(0.018)	(0.039)		(0.080)	(0.040)	(0.053)	(0.080)	
Constant	-0.0439^{a}	-0.0222^a	-0.0329^a	-0.0313	0.1828^{a}	-0.0439	-0.0222	-0.0329	-0.0313	0.1828^{a}
	(0.012)	(0.007)	(0.009)	(0.020)	(0.008)	(0.039)	(0.019)	(0.024)	(0.042)	(0.025)
Observations	82278	82278	82278	25661	53754	82278	82278	82278	25661	53754
R-squared	0.0389	0.0294	0.0894	0.1023	0.1117	0.0389	0.0294	0.0894	0.1023	0.1117
	Robust st	Robust st.err. in parentheses a p<0.01, b p<0.05,	ntheses a p<	$0.01, ^{b} p < 0.$	05, c p<0.1	Ind. clust	Ind. clustered st.err. in par.	8	p<0.01, ^b p<0.05, ^c p<0.1	05, c p<0.1

Table 19: Imports of Services: Extensive Margin, Specification 1, only firms belonging to the Service Sector

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Robust	standard	d errors			Clustered		standard errors	s
Start Give up Always O.0213" (0.001) (0.001) (0.004) (0.003) (0.001) (0.004) (0.001) (0.004) (0.001) (0.004) (0.001) (0.007) (0.005) (0.001) (0.001) (0.0001) (0.0001) (0.0002) (0.001) (0.0002) (0.001) (0.0002) (0.0001) (0.0002) (0.0001) (0.0002) (0.0001) (0			Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
the criticity 0.0213^a 0.0130^a 0.0240^a 0.0477^a 0.0332^a 0.0213^b 0.0130^b 0.0201 0.0001 $0.0001 0.000$		Start	Give up	Always			Start	Give up	Always		
tal Intensity 0.0021 0.0011 0.0011 0.0041 0.0040 0.00383^a 0.0420^a 0.0383^a 0.0310^a 0.0031^a 0.00310^a 0.00310^a 0.00313^a 0.00310^a 0.00030 0.000310^a 0.00030 0.000310 0.00031	Productivity	0.0213^{a}	0.0130^a	0.0240^{a}	0.0477^{a}	0.0332^{a}	0.0213^{b}	0.0130^{b}	0.0240^{a}	0.0477^{a}	0.0332^{a}
tal Intensity 0.0310^a 0.0133^a 0.0420^a 0.0383^a 0.0420^a 0.0380^a 0.0310^a 0.0133^a (10001) 0.0001		(0.002)	(0.001)	(0.001)	(0.004)	(0.001)	(0.007)	(0.005)	(0.007)	(0.014)	(0.006)
tensity 0.0021 (0.001) (0.001) (0.001) (0.002) (0.003) (0.002) (0.002) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) (0.001) (0.002) $(0.000]$ (0.000) (0.001) (0.001) (0.002) (0.011) (0.002) (0.011) (0.002) (0.011) (0.002) (0.011) (0.002) (0.011) (0.002) (0.011) (0.002) (0.011) (0.002)	Size	0.0310^{a}	0.0133^{a}	0.0333^{a}	0.0420^{a}	0.0383^{a}	0.0310^{a}	0.0133^{a}	0.0333^{a}	0.0420^{a}	0.0383^{a}
tensity 0.0028^a -0.0002 0.0017^a 0.0130^a -0.0036^a 0.0028 -0.0002 city 0.0001 0.00		(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.004)	(0.002)	(0.000)	(0.007)	(0.007)
capital Int. 0.0001 0.000 0.000 0.0002 0.0001 0.0003 0.0002 0.0003 0.0002 0.0003 0.0002 0.0003 0.0002 0.0003 0.0002 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0002 0.0009^a 0.0002^a 0.0002 0.0000 0.00	Capital Intensity	0.0028^{a}	-0.0002	0.0017^{a}	0.0130^{a}	-0.0036^{a}	0.0028	-0.0002	0.0017	0.0130^{b}	-0.0036^{c}
capity -0.0038^a -0.0005 -0.0054^a -0.0044^c 0.0039^a -0.0038 -0.0005 -0.0001 0.001 0.001 0.001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0001 0.0002 0.00002 0.00002 0.00002 0.00002 $0.00001 0.0000 0.0000 0.0000 0.0000 0.00001 0.0000 0.0000 0.0000 0.00001 0.0000 0.0000 0.00001 0.0000 0.00001 0.0000 0.00001 0.000001 0.000001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.0000$		(0.001)	(0.000)	(0.000)	(0.002)	(0.001)	(0.003)	(0.002)	(0.003)	(0.000)	(0.002)
Capital Int. (0.001) (0.001) (0.001) (0.001) (0.002) (0.000) (0.0002) (0.0002) (0.0002) (0.0002) (0.0002) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0000) (0.0010) $(0.$	Skill Intensity	-0.0038^{a}	-0.0005	-0.0054^{a}	-0.0044^{c}	0.0039^{a}	-0.0038	-0.0005	-0.0054	-0.0044	0.0039
Capital Int. 0.0002 -0.0001 0.0004^a -0.0006^b 0.0009^a 0.0002 -0.0001 (0.000) 0.0000 0.000 0.0000		(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)	(0.003)	(0.008)	(0.003)
Collar (0.000) (0.000) (0.000) (0.000) (0.000) (0.000) (0.000) (0.000) (0.000) (0.000) (0.00136° 0.0053 0.0191 0.6257° 0.3248° 0.0436 0.0053 (0.014) (0.004) (0.012) (0.055) (0.016) (0.094) (0.037) (0.005) (0.005) (0.004) (0.015° 0.0172° 0.0747° (0.094) (0.037) (0.0116 (0.005) (0.004) (0.015) (0.007) (0.003) (0.0116 (0.007) (0.007) (0.003) (0.0116 (0.007) (0.008) (0.008) (0.032) (0.0174 (0.010) (0.006) (0.008) (0.032) (0.0123° 0.0202° (0.0174 (0.010) (0.006) (0.008) (0.0157° -0.1233° 0.0202° (0.017) (0.005) (0.005) (0.004) (0.016) (0.005) (0.00	Intangible Capital Int.		-0.0001	0.0004^{a}	-0.0000^{b}	0.0009^{a}	0.0002	-0.0001	0.0004^{a}	-0.0006	0.0009^{c}
Collar 0.0436° 0.0053 0.0191 0.6257° 0.3248° 0.0436 0.0053 (0.014) (0.009) (0.012) (0.055) (0.016) (0.094) (0.037) (0.017) (0.005) (0.016) (0.0199° -0.01116° 0.0066° 0.1072° (0.016) (0.009) -0.0116 (0.005) (0.004) (0.015) (0.007) (0.003) (0.010) (0.00744° 0.01744° 0.01744° 0.0063° (0.008) (0.032) (0.007) (0.0744 0.01744 (0.010) (0.006) (0.008) (0.032) (0.007) (0.0744 0.01744 (0.010) (0.006) (0.008) (0.032) (0.007) (0.078) (0.040) (0.006) (0.006) (0.008) (0.0157° -0.01233° (0.012) (0.017) (0.005) (0.005) (0.004) (0.016) (0.016) (0.005)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
ter (0.014) (0.009) (0.012) (0.055) (0.016) (0.094) (0.037) ter $(0.0199^a$ -0.0116^a 0.0066^c 0.1072^a (0.0747^a) $(0.0199$ -0.0116 (0.005) (0.003) (0.004) (0.015) (0.007) (0.033) (0.010) $(0.0174^a$ $(0.0174^a$ $(0.0623^a$ $(0.2995^a$ (0.007) (0.033) (0.010) $(0.0174^a$ (0.008) (0.032) (0.032) $(0.0744$ $(0.0174$ (0.010) $(0.0060^b$ -0.0157^a -0.1233^a $(0.0202^a$ -0.0102 (0.040) -0.0107^a (0.005) (0.005) (0.005) (0.005) (0.005) (0.004) (0.016)	Δ White Collar	0.0436^{a}	0.0053	0.0191	0.6257^{a}	0.3248^{a}	0.0436	0.0053	0.0191	0.6257^{b}	0.3248^{b}
ter 0.0199^a -0.0116^a 0.0066^c 0.1072^a 0.0747^a 0.0199 -0.0116 0.005 $0.003)$ $0.004)$ 0.005 0.004 0.015 $0.007)$ 0.033 0.010 0.01744^a 0.0623^a 0.2995^a 0.0207 0.0744 0.0174 0.0174 0.0157^a 0.0295^a 0.0202^a 0.0744 0.0174 0.0100 0.0060^b -0.0157^a -0.1233^a 0.0202^a -0.0102 0.0060 -0.0157^a 0.016 0.006 0.0		(0.014)	(0.000)	(0.012)	(0.055)	(0.016)	(0.094)	(0.037)	(0.071)	(0.221)	(0.108)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Δ Computer	0.0199^{a}	-0.0116^a	0.0066^{c}	0.1072^{a}	0.0747^{a}	0.0199	-0.0116	0.0066	0.1072^{b}	0.0747
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		(0.005)	(0.003)	(0.004)	(0.015)	(0.007)	(0.033)	(0.010)	(0.025)	(0.048)	(0.063)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	IM	0.0744^{a}	0.0174^{a}	0.0623^{a}	0.2995^{a}		0.0744	0.0174	0.0623	0.2995^{b}	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(0.010)	(0.006)	(0.008)	(0.032)		(0.078)	(0.040)	(0.064)	(0.130)	
ans	Constant	-0.0102^{b}	0.0060^{b}	-0.0157^{a}	-0.1233^{a}	0.0202^{a}	-0.0102	0.0000	-0.0157	-0.1233^{c}	0.0202
ons 82278 82278 25661 53754 82278 82278 0.0346 0.0830 0.0805 0.0848 0.0379 0.0246 0.0805 0.0805 0.0848 0.0379 0.0246 Robust st.err. in parentheses a p<0.01, b p<0.05, c p<0.1 Ind. clustered st.err. in		(0.005)	(0.003)	(0.004)	(0.016)	(0.002)	(0.035)	(0.017)	(0.029)	(0.065)	(0.017)
0.0379 0.0246 0.0830 0.0805 0.0848 0.0379 0.0246 0.0805 a p<0.01, b p<0.01 Ind. clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1 Ind. clustered st.err. in	Obcommetions	04660	02000	02000	95661	K97K4	02000	02000	04000	95661	K97E4
Robust st.err. in parentheses a p<0.01, b p<0.05, c p<0.1 Ind. clustered st.err.	Coset vacious R-squared	0.0379	0.0246	0.0830	0.0805	0.0848	0.0379	0.0246	0.0830	0.0805	0.0848
		Robust st	err. in parer	ntheses a p<	$0.01, ^b p < 0.$	05, c p<0.1	Ind. clust	ered st.err.	in par. ^a p	$<0.01, ^{b} p<0$	^a p<0.01, ^b p<0.05, ^c p<0.1

Table 20: Imports of Services: Extensive Margin, Specification 2, only firms belonging to the Service Sector

		Robust	standard	lerrors			Clustered	ed standa	standard errors	
		Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
	Start	Give up	Always			Start	Give up	Always		
Productivity	0.0349^{a}	0.0215^{a}	0.0347^{a}	0.0479^{a}	0.0322^{a}	0.0349^{a}	0.0208^{a}	0.0347^{a}	0.0479^{a}	0.0322^{a}
	(0.002)	(0.002)	(0.002)	(0.004)	(0.001)	(0.000)	(0.005)	(0.007)	(0.012)	(0.005)
Size	0.0352^{a}	0.0159^{a}	0.0366^{a}	0.0421^{a}	0.0381^{a}	0.0352^{a}	0.0175^{a}	0.0366^{a}	0.0421^{a}	0.0381^{a}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)	(0.005)	(0.006)	(0.007)
Capital Intensity	0.0095^{a}	0.0039^{a}	0.0069^{a}	0.0133^{a}	-0.0033^a	0.0095^{a}	0.0037^{b}	0.0069^{a}	0.0133^{a}	-0.0033^{c}
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.004)	(0.002)
Skill Intensity	-0.0094^{a}	-0.0041^{a}	-0.0098^{a}	-0.0046^{c}	0.0042^{a}	-0.0094^{a}	-0.0015	-0.0098^{a}	-0.0046	0.0042
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)	(0.007)	(0.003)
Intangible Capital Int.	-0.0001	-0.0003^{a}	0.0002	-0.0000^{b}	0.0011^{a}	-0.0001	-0.0002	0.0002	-0.0006	0.0011^{b}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ White Collar	-0.0344^{b}	-0.0320^{a}	-0.0363^{a}	-0.0255	0.1860^{b}	-0.0344	-0.0180	-0.0363	-0.0255	0.1860
	(0.017)	(0.011)	(0.014)	(0.108)	(0.078)	(0.089)	(0.053)	(0.059)	(0.127)	(0.250)
Routine Cognitive	-0.0001^{b}	-0.0002^a	-0.0001^{a}	-0.0003^a	-0.0001	-0.0001	-0.0001	-0.0001^{c}	-0.0003^a	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Routine Manual	-0.0017^{a}	-0.0008^{a}	-0.0013^{a}	-0.0021^{a}	-0.0002	-0.0017^{a}	-0.0008^{b}	-0.0013^a	-0.0021^a	-0.0002
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Non-Routine Manual	0.0007^{a}	0.00005^{a}	0.0008^{a}	0.0014^{a}	0.0012^{a}	0.0007^{a}	0.0006^{a}	0.00008^{a}	0.0014^{a}	0.0012
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Interactive	-0.0017^{a}	-0.0002	-0.0014^{a}	-0.0012^a	-0.0030^a	-0.0017^{a}	-0.0008^{a}	-0.0014^a	-0.0012^{c}	-0.0030^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Analytical	0.0015^{a}	-0.0004^{a}	0.0007^{a}	0.0009^{b}	0.0037^{a}	0.0015^{a}	0.0005	0.0007^{a}	0.0009^{c}	0.0037^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
IM	0.2274^{a}	0.1121^{a}	0.1838^{a}	0.3040^{a}		0.2274^{a}	0.1049^{b}	0.1838^{a}	0.3040^{a}	
	(0.021)	(0.012)	(0.017)	(0.035)		(0.057)	(0.040)	(0.047)	(0.099)	
Constant	-0.0449^{a}	-0.0365^{a}	-0.0473^{a}	-0.0874^{a}	0.0745^{a}	-0.0449	-0.0222	-0.0473^{b}	-0.0874	0.0745^{a}
	(0.011)	(0.006)	(0.000)	(0.018)	(0.006)	(0.027)	(0.019)	(0.019)	(0.051)	(0.016)
Observations	82278	82278	82278	25661	53754	82278	82278	82278	25661	53754
R-squared	0.0446	0.0273	0.0914	0.0842	0.0970	0.0446	0.0294	0.0914	0.0842	0.0970
	Robust st	Robust st.err. in parentheses a p<0.01, b p<0.05, c p<0.1	ntheses a p<	0.01 , b p<0.	05, c p<0.1	Ind. clust	ered st.err.	Ind. clustered st.err. in par. a p<0.01, b p<0.05, c p<0.1	0.01 , b p<0.0	05, c p<0.1

Table 21: Exports of Services: Extensive Margin, Interaction terms

		Robus	t standar	derrors		(Clustered	standard	errors	
		Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
	Start	Give up	Always	•		Start	Give up	Always	-	
Δ Computer	0.0520^{a}	0.0067^{b}	0.0085^{b}	0.0481^{a}	0.1877^{a}	0.0520	0.0067	0.0085	0.0481	0.1877
	(0.006)	(0.003)	(0.004)	(0.012)	(0.010)	(0.080)	(0.011)	(0.044)	(0.069)	(0.134)
Δ Computer · Productivity	0.0002	0.0061	0.0025	0.0056	0.0856^{a}	0.0002	0.0061	0.0025	0.0056	0.0856^{b}
•	(0.010)	(0.007)	(0.009)	(0.017)	(0.014)	(0.009)	(0.007)	(0.016)	(0.014)	(0.037)
Δ Computer · Size	0.0002	0.0061	0.0025	0.0056	0.0856^{a}	0.0084	0.0081	-0.0002	0.0257	0.0810
1	(0.010)	(0.007)	(0.009)	(0.017)	(0.014)	(0.035)	(0.011)	(0.062)	(0.066)	(0.061)
Δ Computer · K intensity	-0.0133^a	-0.0004	-0.0090^a	-0.0067	-0.0233^a	-0.0133^{b}	-0.0004	-0.0090	-0.0067	-0.0233^{c}
	(0.007)	(0.005)	(0.008)	(0.015)	(0.010)	(0.006)	(0.003)	(0.006)	(0.009)	(0.013)
Δ Computer · Skill intensity	0.0170^{c}	-0.0057	0.0149^{b}	0.0309^{b}	0.0227^{b}	0.0170	-0.0057	0.0149	0.0309	0.0227
2 Computer Skin intensity	(0.009)	(0.005)	(0.006)	(0.016)	(0.009)	(0.012)	(0.009)	(0.014)	(0.030)	(0.022)
	(0.003)	(0.000)	(0.000)	(0.010)	(0.003)	(0.012)	(0.003)	(0.010)	(0.000)	(0.020)
Δ Rout. Cognitive	-0.0002^a	0.0000^{c}	-0.0001^a	-0.0002^{b}	-0.0004^a	-0.0002	0.0000	-0.0001	-0.0002	-0.0004
Δ Rout. Cognitive										
A.D. (. C.); D. 1 ;	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Productivity	-0.0000	0.0000	-0.0001	-0.0002	-0.0001	-0.0000	0.0000	-0.0001	-0.0002^{b}	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Size	-0.0001	0.0001	-0.0003^a	-0.0004^a	-0.0002^a	-0.0001	0.0001	-0.0003	-0.0004^a	-0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · K int.	0.0001^{a}	0.0000^{c}	0.0001^a	0.0001^{b}	0.0001^{c}	0.0001^{b}	0.0000^{c}	0.0001^a	0.0001^{a}	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Skill int.	-0.0002^{b}	-0.0001^a	-0.0002^a	-0.0003^b	-0.0003^a	-0.0002^{b}	-0.0001^{b}	-0.0002^a	-0.0003^b	-0.0003^a
_	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual	-0.0016^a	-0.0005^a	-0.0011^a	-0.0023^a	-0.0016^a	-0.0016^{b}	-0.0005^{c}	-0.0011^{b}	-0.0023^a	-0.0016
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Rout. Manual · Productivity	0.0002	-0.0001^{c}	-0.0003^b	-0.0000	-0.0007^a	0.0002	-0.0001	-0.0003	-0.0000	-0.0007^{c}
A 160dt. Manata 110ddctivity	(0.0002	(0.0001	(0.000)	(0.000)	(0.000)	(0.0002	(0.0001	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · Size	0.0003^{b}	-0.0001	-0.0004^a	-0.0002	-0.0005^a	0.0003	-0.0001	-0.0004	-0.0002	-0.0005
Δ Rout. Manual · Size										
A Dont Mount Wint	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · K int.	0.0001^{b}	0.0000	0.0001^{b}	0.0001	0.0002^a	0.0001	0.0000	0.0001	0.0001	0.0002
4.5	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · Skill int.	-0.0001	-0.0001	-0.0000	-0.0002	-0.0000	-0.0001	-0.0001	-0.0000	-0.0002	-0.0000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual	0.0005^{a}	0.0004^{a}	0.0006^a	0.0012^{a}	0.0013^{a}	0.0005	0.0004^{c}	0.0006^{c}	0.0012^{a}	0.0013
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual · Productivity	-0.0006^{b}	0.0001	0.0001	0.0003	0.0007^{a}	-0.0006^{b}	0.0001	0.0001	0.0003	0.0007
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual · Size	-0.0007^a	0.0000	-0.0000	-0.0000	0.000	-0.0007^{c}	0.0000	-0.0000	-0.0000	0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual · K int.	-0.0003^a	-0.0001^a	-0.0001	-0.0001	-0.0005^a	-0.0003^a	-0.0001^{c}	-0.0001	-0.0001	-0.0005^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual · Skill int.	0.0003^{b}	0.0003^a	0.0001	0.0008^a	0.0003^{b}	0.0003^{c}	0.0003^{b}	0.0001^{c}	0.0008^{b}	0.0003^a
	(0.000)	(0.000)	(0.0001	(0.000)	(0.000)	(0.000)	(0.000)	(0.0001	(0.000)	(0.000)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Interactive	-0.0036^a	-0.0012^a	-0.0024^a	-0.0048^a	-0.0074^a	-0.0001	0.0000	-0.0001	-0.0002^{c}	-0.0004
_ Interactive	(0.000)	(0.00012			(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.002)
A Interactive Productivity			(0.000)	(0.001) - 0.0014^c	. ,		-0.0001	-0.0010^{b}		-0.0030^a
Δ Interactive · Productivity	0.0004	-0.0001	-0.0010^a		-0.0030^a	0.0004			-0.0014^{b}	
A.T., C.	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Interactive · Size	-0.0011^a	-0.0008^a	-0.0036^a	-0.0046^a	-0.0032^a	-0.0011 ^b	-0.0008^a	-0.0036^a	-0.0046^a	-0.0032^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Interactive · K int.	0.0003^{c}	-0.0002^{c}	-0.0001	-0.0000	-0.0002	0.0003	-0.0002	-0.0001	-0.0000	-0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Interactive · Skill int.	-0.0007^{b}	-0.0000	0.0001	-0.0008	-0.0002	-0.0007^a	-0.0000	0.0001	-0.0008^{c}	-0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Analytical	0.0034^{a}	0.0008^{a}	0.0013^{a}	0.0017^{a}	0.0077^{a}	0.0034^{a}	0.0008^{b}	0.0013^{a}	0.0017^{b}	0.0077^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.002)
Δ Analytical · Productivity	-0.0005	-0.0000	-0.0000	0.0000	0.0032^{a}	-0.0005^{c}	-0.0000	-0.0000	0.0000	0.0032^{a}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Δ Analytical · Size	0.0008^a	0.0005^b	0.0018^a	0.0031^a	0.0036^a	0.0008	0.0005^c	0.0018^{b}	0.0031^a	0.0036^a
_ Indiy ocur one	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Analytical · K int.	-0.0003^a	0.0001	0.0002^{b}	0.0005^{b}	-0.0003^c	-0.0003^b	0.0001	0.001	0.0005^a	-0.0003
Δ Anarytical · K IIII.										
A Application Chilling	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Analytical · Skill int.	-0.0008^a	-0.0000	0.0004^{b}	0.0012^{b}	0.0005^{c}	0.0008^a	-0.0000	0.0004^a	0.0012^a	0.0005^{b}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	Robus	st st.err. in p	oar. ^a p<0.0	1, " p<0.05,	° p<0.1	Sector clust.	st.err. in pa	ar. " p<0.01	, ° p<0.05, °	p<0.1

Table 22: Imports of Services: Extensive Margin, Interaction terms

		Robust	standar	derrors		(Clustered	standard	lerrors	
		Stayers		Exiters	Entrants		Stayers		Exiters	Entrants
	Start	Give up	Always			Start	Give up	Always	-	
Δ Computer	0.0338^{a}	0.0010	0.0293^{a}	0.0758^{a}	0.0954^{a}	0.0338	0.0010	0.0293	0.0758^{b}	0.0954^{c}
•	(0.005)	(0.003)	(0.004)	(0.011)	(0.008	(0.025)	(0.007)	(0.018)	(0.030)	(0.054)
Δ Computer · Productivity	-0.0052	0.0084	0.0003	0.0096	0.0444^{a}	-0.0052	0.0084	0.0003	0.0096	0.0444^{c}
ry	(0.009)	(0.007)	(0.009)	(0.017)	(0.011)	(0.012)	(0.009)	(0.018)	(0.033)	(0.023)
Δ Computer · Size	0.0029	-0.0039	0.0500^{a}	0.0714^{a}	0.0628^{a}	0.0029	-0.0039	0.0500	0.0714^{a}	0.0628^{c}
= computer one	(0.006)	(0.005)	(0.008)	(0.015)	(0.009)	(0.017)	(0.006)	(0.033)	(0.025)	(0.032)
Δ Computer · K intensity	-0.0040	-0.0018	0.0038	0.0030	-0.0042	-0.0040	-0.0018	0.0038	0.0030	-0.0042
in compater in meensity	(0.003)	(0.002)	(0.003)	(0.006)	(0.005)	(0.006)	(0.003)	(0.007)	(0.007)	(0.011)
Δ Computer · Skill intensity	0.0133^{c}	-0.0086^{c}	0.0103^{c}	0.0127	0.0110^{c}	0.0133	-0.0086	0.0103	0.0127	0.0110
△ Computer · Skin intensity						(0.008)				
	(0.007)	(0.005)	(0.006)	(0.016)	(0.006)	(0.008)	(0.006)	(0.013)	(0.050)	(0.013)
Δ Rout. Cognitive	0.0001^a	0.0001^a	0.0002^{a}	0.0003^a	0.0001^a	0.00016	0.0000	0.0002	0.0003	0.0001
Δ Rout. Cognitive						0.0001^{c}	0.0000			0.0001
A.D. J. C. W. D. L. W.	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Productivity	-0.0000	0.0000	0.0003^a	0.0002	0.0000	-0.0000	0.0000	0.0003^{b}	0.0002	0.0000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Size	-0.0001	-0.0000	0.0002^{a}	0.0000	0.0001	-0.0001	0.0001	0.0002	0.0000	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · K int.	0.0001^{a}	0.0001^a	0.0001^{a}	0.0001^{b}	0.0001^a	0.0001^{b}	0.0000^{c}	0.0001^{b}	0.0001^{b}	0.0001^{b}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Cognitive · Skill int.	-0.0001^{c}	-0.0001^{b}	-0.0004^a	-0.0004^a	-0.0002^a	-0.0001^{c}	-0.0001^{b}	-0.0004^a	-0.0004^{b}	-0.0002^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(01000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual	-0.0011^a	-0.0005^a	-0.0007^a	-0.0010^a	-0.0003^{c}	-0.0011^a	-0.0005^{c}	-0.0007	-0.0010	-0.0003
_ 100dV. Intelligen	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Rout. Manual · Productivity	0.0001	-0.0003^a	-0.0005^a	-0.0003	-0.0008^a	0.0001	-0.0001	-0.0005^c	-0.0003	-0.0008^b
Δ Rout. Manual · I roductivity										
A Dt M1 C:	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · Size	0.0001	-0.0002^{b}	-0.0006^a	-0.0005^a	-0.0005^a	0.0001	-0.0001	-0.0006^{c}	-0.0005	-0.0005^b
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · K int.	-0.0000	0.0000	0.0000	0.0001	0.0002^{a}	-0.0000	0.0000	0.0000	0.0001	0.0002
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Rout. Manual · Skill int.	-0.0001	0.0001	0.0002^{a}	-0.0001	-0.0001	-0.0001	-0.0001	0.0002	-0.0001	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual	0.0006^{a}	0.0004^{a}	0.0006^{a}	0.0012^{a}	0.0011^{a}	0.0006^a	0.0004^{c}	0.0006	0.0012^{c}	0.0011
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Non Rout. Manual · Productivity	-0.0004^{c}	0.0005^a	0.0007^a	0.0005	0.0008^a	-0.0004	0.0001	0.0007^{c}	0.0005	0.0008
V	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Non Rout. Manual \cdot Size	-0.0001	0.0002^{b}	0.0006^a	0.0007^{b}	0.0006^a	-0.0001	0.0000	0.0006	0.0007	0.0006
= 11011 100 doi: 111dildai Dillo	(0.0001	(0.000)	(0.000)	(0.000)	(0.000)	(0.0001	(0.000)	(0.001)	(0.001)	(0.001)
Δ Non Rout. Manual \cdot K int.	-0.0000	-0.0001	-0.0001^a	-0.0001	-0.0004^a	-0.0000	-0.0001^c	-0.0001	-0.0001	-0.0004^{c}
Δ Non Rout. Manual · R Int.										
A N Dt M1 Cl-ill it	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Non Rout. Manual · Skill int.	0.0004^{b}	-0.0000	-0.0001	0.0005	0.0003^a	0.0004^{c}	0.0003^{b}	-0.0001	0.0005	0.0003^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
			0.00400		0.00440	0.00000	0.004.00	0.00400	0.0000h	0.00440
Δ Interactive	-0.0023^a	-0.0007^a	-0.0019^a	-0.0022^a	-0.0041^a	-0.0023^a	-0.0012^a	-0.0019^a	-0.0022^{b}	-0.0041^a
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Interactive · Productivity	0.0002	0.0007^{a}	-0.0006^{b}	-0.0003	-0.0014^a	0.0002	-0.0001	-0.0006	-0.0003	-0.0014^{c}
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Interactive · Size	-0.0013^a	-0.0004^{b}	-0.0029^a	-0.0028^a	-0.0031^a	-0.0013^a	-0.0008^a	-0.0029^a	-0.0028^a	-0.0031^a
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Interactive · K int.	0.0001	-0.0002^{b}	-0.0003^a	-0.0003	-0.0006^a	0.0001	-0.0002	-0.0003^{c}	-0.0003	-0.0006^{b}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Interactive · Skill int.	0.0002	-0.0005^{b}	0.0003	-0.0004	-0.0000	0.0002	-0.0000	0.0003	-0.0004	-0.0000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Δ Analytical	0.0020^{a}	0.0004^{a}	0.0017^{a}	0.0024^{a}	0.0044^{a}	0.0020^{a}	0.0008^{b}	0.0017^{a}	0.0024^{b}	0.0044^{a}
_ may oran										
A Application Designation	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Analytical · Productivity	-0.0007^{b}	-0.0001	-0.0003	0.0000	0.0015^a	-0.0007^{c}	-0.0000	-0.0003	0.0000	0.0015^{b}
A A 1 1	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ Analytical · Size	0.0006^a	0.0001	0.0025^{a}	0.0029^a	0.0027^{a}	0.0006^{b}	0.0005^{c}	0.0025^{a}	0.0029^{a}	0.0027^{a}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Analytical · K int.	0.0001	0.0001	0.0005^{a}	0.0005^{a}	0.0003^{b}	0.0001	0.0001	0.0005^{a}	0.0005^{a}	0.0003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ Analytical · Skill int.	0.0004^{c}	-0.0001	0.0002	0.0006	-0.0001	0.0004^{b}	-0.0000	0.0002	0.0006	-0.0001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
		st st.err. in p					st.err. in pa			
	10000	50 50.C11. III [р<0.0	ı, p√0.00,	P~0.1	Decidi Ciust.	otterr in be	h∠0.01	, P~0.00,	P~0.1

Table 23: Exports of Services: Extensive Margin, Specification 1, using also 1995 level of technological change

		¥	Kobust standard errors	idard err	Ors			CIE	stered sta	Clustered standard errors	ors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0241^{a}	0.0144^{a}	0.0223^{a}	0.0341^{a}	0.0365^{a}	0.2050^{a}	0.0241^{a}	0.0144^{a}	0.0223^{a}	0.0341^{a}	0.0365^{a}
	(0.008)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.021)	(0.005)	(0.004)	(0.003)	(0.008)	(0.008)
Size	0.0538^{a}	0.0269^{a}	0.0182^{a}	0.0325^{a}	0.0436^{a}	0.0393^{a}	0.0538^{a}	0.0269^{a}	0.0182^{a}	0.0325^{a}	0.0436^{a}	0.0393^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.006)	(0.002)	(0.007)	(0.008)	(0.010)
Capital Intensity	0.0988^{a}	0.0056^{a}	0.0000	0.0028^{a}	0.0061^{a}	-0.0046^{a}	0.0988^{a}	0.0056^{b}	0.0000	0.0028^{a}	0.0061^{c}	-0.0046^{c}
	(0.003)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)
Skill Intensity	-0.1009^a	-0.0045^{a}	0.0005	-0.0030^{a}	0.0053^{a}	0.0081^{a}	-0.1009^{a}	-0.0045^{c}	0.0005	-0.0030^{c}	0.0053	0.0081^{b}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.002)	(0.002)	(0.002)	(0.004)	(0.003)
Intangible Capital Intensity	-0.0035^a	-0.0002	0.0003^{b}	0.0001	-0.0002	0.0005^{b}	-0.0035	-0.0002	0.0003	0.0001	-0.0002	0.0005
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Δ White Collar		0.0577^{a}	0.0231^{a}	0.0722^{a}	0.2430^{a}	0.1789^{a}		0.0577	0.0231	0.0722	0.2430	0.1789
		(0.015)	(0.000)	(0.011)	(0.037)	(0.024)		(0.096)	(0.042)	(0.060)	(0.151)	(0.205)
Δ Computer		0.0807^{a}	0.0229^{a}	0.0374^{a}	0.0760^{a}	0.0792^{a}		0.0807	0.0229^{c}	0.0374	0.0760	0.0792
		(0.007)	(0.004)	(0.005)	(0.012)	(0.009)		(0.074)	(0.013)	(0.039)	(0.054)	(0.133)
Computer 1995		0.0586^{a}	0.0296^{a}	0.0574^{a}	0.0864^{a}	0.1324^{a}		0.0586^{c}	0.0296^{b}	0.0574^{a}	0.0864^{a}	0.1324^{c}
		(0.004)	(0.002)	(0.003)	(0.008)	(0.006)		(0.034)	(0.013)	(0.015)	(0.027)	(0.078)
IM		0.1286^{a}	0.0288^{a}	0.0825^{a}	0.1516^{a}			0.1286^{c}	0.0288	0.0825^{a}	0.1516^{b}	
		(0.011)	(0.007)	(0.008)	(0.020)			(0.063)	(0.034)	(0.025)	(0.074)	
Constant	0.7549^{a}	-0.0560^{a}	-0.0132^{a}	-0.0472^{a}	-0.0703^{a}	-0.0380^{a}	0.7549^{a}	-0.0560	-0.0132	-0.0472^{b}	-0.0703	-0.0380
	(0.027)	(0.007)	(0.004)	(0.004)	(0.011)	(0.004)	(0.001)	(0.046)	(0.014)	(0.022)	(0.042)	(0.036)
Sector Dummies	Yes						Yes					
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
R^2		0.0238	0.0321	0.0781	0.0866	0.0831		0.0238	0.0321	0.0781	0.0866	0.0831
	- T	hondond om	deconoce or pre-	0/ 00000	Dobrict standard among in remortheses a m/1 1 b m/1 OK	0 2 70 1	Conton	Conton alunch at ann :	condition on air	1007 - 0 -	0 - 0 0 - 9	10/-

Table 24: Exports of Services: Extensive Margin, Specification 2, using also 1995 level of technological change

			TODGE SEGMAN CITORS		2.1			Cras	steren sta	Clustered standard errors	ors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}		•				0.0814^{a}		•	>		
)	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0401^{a}	0.0227^{a}	0.0362^{a}	0.0519^{a}	0.0357^{a}	0.2050^{a}	0.0401^{a}	0.0227^{a}	0.0362^{a}	0.0519^{a}	0.0357^{a}
	(0.008)	(0.002)	(0.002)	(0.002)	(0.004)	(0.002)	(0.021)	(0.004)	(0.003)	(0.003)	(0.007)	(0.008)
Size	0.0538^{a}	0.0317^{a}	0.0206^{a}	0.0367^{a}	0.0486^{a}	0.0394^{a}	0.0538^{a}	0.0317^{a}	0.0206^{a}	0.0367^{a}	0.0486^{a}	0.0394^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.006)	(0.002)	(0.007)	(0.008)	(0.010)
Capital Intensity	0.0988^{a}	0.0134^{a}	0.0045^{a}	0.0095^{a}	0.0143^{a}	-0.0045^{a}	0.0988^{a}	0.0134^{a}	0.0045^{a}	0.0095^{a}	0.0143^{a}	-0.0045^{c}
	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)	$(0.001)_{}$	(0.002)	(0.003)	(0.002)
Skill Intensity	-0.1009^{a}	-0.0109^{a}	-0.0031^{a}	-0.0087^{a}	-0.0028	0.0084^{a}	-0.1009^{a}	-0.0109^{a}	-0.0031^{b}	-0.0087^{a}	-0.0028	0.0084^{b}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.003)	(0.001)	(0.002)	(0.004)	(0.003)
Intangible Capital Intensity	-0.0035^a	-0.0005^{a}	0.0001	-0.0002	-0.0007	0.0010^{a}	-0.0035	-0.0005^{a}	0.0001	-0.0002	-0.0007	0.0010
Δ White Collar	(0.001)	(0.000) 0.0010	(0.000) -0.0419 a	(0.000) 0.0262^c	(0.000) -0.3245 ^a	(0.000) 0.1051	(0.002)	(0.000) 0.0010	(0.000) -0.0419	(0.000) 0.0262	(0.001) -0.3245 ^b	(0.001) 0.1051
		(0.019)	(0.011)	(0.014)	(0.102)	(0.088)		(0.059)	(0.044)	(0.039)	(0.140)	(0.229)
Δ Routine Cognitive		0.0022^{a}	0.0019^{a}	0.0021^{a}	0.0033^{a}	0.0017^{a}		0.0022^{a}	0.0019^a	0.0021^{a}	0.0033^{a}	0.0017^{b}
		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
△ Routine Manual		-0.0012^{a}	-0.0001	-0.0013^{a}	-0.0016^{a}	0.0044^{a}		-0.0012^{a}	-0.0001	-0.0013^a	-0.0016^{a}	0.0044^{a}
.,		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.002)
Δ Non-Koutme Manual		-0.0004	-0.0013"	0.0000	-0.0018 ^a	0.0004		-0.0004	-0.0013*	0.0000	-0.0018°	0.0004
A Interneties		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
✓ Illueractive		OT00.0-	0.0010	-0.0001	-0.0004	-0.0020		OT00.0-	0.0010	-0.0001	-0.0004	-0.0020
A Angletical		(0.000) 0.0006b	(0.000)	(0.000)	0.001)	(0.001)		0.001)	0.001)	(0.001)	(0.001) 0.00184	(0.001)
A many mean		0.0000)	00000	70000	0.0010	0.0011		00000	00000	70000	0.0010	0.0011
Routine Cognitive 1995		0.0000	0.000)	0.0000	0.0030	-0 0006		0.000)	0.000)	0.0000	0.001	-0 0006
		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.000)	(0.001)	(0.001)	(0.001)	(0.002)
Routine Manual 1995		-0.0024^{a}	0.0001	-0.0012^{a}	-0.0014^{a}	-0.0037^{a}		-0.0024^{a}	0.0001	-0.0012^{a}	-0.0014^{a}	-0.0037^{a}
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Non-Routine Manual 1995		-0.0003^{a}	-0.0006^{a}	0.0001	-0.0009^{a}	-0.0011^a		-0.0003^{b}	-0.0000^{a}	0.0001	-0.0000^{b}	-0.0011^{c}
		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Interactive 1995		-0.0023^{a}	0.0024^{a}	0.0007^{b}	0.0028^{a}	-0.0060^{a}		-0.0023^{a}	0.0024^a	0.0007	0.0028^{b}	-0.0060^{a}
		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Analytical 1995		0.0047	0.0014	0.0026	0.0038	0.0046		0.0047	0.0014"	0.0026	0.0038	0.0046
741		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
LIVI		0.0007	0.1139	0.2304	0.02600			0.0001	0.098)	0.2504	0.3200	
Constant	0.7549^{a}	-0.0516^{b}	-0.1468^a	-0.1558^a	-0.1811^a	0.3499^{a}	0.7549^{a}	0.0017	0.0104	-0.0114	0.0136	0.1518^{a}
	(0.027)	(0.025)	(0.020)	(0.020)	(0.046)	(0,033)	(0.001)	(0.031)	(0.017)	(0.021)	(0.029)	(0.031)
Sector Dummies	Yes				,		Yes					
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
R^2		0.0417	0.0367	0.0931	0.0981	0.1112		0.0417	0.0367	0.0931	0.0981	0.1112

Table 25: Imports of Services: Extensive Margin, Specification 1, using also 1995 level of technological change

		R	Robust standard errors	dard erre	ors			Clus	Clustered sta	standard errors	rors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0219^{a}	0.0142^{a}	0.0278^{a}	0.0358^{a}	0.0337^{a}	0.2050^{a}	0.0219^{a}	0.0142^{a}	0.0278^{a}	0.0358^{a}	0.0337^{a}
	(0.008)	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.021)	(0.005)	(0.004)	(0.005)	(0.008)	(0.005)
Size	0.0538^{a}	0.0312^{a}	0.0157^{a}	0.0434^{a}	0.0449^{a}	0.0416^{a}	0.0538^{a}	0.0312^{a}	0.0157^{a}	0.0434^{a}	0.0449^{a}	0.0416^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.003)	(0.002)	(0.000)	(0.005)	(0.007)
Capital Intensity	0.0988^{a}	0.0035^{a}	0.0000	0.0033^{a}	0.0080^{a}	-0.0023^a	0.0988^{a}	0.0035	0.0006	0.0033	0.0080^{a}	-0.0023
	(0.003)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)	(0.002)	(0.003)	(0.002)
Skill Intensity	-0.1009^{a}	-0.0041^{a}	-0.0013^{c}	-0.0086^{a}	-0.0015	0.0039^{a}	-0.1009^{a}	-0.0041	-0.0013	-0.0086^{a}	-0.0015	0.0039
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.003)	(0.001)	(0.003)	(0.005)	(0.002)
Intangible Capital Int.	-0.0035^{a}	0.0002	0.0001	0.0011^{a}	0.0004	0.0011^{a}	-0.0035	0.0002	0.0001	0.0011^{b}	0.0004	0.0011^{b}
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Δ White Collar		0.0623^{a}	0.0220^{a}	0.0728^{a}	0.3422^{a}	0.2431^{a}		0.0623	0.0220	0.0728	0.3422^{b}	0.2431^{c}
		(0.014)	(0.008)	(0.012)	(0.038)	(0.021)		(0.072)	(0.033)	(0.063)	(0.125)	(0.128)
Δ Computer		0.0534^{a}	0.0125^{a}	0.0559^{a}	0.0881^{a}	0.0432^{a}		0.0534^{b}	0.0125	0.0559^{c}	0.0881^{a}	0.0432
		(0.006)	(0.003)	(0.004)	(0.011)	(0.007)		(0.023)	(0.014)	(0.031)	(0.031)	(0.078)
Computer 1995		0.0396^{a}	0.0217^{a}	0.0450^{a}	0.0434^{a}	0.0575^{a}		0.0396^{b}	0.0217^{c}	0.0450^{a}	0.0434^{b}	0.0575
		(0.004)	(0.002)	(0.003)	(0.000)	(0.004)		(0.015)	(0.011)	(0.016)	(0.020)	(0.051)
$_{ m IM}$		0.0798^{a}	0.0279^{a}	0.0768^{a}	0.1650^{a}			0.0798	0.0279	0.0768	0.1650^{b}	
		(0.010)	(0.000)	(0.008)	(0.021)			(0.055)	(0.031)	(0.046)	(0.068)	
Constant	0.7549^{a}	-0.0313^a	-0.0099^{a}	-0.0455^a	-0.0722^{a}	-0.0022	0.7549^{a}	-0.0313	-0.0099	-0.0455^{c}	-0.0722^{c}	-0.0022
	(0.027)	(0.006)	(0.003)	(0.004)	(0.011)	(0.003)	(0.001)	(0.024)	(0.014)	(0.025)	(0.036)	(0.015)
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
\mathbb{R}^2	٠	0.0394	0.0281	0.1118	0.0918	0.0967		0.0394	0.0281	0.1118	0.0918	0.0967
	Robust s	Robust standard errors in parentheses a p<0.01, b p<0.05,	ors in parent	heses a p<0.	$^{01, b}$ p<0.05	i, c p<0.1	Sector clust	Sector clustered st.err.		in parentheses ^a p<0.01,	, ^b p<0.05, ¹	p<0.1

Table 26: Imports of Services: Extensive Margin, Specification 2, using also 1995 level of technological change

		Ro	Robust standard errors	dard erre	rs.			Clus	Clustered standard errors	ndard eri	ors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}		1	>		
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0355^{a}	0.0222^{a}	0.0460^{a}	0.0547^{a}	0.0342^{a}	0.2050^{a}	0.0355^{a}	0.0227^{a}	0.0460^{a}	0.0547^{a}	0.0342^{a}
	(0.008)	(0.002)	(0.002)	(0.002)	(0.004)	(0.001)	(0.021)	(0.005)	(0.003)	(0.007)	(0.010)	(0.005)
Size	0.0538^{a}	0.0351^{a}	0.0180^{a}	0.0485^{a}	0.0505^{a}	0.0422^{a}	0.0538^{a}	0.0351^{a}	0.0206^{a}	0.0485^{a}	0.0505^{a}	0.0422^{a}
:	(0.004)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.012)	(0.002)	(0.002)	(0.006	(0.006)	(0.007)
Capital Intensity	0.0988	0.0100	0.0044	0.0118	0.0164	-0.0023**	0.0988	0.0100	0.0045	0.0118	0.0164	-0.0023
Skill Intensity	(0.003) -0.1009 ^a	(0.001) -0.0099 ^a	(0.001) -0.0048 ^a	(0.001) -0.0164 ^a	(0.002) -0.0101 ^a	(0.001) 0.0038^{a}	(0.003) - 0.1009^{a}	(0.002) -0.0099 a	(0.001) -0.0031^b	(0.003) -0.0164 ^a	(0.003) -0.0101 ^c	(0.002) 0.0038
Intensible Cenited Intensity	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.008)	(0.002)	(0.001)	(0.004)	(0.005)	(0.003)
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
△ White Collar		-0.0342^{c}	-0.0396^{a}	-0.0415^{a}	-0.2476^{o}	0.0104		-0.0342	-0.0419	-0.0415	-0.2476	0.0104
A Boutine Cognitive		(0.018)	(0.011)	(0.016)	(0.116)	(0.098)		(0.070)	(0.044)	(0.053)	(0.160)	(0.342)
1		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Δ Routine Manual		-0.0004^{b}	-0.0002^{b}	-0.0002	-0.0004	0.0012^{b}		-0.0004	-0.0001	-0.0002	-0.0004	0.0012
A Non-Routine Manual		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)		(0.000)	(0.000)	(0.000)	(0.001)	(0.002)
		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.000)	(0.000)	(0.001)	(0.001)	(0.002)
Δ Interactive		0.0014^{a}	0.0020^{a}	0.0045^{a}	0.0045^{a}	-0.0026^a		0.0014	0.0018^{b}	0.0045^{c}	0.0045^{c}	-0.0026
		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)	(0.001)	(0.002)	(0.003)	(0.002)
Δ Analytical		0.0010^{a}	0.0005^{a}	0.0008^{a}	0.0016^{a}	0.0028^{a}		0.0010^{c}	0.0008^{a}	8000.0	0.0016	0.0028
		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)		(0.001)	(0.000)	(0.001)	(0.001)	(0.003)
Koutine Cognitive 1995		0.0025	0.0017	0.0044	0.0044*	0.0008		0.0025	0.0021	0.0044**	0.0044	0.0008
Routine Manual 1995		(0.000)	0.0004^{a}	0.0005^a	-0.0000	(0.001) -0.0001		(0.001)	(0.001) 0.0001	(0.002) 0.0005^{c}	(0.002) -0.0000	(0.003) -0.0001
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Non-Routine Manual 1995		-0.0008^{a}	-0.0004^{a}	-0.0009^{a}	-0.0015^a	-0.0013^a		-0.00008^{a}	-0.0006^{a}	-0.0009^{a}	-0.0015^a	-0.0013^{c}
		(0.000)	(0.000)	(0.000)	(0.001)	(0.000)		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Interactive 1995		0.0019^{a}	0.0024^{a}	0.0050^{a}	0.0055^a	0.0002		0.0019^{c}	0.0024^{a}	0.0050°	0.0055^{a}	0.0002
100 L		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
Analytical 1999		(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
IM		0.2298^{a}	0.1161^a	0.2757^{a}	0.3484^{a}			0.2298^{a}	0.1199^{a}	0.2757^{a}	0.3484^{a}	
		(0.018)	(0.013)	(0.017)	(0.034)			(0.045)	(0.028)	(0.066)	(0.083)	
Constant	0.7549^{a}	-0.1733^{a}	-0.1480^{a}	-0.3686^{a}	-0.3605^{a}	0.0845^{a}	0.7549^{a}	-0.1733^a	-0.1468^{a}	-0.3686^{a}	-0.3605^{b}	0.0845
	(0.027)	(0.026)	(0.020)	(0.026)	(0.053)	(0.032)	(0.001)	(0.058)	(0.044)	(0.130)	(0.136)	(0.165)
Sector Dummies	Yes						Yes					
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
R^{z}		0.0463	0.0325	0.1272	0.1008	0.1080		0.0463	0.0367	0.1272	0.1008	0.1080
	Robust s	tandard erro	Robust standard errors in parentheses a p<0.01, b p<0.05, c p<0.1	neses a p<0.	01, b p<0.05	i, c p<0.1	Sector clu	Sector clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1	in parenthe	ses a p<0.01	, b<0.05,	p<0.1

Table 27: Exports of Services: Extensive Margin, Specification 1, only non EU trade

		Ro	Robust standard errors	dard erre	ırs			Clus	tered sta	Clustered standard errors	rors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0067^{a}	0.0069^{a}	0.0089^{a}	0.0130^{a}	0.0132^{a}	0.2050^{a}	0.0067^{b}	0.0069^{a}	0.0089^{a}	0.0130^{a}	0.0132^{a}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.021)	(0.003)	(0.002)	(0.002)	(0.004)	(0.003)
Size	0.0538^{a}	0.0094^{a}	0.0103^{a}	0.0114^{a}	0.0151^{a}	0.0141^{a}	0.0538^{a}	0.0094^{a}	0.0103^{a}	0.0114^{a}	0.0151^{a}	0.0141^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.012)	(0.003)	(0.002)	(0.002)	(0.004)	(0.004)
Capital Intensity	0.0988^{a}	0.0011^{a}	0.0000^{b}	0.0009^{a}	0.0032^{a}	-0.0016^{a}	0.0988^{a}	0.0011	0.0000	0.0009	0.0032^{b}	-0.0016^{b}
	(0.003)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Skill Intensity	-0.1009^{a}	-0.0008	0.0005	-0.0021^{a}	0.0024^{b}	0.0023^{a}	-0.1009^a	-0.0008	0.0005	-0.0021^{c}	0.0024	0.0023^{c}
	\subseteq	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.008)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
Intangible Capital Intensity	-0.0035^a	0.0002^{c}	0.0002^{c}	0.0002^{c}	-0.0000	0.0003^{b}	-0.0035	0.0002	0.0002	0.0002	-0.0000	0.0003^{b}
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Δ White Collar		0.0191^{b}	0.0072	0.0236^{a}	0.1268^{a}	0.1315^{a}		0.0191	0.0072	0.0236	0.1268^{c}	0.1315^{b}
		(0.00)	(0.000)	(0.007)	(0.021)	(0.011)		(0.032)	(0.021)	(0.022)	(0.066)	(0.051)
Δ Computer		0.0171^{a}	0.0101^{a}	0.0099^{a}	0.0297^{a}	0.0447^{a}		0.0171	0.0101	0.0099	0.0297	0.0447
		(0.003)	(0.003)	(0.002)	(0.007)	(0.005)		(0.024)	(0.010)	(0.012)	(0.028)	(0.033)
IM		0.0326^{a}	0.0186^{a}	0.0284^{a}	0.0700^{a}			0.0326	0.0186	0.0284	0.0700^{c}	
		(0.000)	(0.005)	(0.005)	(0.013)			(0.028)	(0.022)	(0.018)	(0.035)	
Constant	0.7549^{a}	-0.0092^{a}	-0.0051^{b}	-0.0109^{a}	-0.0260^{a}	0.0033^{b}	0.7549^{a}	-0.0092	-0.0051	-0.0109	-0.0260	0.0033
	(0.027)	(0.003)	(0.002)	(0.002)	(0.000)	(0.001)	(0.001)	(0.015)	(0.010)	(0.010)	(0.020)	(0.009)
Sector Dummies	Yes						Yes					
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
R^2		0.0108	0.0219	0.0319	0.0336	0.0327		0.0108	0.0219	0.0319	0.0336	0.0327
	Robust s	tandard erre	standard errors in parentheses a p<0.01, b p<0.05,	heses a p<0.	01, b p<0.0?	5, c p<0.1	Sector clus	Sector clustered st.err.		in parentheses a p<0.01,	$1, {}^{b} p < 0.05,$	c p<0.1

Entrants 0.0140^{a} 0.0024^{c} 0.0004^{a} 0.00005^{b} 0.0014^{b} 0.0545-0.0001-0.0001 -0.0019^{a} (0.004)(0.087)(0.000)(0.000)(0.000)(0.000)(0.000)(0.008)(0.001)(0.000) 0.0022^{a} 0.0372^{a} 0.0425 (0.003)(0.001)Exiters 0.0002^a -0.0006^{a} 0.0017^{a} 0.0004^{b} 0.0058 29563 0.0398 -0.0704(0.000) 0.0009^{a} 0.0157^{a} 0.0044^{a} 0.0015 -0.0001(0.000)(0.055)(0.000)(0.000)(0.000)(0.000) 0.0933^{a} (0.003)(0.004)(0.001)(0.002)(0.026)(0.012)Clustered standard errors Table 28: Exports of Services: Extensive Margin, Specification 2, only non EU trade 0.0001^{c} 0.0109^{a} 0.0120^{a} 0.0029^{b} 0.0003^{a} 0.0002^{b} 0.0007^{a} 0.0005^{a} Give up Always 0.0019^{b} 9600.0 0.0136(0.000) 0.0515^{b} (0.000)(0.000)(0.000)(0.002)(0.002)(0.001)(0.001)0.0001(0.000)(0.020)(0.000)(0.019)(0.008)95512 0.0355 0.0108^{a} -0.0001^{a} -0.00003^{b} 0.0002^{b} -0.0007^{a} 0.0085^{a} -0.0002-0.0004 0.0006^{a} 0.0014^{c} (0.000) 0.0375^{b} -0.0009(0.002)(0.001)(0.001)(0.001)0.0001(0.000)(0.022)(0.000)(0.000)(0.000)(0.000)(0.017)(0.008)95512 0.0246 0.0092^{a} 0.0102^{a} 0.0078 0.0004^{c} 0.0003^{c} 0.0013^{a} 0.0023 -0.0001 0.0011^{a} 0.0625^{b} 0.000.0-0.0017(0.000)(0.021)(0.000)(0.000)(0.000)Start (0.003)(0.003)(0.001)(0.002)0.0001(0.000)(0.000)(0.026)95512 0.0161 Selection 0.2050^{a} -0.1009^{a} 0.7549^{a} 0.0538^{a} 0.0988^{a} -0.0035125093 (0.021)(0.003)(0.008)(0.002)(0.001) (0.013)(0.012)Yes Entrants -0.0014^{a} -0.00001^{a} 0.0140^{a} 0.0024^{a} 0.0004^{a} 0.00005^{a} 0.0545-0.0001 0.0019^{a} (0.001)(0.001)(0.000)(0.000)(0.035)(0.000)(0.000)(0.000) 0.0022^{a} (0.000) 0.0372^{a} (0.003)0.0425(0.000)(0.000)58550 Exiters -0.0704^{c} -0.0002^{a} 0.0157^{a} -0.0001-0.0058 0.0044^{a} 0.0015(0.001)(0.000) -0.0006^a (0.000) 0.0004^{a} (0.000) -0.0017^{c} (0.000) 0.0009^{a} (0.000) 0.0933^{a} 0.0398(0.001)(0.000)(0.037)(0.016)(0.007)29563 (0.001)(0.002)Robust standard errors -0.0001^{a} -0.0029^{a} 0.0120^{a} 0.0019^{a} 0.0136^{c} -0.0003^{a} 0.0002^{a} 0.0005^{a} 0.0109^{a} -0.0007^{a} 0.0515^{a} 0.0096^{a} Always (0.001)(0.001)(0.001)0.0001(0.008)(0.000)(0.000)(0.000)(0.000)(0.000)(0.008)(0.003)95512 0.0355(0.000)(0.000)Give up 0.0001^{a} 0.0003^{a} 0.0085^{a} -0.0004 0.0002^{a} 0.0007^{a} 0.0108^{a} -0.00020.00000.0009 0.0375^{a} 0.0014^{a} 0.0001(0.000)(0.007)(0.000)(0.000)(0.000)(0.000)95512 0.0246(0.001)(0.001)(0.000)(0.001)(0.000)(0.007)(0.004) 0.0001^{a} -0.0004^{a} 0.0003^{a} 0.0092^{a} 0.0023^{a} 0.0102^{a} 0.0078 0.0013^{a} Start (0.001)(0.000) 0.0017^{t} 0.0001(0.000)(0.010)(0.000)(0.000)(0.000) 0.0011^{a} (0.000) 0.0625^{a} -0.000695512 (0.001)(0.001)(0.000)(0.000)(0.004)0.0161 Selection 0.0814^{a} 0.1009^{a} 0.2050^{a} -0.0035^{a} 0.0538^{a} 0.0988^{a} 125093 0.7549^{a} (0.004)(0.008)(0.001)(0.012)(0.008)(0.003)(0.027)Yes Intangible Capital Intensity △ Non-Routine Manual Δ Routine Cognitive Δ Routine Manual Capital Intensity Sector Dummies Δ White Collar Skill Intensity Δ Interactive Observations △ Analytical Productivity Constant AgeSize \equiv

Sector clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1

Robust standard errors in parentheses a p<0.01, b p<0.05, c p<0.1

Table 29: Imports of Services: Extensive Margin, Specification 1, only non EU trade

		$ ho_{ m Ro}$	Robust standard	ndard errors	ors			Clus	Clustered standard	ındard eri	errors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
	'	Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0107^{a}	0.0078^{a}	0.0104^{a}	0.0137^{a}	0.0147^{a}	0.2050^{a}	0.0107^{a}	0.0078^{a}	0.0104^{a}	0.0137^{a}	0.0147^{a}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.021)	(0.003)	(0.002)	(0.002)	(0.004)	(0.002)
Size	0.0538^{a}	0.0148^{a}	0.0099^{a}	0.0150^{a}	0.0157^{a}	0.0167^{a}	0.0538^{a}	0.0148^{a}	0.0099^{a}	0.0150^{a}	0.0157^{a}	0.0167^{a}
	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.012)	(0.002)	(0.001)	(0.003)	(0.003)	(0.003)
Capital Intensity	0.0988^{a}	0.0011^{a}	0.0001	0.0012^{a}	0.0025^{a}	-0.0010^{a}	0.0988^{a}	0.0011	0.0001	0.0012	0.0025	-0.0010
	(0.003)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Skill Intensity	-0.1009^a	-0.0022^a	-0.0012^{b}	-0.0032^{a}	-0.0002	0.0009^{b}	-0.1009^{a}	-0.0022	-0.0012	-0.0032^{b}	-0.0002	0.0009
	(0.008)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Intangible Capital Int.	-0.0035^a	0.0003^{b}	0.0003^{a}	0.0006^{a}	0.0001	0.0006^{a}	-0.0035	0.0003	0.0003^{c}	0.0000^{b}	0.0001	0.0006^{a}
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Δ White Collar		0.0438^{a}	0.0065	0.0225^{a}	0.1608^{a}	0.1404^{a}		0.0438	0.0065	0.0225	0.1608^{a}	0.1404^{a}
		(0.010)	(0.007)	(0.007)	(0.021)	(0.011)		(0.034)	(0.020)	(0.026)	(0.052)	(0.043)
Δ Computer		0.0216^{a}	0.0112^{a}	0.0178^{a}	0.0359^{a}	0.0344^{a}		0.0216^{b}	0.0112^{a}	0.0178^{b}	0.0359^{b}	0.0344^{c}
		(0.003)	(0.002)	(0.002)	(0.000)	(0.004)		(0.010)	(0.004)	(0.007)	(0.014)	(0.017)
IM		0.0401^{a}	0.0113^{b}	0.0273^{a}	0.0662^{a}			0.0401	0.0113	0.0273	0.0662^{c}	
		(0.000)	(0.004)	(0.005)	(0.012)			(0.031)	(0.021)	(0.022)	(0.035)	
Constant	0.7549^{a}	-0.0126^{a}	-0.0030	-0.0123^{a}	-0.0272^{a}	0.0048^{a}	0.7549^{a}	-0.0126	-0.0030	-0.0123	-0.0272	0.0048
	(0.027)	(0.003)	(0.002)	(0.002)	(0.000)	(0.001)	(0.001)	(0.014)	(0.00)	(0.010)	(0.018)	(0.005)
Observations	125093	95512	95512	95512	29563	58550	125093	95512	95512	95512	29563	58550
$ m R^2$		0.0232	0.0220	0.0455	0.0363	0.0449		0.0232	0.0220	0.0455	0.0363	0.0449
	Robust stan		ors in parent	dard errors in parentheses a p<0.01, b p<0.05,	$01, {}^{b} p < 0.05$, c p<0.1	Sector clust	Sector clustered st.err.	in parenthe	in parentheses a p<0.01,	b p<0.05,	c p<0.1

Exiters Entrants 0.0167^{a} -0.0009 0.0009 0.0007^{a} 0.14640.0000 -0.0012^{a} (0.003)(0.130)(0.000)0.00010.0003(0.000)(0.001)(0.000) 0.0017^{a} (0.001) 0.0279^{a} 0.0496(0.001)(0.000)(0.000)(0.006)Sector clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1 (0.000)-0.0003 0.0009^{b} 0.0000 0.0010^{b} 0.0000 0.00020.003629563 0.0379 0.0156^{a} 0.0001 0.0514(0.092)(0.000)(0.000)0.0626(0.005)(0.003)0.0024 (0.002)(0.002)(0.001)(0.000)(0.000)(0.039)(0.017)Clustered standard errors Table 30: Imports of Services: Extensive Margin, Specification 2, only non EU trade 0.0114^{a} 0.0036^{a} 0.0003^c 0.0007^{b} Give up Always 0.0153^{a} 0.0000^{6} 0.0000 0.0000^{a} 0.0017^{c} 0.01630.0002 (0.000)(0.000)0.0386(0.002)(0.003)(0.001)(0.001)(0.000)(0.027)(0.000)(0.000)(0.000)(0.026)-0.0031(0.013)95512 0.0485 0.0085^{a} 0.0108^{a} -0.0002-0.0004 0.0001^{a} -0.0003^{b} 0.0002^{b} -0.0007^{a} 0.0014^{c} 0.0375^{b} (0.000)-0.00090.0001(0.000)(0.022)(0.000)(0.000) 0.0006^{a} 0.0246(0.002)(0.001)(0.001)(0.001)(0.000)(0.000)(0.017)95512 0.0126^{a} 0.0154^{a} 0.0029^{b} 0.00020.0000 0.0004^{c} 0.0005^{a} 0.0010^{a} 0.0020^{b} (0.000)(0.000)(0.000) 0.0010^{a} -0.0036Start (0.001)(0.001)(0.000)(0.035)(0.000)(0.000) 0.0619^{b} 0.0266 (0.002)0.0361(0.025)(0.012)95512 (0.003)Selection -0.1009^{a} 0.2050^{a} 0.0538^{a} 0.0988^{a} -0.0035 0.7549^{a} 125093 (0.021)(0.012)(0.008)(0.002)(0.001)(0.003)(0.013)Yes Entrants -0.0009^{a} 0.0167^{a} 0.1464^{a} 0.0003^{a} -0.0012^{a} 0.0496 0.0009^{b} 0.0007^{a} 0.0000(0.000) 0.0017^{a} (0.001)(0.001)(0.000)(0.000)(0.000)(0.044)(0.000)0.0001(0.000)(0.000)(0.000) 0.0279^{a} (0.003)Robust standard errors in parentheses a p<0.01, b p<0.05, c p<0.1 Exiters -0.0003^{c} -0.0009^{a} -0.0000 0.0010^{a} 0.0156^{a} 0.0024^{a} -0.00000.0514 0.0002^{c} -0.0036(0.001)(0.001)(0.001)0.0001(0.000)(0.050)(0.000)(0.000)(0.000)(0.000)(0.000) 0.0626^{a} 29563 0.0379 (0.015)(0.007)Robust standard errors -0.0036^{a} -0.00003^{a} 0.0114^{a} 0.0017^{a} 0.0153^{a} 0.0006^{a} 0.0163^{c} 0.0000^{a} (0.000) 0.0002^{a} -0.0007^{a} 0.0009^{a} 0.0386^{a} Always (0.001)(0.001)(0.000)(0.000)(0.000)(0.000)(0.000)(0.000)(0.008)(0.004)95512 0.0485(0.001)(0.000)0.0031Give up 0.0014^{b} 0.0002^a 0.0004^{a} 0.0100^{a} 0.0003^{a} 0.0002^{a} 0.0005^{a} 0.0083^{a} 0.00000.0004 (0.000)(0.001)(0.001)(0.001)(0.000)0.0054(0.008)(0.000)(0.000)(0.000)(0.000) 0.0176^{b} 0.0021 95512 (0.007)(0.004)0.0231 (0.000) -0.0029^{a} 0.0004^{a} 0.0010^{a} 0.0154^{a} 0.0361^{a} 0.0005^{a} 0.0126^{a} 0.0002^{b} 0.0010^{a} Start 0.0020^{a} 0.0000(0.000)(0.000)(0.011)(0.000)(0.000)(0.000)(0.000)(0.000) 0.0619^{a} (0.010)0.003695512 0.0266(0.001)(0.001)(0.001)(0.005)Selection -0.1009^{a} -0.0035^{a} 0.2050^{a} 0.0538^{a} 0.0988^{a} 0.7549^{a} 125093 0.0814^{a} (0.004)(0.003)(0.008)(0.001)(0.027)(0.012)(0.008)Yes Intangible Capital Intensity Non-Routine Manual Routine Cognitive Capital Intensity Sector Dummies Routine Manual Skill Intensity Observations White Collar Productivity Interactive Analytical Constant AgeSize \mathbb{Z} R^2

Table 31: Exports of Services: Extensive Margin, Specification 1, only non-offshoring firms

		Ro	Robust stan	standard errors	ors			Clus	tered sta	Clustered standard errors	rors	
	Selection		Stayers		Exiters	Entrants	Selection		Stayers		Exiters	Entrants
		Start	Give up	Always				Start	Give up	Always		
Age	0.0814^{a}						0.0814^{a}					
	(0.012)						(0.013)					
Productivity	0.2050^{a}	0.0162^{a}	0.0058^{a}	0.0032^{a}	0.0169^{a}	0.0381^{a}	0.2050^{a}	0.0162^{a}	0.0058^{b}	0.0032^{a}	0.0169^{a}	0.0381^{a}
	(0.008)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.021)	(0.000)	(0.002)	(0.001)	(0.006)	(0.000)
Size	0.0538^{a}	0.0178^{a}	0.0065^{a}	0.0055^{a}	0.0205^{a}	0.0401^{a}	0.0538^{a}	0.0178^{b}	0.0065^{a}	0.0055^{b}	0.0205^{a}	0.0401^{a}
	(0.004)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.012)	(0.007)	(0.001)	(0.002)	(0.005)	(0.010)
Capital Intensity	0.0988^{a}	0.0034^{a}	0.0002	-0.0001	0.0016^{c}	-0.0051^{a}	0.0988^{a}	0.0034	0.0002	-0.0001	0.0016	-0.0051^{b}
	(0.003)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.003)	(0.002)	(0.001)	(0.000)	(0.002)	(0.002)
Skill Intensity	-0.1009^a	-0.0026^{b}	0.0009	0.0009^{a}	0.0039^{b}	0.0077^{a}	-0.1009^a	-0.0026	0.0009	0.0000	0.0039	0.0077^{b}
	(0.008)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.008)	(0.003)	(0.001)	(0.001)	(0.003)	(0.003)
Intangible Capital Intensity	-0.0035^a	-0.0001	-0.0001^{c}	-0.0001^{b}	-0.0003	0.00005^{b}	-0.0035	-0.0001	-0.0001^{c}	-0.0001	-0.0003	0.0005
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Δ White Collar		0.0504^{a}	0.0292^{a}	0.0243^{a}	0.2069^{a}	0.4415^{a}		0.0504	0.0292	0.0243	0.2069^{c}	0.4415^{b}
		(0.014)	(0.000)	(0.005)	(0.027)	(0.021)		(0.091)	(0.026)	(0.023)	(0.105)	(0.187)
Δ Computer		0.0375^{a}	0.0021	-0.0052^{b}	0.0151^{c}	0.1837^{a}		0.0375	0.0021	-0.0052	0.0151	0.1837
		(0.000)	(0.003)	(0.002)	(0.00)	(0.00)		(0.067)	(0.011)	(0.018)	(0.045)	(0.129)
IM		0.0704^{a}	0.0083^{b}	0.0042	0.0590^{a}			0.0704	0.0083	0.0042	0.0590	
		(0.00)	(0.004)	(0.003)	(0.016)			(0.000)	(0.021)	(0.011)	(0.051)	
Constant	0.7549^{a}	-0.0107^{b}	0.0039^{c}	0.0045^{b}	-0.0043	0.0110^{a}	0.7549^{a}	-0.0107	0.0039	0.0045	-0.0043	0.0110
	(0.027)	(0.005)	(0.002)	(0.002)	(0.008)	(0.003)	(0.001)	(0.038)	(0.010)	(0.010)	(0.030)	(0.037)
Sector Dummies	Yes						Yes					
Observations	125093	88498	88498	88498	28577	58550	125093	88498	88498	88498	28577	58550
R^2		0.0113	0.0080	0.0089	0.0318	0.0753		0.0113	0.0080	0.0089	0.0318	0.0753
	Robust st	andard erro	rs in parent	Robust standard errors in parentheses a p<0.01, b p<0.05,	$^{01, b}$ p<0.0	5, c p<0.1	Sector clustered st.err.	ered st.err.		in parentheses a p<0.01, b p<0.05,	$1, {}^{b} p < 0.05,$	c p<0.1
											-	

Entrants -0.0045^{c} -0.1712 0.0397^{a} 0.0084^{b} 0.0000-0.0004-0.0015(0.010)(0.003)(0.001)(0.292)(0.000)(0.001) -0.0072^{a} (0.002)(0.001) 0.0013^{c} 0.0078^{a} (0.002) 0.1518^{a} (0.031)0.1053(800.0)(0.002)Sector clustered st.err. in parentheses a p<0.01, b p<0.05, c p<0.1 Exiters -0.0016^{a} -0.0034^{a} -0.0005 -0.2527^{b} 0.0007^{b} 0.0057^{a} -0.0001 0.0009^{c} 0.0003 (0.000)(0.000) 0.1442^{a} 0.0124(0.004)(0.005)(0.002)(0.002)(0.000)(0.094)(0.001)(0.000)(0.000)(0.032)(0.017)0.0415 Table 32: Exports of Services: Extensive Margin, Specification 2, only non-offshoring firms Clustered standard errors -0.0004^{c} 0.0008^{b} 9.0008^{b} 9000.00.0015 0.0069^{b} 0.0002^{c} 0.0000 0.0003 88498 0.0129 0.0016 0.0002 0.0428^{c} Always 0.0022(0.000)(0.000)(0.000)(0.000)(0.003)(0.003)(0.001)(0.001)(0.000)(0.015)(0.000)(0.023)(0.006)Give up -0.0002-0.0000 -0.0002 -0.0009^{a} 0.0078^{a} 0.0002 0.0075^{a} 0.0187 0.0306° (0.000)(0.000)(0.000)0.0000(0.000)88498 (0.002)(0.001)0.0011 (0.001)0.0001(0.001)(0.000)(0.024)(0.000)(0.017)0.00730.0105 0.0247^{a} 0.0214^{a} -0.0059-0.0002-0.0080-0.0001 0.0013^{c} 0.0003 0.0028^{a} 0.1627^{b} 0.0074^{c} (0.000)(0.001)(0.001) 0.0026^{a} (0.004)(0.004)(0.000)(0.063)(0.001)(0.001)(0.074)Start (0.007)(0.007)0.0011 88498 0.0207Selection -0.1009^a 0.0538^{a} 0.0988^{a} -0.0035 0.7549^{a} 125093 0.2050^{a} (0.021)(0.012)(0.008)(0.002)(0.001)(0.003)(0.013)Yes Entrants -0.1712^{b} -0.0004^{a} 0.0397^{a} 0.0084^{a} 0.0009^{a} -0.0015^{a} (0.000)(0.000) -0.0072^{a} 0.1518^{a} (0.002)(0.001) 0.0045° (0.001)(0.001)(0.000)(0.067)(0.000) 0.0013^{a} (0.000) 0.0078^{a} (0.000)(0.006)58550 0.1053Robust standard errors in parentheses a p<0.01, b p<0.05, c p<0.1 Exiters -0.0034^{a} -0.00005^{b} 0.0230^{a} -0.2527^{a} 0.0003 -0.0001^{c} -0.0016^{a} 0.0057^{a} (0.001)(0.059)(0.000)(0.000) 0.0007^{a} (0.000)(0.000) 0.0009^{a} (0.000) 0.1442^{a} 0.0415 (0.002)(0.002)(0.000)(0.020)0.0124(0.009)(0.003)28577 Robust standard errors 0.0002^{a} 0.0004^{a} 0.0008^{a} 0.0002^{a} 0.0069^{a} 0.0016^{a} -0.0006 0.0000Give up Always 0.0003^{a} 0.0428^{a} 0.0068^{a} (0.000)(0.000)0.0022(0.005)(0.000)(0.000)(0.000)(0.000)(0.005)0.0015(0.002)88498 0.0129 (0.001)(0.000)(0.000)(0.000) 0.0002^{a} 0.0009^{a} 0.0078^{a} 0.0075^{a} 0.0002^{c} 0.0187^{b} -0.0000 0.0002^{a} 0.0006^{a} 0.0306^{a} (0.000) 0.0073^{b} (0.001)(0.001) 0.0011^{a} (0.000)0.0001 (0.001)(0.000)(0.007)(0.000)(0.000)(0.000)(0.000)88498 0.0105(0.007)(0.003) 0.0001^{b} 0.0028^{a} 0.0247^{a} 0.0214^{a} -0.0059^{a} -0.0080 0.0003^{a} -0.0002 0.0013^{a} Start 0.0026^{a} 0.0074^{a} (0.001)(0.001)(0.000)(0.016)(0.000)(0.000)(0.000)(0.000)(0.000) 0.1627^{a} 0.0011 88498 0.0207(0.002)(0.001)(0.014)(0.006)Selection -0.1009^{a} -0.0035^{a} 0.2050^{a} 0.0538^{a} 0.0988^{a} 0.7549^{a} 125093 0.0814^{a} (0.004)(0.003)(0.008)(0.001)(0.027)(0.012)(0.008)Yes Intangible Capital Intensity Δ Non-Routine Manual Δ Routine Cognitive Δ Routine Manual Capital Intensity Sector Dummies Δ White Collar Skill Intensity Δ Interactive Observations △ Analytical Productivity Constant AgeSize \mathbb{Z} R^2

NATIONAL BANK OF BELGIUM - WORKING PAPERS SERIES

- "Model-based inflation forecasts and monetary policy rules", by M. Dombrecht and R. Wouters, Research Series, February 2000.
- 2. "The use of robust estimators as measures of core inflation", by L. Aucremanne, *Research Series*, February 2000.
- 3. "Performances économiques des Etats-Unis dans les années nonante", by A. Nyssens, P. Butzen and P. Bisciari, *Document Series*, March 2000.
- 4. "A model with explicit expectations for Belgium", by P. Jeanfils, Research Series, March 2000.
- 5. "Growth in an open economy: Some recent developments", by S. Turnovsky, Research Series, May 2000.
- 6. "Knowledge, technology and economic growth: An OECD perspective", by I. Visco, A. Bassanini and S. Scarpetta, *Research Series*, May 2000.
- "Fiscal policy and growth in the context of European integration", by P. Masson, Research Series, May 2000.
- 8. "Economic growth and the labour market: Europe's challenge", by C. Wyplosz, *Research Series*, May 2000
- 9. "The role of the exchange rate in economic growth: A euro-zone perspective", by R. MacDonald, Research Series, May 2000.
- 10. "Monetary union and economic growth", by J. Vickers, Research Series, May 2000.
- 11. "Politique monétaire et prix des actifs: le cas des États-Unis", by Q. Wibaut, *Document Series*, August 2000.
- 12. "The Belgian industrial confidence indicator: Leading indicator of economic activity in the euro area?", by J.-J. Vanhaelen, L. Dresse and J. De Mulder, *Document Series*, November 2000.
- 13. "Le financement des entreprises par capital-risque", by C. Rigo, Document Series, February 2001.
- 14. "La nouvelle économie" by P. Bisciari, Document Series, March 2001.
- 15. "De kostprijs van bankkredieten", by A. Bruggeman and R. Wouters, Document Series, April 2001.
- 16. "A guided tour of the world of rational expectations models and optimal policies", by Ph. Jeanfils, *Research Series*, May 2001.
- 17. "Attractive prices and euro Rounding effects on inflation", by L. Aucremanne and D. Cornille, *Documents Series*, November 2001.
- 18. "The interest rate and credit channels in Belgium: An investigation with micro-level firm data", by P. Butzen, C. Fuss and Ph. Vermeulen, *Research series*, December 2001.
- 19. "Openness, imperfect exchange rate pass-through and monetary policy", by F. Smets and R. Wouters, *Research series*, March 2002.
- 20. "Inflation, relative prices and nominal rigidities", by L. Aucremanne, G. Brys, M. Hubert, P. J. Rousseeuw and A. Struyf, *Research series*, April 2002.
- 21. "Lifting the burden: Fundamental tax reform and economic growth", by D. Jorgenson, *Research series*, May 2002.
- 22. "What do we know about investment under uncertainty?", by L. Trigeorgis, Research series, May 2002.
- 23. "Investment, uncertainty and irreversibility: Evidence from Belgian accounting data" by D. Cassimon, P.-J. Engelen, H. Meersman and M. Van Wouwe, *Research series*, May 2002.
- 24. "The impact of uncertainty on investment plans", by P. Butzen, C. Fuss and Ph. Vermeulen, *Research series*, May 2002.
- 25. "Investment, protection, ownership, and the cost of capital", by Ch. P. Himmelberg, R. G. Hubbard and I. Love, *Research series*, May 2002.
- "Finance, uncertainty and investment: Assessing the gains and losses of a generalised non-linear structural approach using Belgian panel data", by M. Gérard and F. Verschueren, Research series, May 2002.
- 27. "Capital structure, firm liquidity and growth", by R. Anderson, Research series, May 2002.
- 28. "Structural modelling of investment and financial constraints: Where do we stand?", by J.-B. Chatelain, Research series, May 2002.
- 29. "Financing and investment interdependencies in unquoted Belgian companies: The role of venture capital", by S. Manigart, K. Baeyens, I. Verschueren, *Research series*, May 2002.
- 30. "Development path and capital structure of Belgian biotechnology firms", by V. Bastin, A. Corhay, G. Hübner and P.-A. Michel, *Research series*, May 2002.
- 31. "Governance as a source of managerial discipline", by J. Franks, Research series, May 2002.
- 32. "Financing constraints, fixed capital and R&D investment decisions of Belgian firms", by M. Cincera, Research series, May 2002.

- 33. "Investment, R&D and liquidity constraints: A corporate governance approach to the Belgian evidence", by P. Van Cayseele, *Research series*, May 2002.
- 34. "On the origins of the Franco-German EMU controversies", by I. Maes, Research series, July 2002.
- 35. "An estimated dynamic stochastic general equilibrium model of the euro area", by F. Smets and R. Wouters, *Research series*, October 2002.
- 36. "The labour market and fiscal impact of labour tax reductions: The case of reduction of employers' social security contributions under a wage norm regime with automatic price indexing of wages", by K. Burggraeve and Ph. Du Caju, Research series, March 2003.
- 37. "Scope of asymmetries in the euro area", by S. Ide and Ph. Moës, Document series, March 2003.
- 38. "De autonijverheid in België: Het belang van het toeleveringsnetwerk rond de assemblage van personenauto's", by F. Coppens and G. van Gastel, *Document series*, June 2003.
- 39. "La consommation privée en Belgique", by B. Eugène, Ph. Jeanfils and B. Robert, *Document series*, June 2003.
- 40. "The process of European monetary integration: A comparison of the Belgian and Italian approaches", by I. Maes and L. Quaglia, *Research series*, August 2003.
- 41. "Stock market valuation in the United States", by P. Bisciari, A. Durré and A. Nyssens, *Document series*, November 2003.
- 42. "Modeling the term structure of interest rates: Where do we stand?", by K. Maes, *Research series*, February 2004.
- 43. "Interbank exposures: An ampirical examination of system risk in the Belgian banking system", by H. Degryse and G. Nguyen, *Research series*, March 2004.
- 44. "How frequently do prices change? Evidence based on the micro data underlying the Belgian CPI", by L. Aucremanne and E. Dhyne, *Research series*, April 2004.
- 45. "Firms' investment decisions in response to demand and price uncertainty", by C. Fuss and Ph. Vermeulen, *Research series*, April 2004.
- 46. "SMEs and bank lending relationships: The impact of mergers", by H. Degryse, N. Masschelein and J. Mitchell, *Research series*, May 2004.
- 47. "The determinants of pass-through of market conditions to bank retail interest rates in Belgium", by F. De Graeve, O. De Jonghe and R. Vander Vennet, *Research series*, May 2004.
- 48. "Sectoral vs. country diversification benefits and downside risk", by M. Emiris, *Research series*, May 2004.
- 49. "How does liquidity react to stress periods in a limit order market?", by H. Beltran, A. Durré and P. Giot, Research series, May 2004.
- 50. "Financial consolidation and liquidity: Prudential regulation and/or competition policy?", by P. Van Cayseele, *Research series*, May 2004.
- 51. "Basel II and operational risk: Implications for risk measurement and management in the financial sector", by A. Chapelle, Y. Crama, G. Hübner and J.-P. Peters, *Research series*, May 2004.
- 52. "The efficiency and stability of banks and markets", by F. Allen, Research series, May 2004.
- 53. "Does financial liberalization spur growth?", by G. Bekaert, C.R. Harvey and C. Lundblad, *Research series*, May 2004.
- 54. "Regulating financial conglomerates", by X. Freixas, G. Lóránth, A.D. Morrison and H.S. Shin, *Research series*, May 2004.
- 55. "Liquidity and financial market stability", by M. O'Hara, Research series, May 2004.
- 56. "Economisch belang van de Vlaamse zeehavens: Verslag 2002", by F. Lagneaux, *Document series*, June 2004.
- 57. "Determinants of euro term structure of credit spreads", by A. Van Landschoot, *Research series*, July 2004.
- 58. "Macroeconomic and monetary policy-making at the European Commission, from the Rome Treaties to the Hague Summit", by I. Maes, *Research series*, July 2004.
- 59. "Liberalisation of network industries: Is electricity an exception to the rule?", by F. Coppens and D. Vivet, *Document series*, September 2004.
- 60. "Forecasting with a Bayesian DSGE model: An application to the euro area", by F. Smets and R. Wouters, *Research series*, September 2004.
- 61. "Comparing shocks and frictions in US and euro area business cycle: A Bayesian DSGE approach", by F. Smets and R. Wouters, *Research series*, October 2004.
- 62. "Voting on pensions: A survey", by G. de Walque, Research series, October 2004.
- 63. "Asymmetric growth and inflation developments in the acceding countries: A new assessment", by S. Ide and P. Moës, *Research series*, October 2004.
- 64. "Importance économique du Port Autonome de Liège: rapport 2002", by F. Lagneaux, *Document series*, November 2004.

- 65. "Price-setting behaviour in Belgium: What can be learned from an ad hoc survey", by L. Aucremanne and M. Druant, *Research series*, March 2005.
- 66. "Time-dependent versus state-dependent pricing: A panel data approach to the determinants of Belgian consumer price changes", by L. Aucremanne and E. Dhyne, *Research series*, April 2005.
- 67. "Indirect effects A formal definition and degrees of dependency as an alternative to technical coefficients", by F. Coppens, *Research series*, May 2005.
- 68. "Noname A new quarterly model for Belgium", by Ph. Jeanfils and K. Burggraeve, *Research series*, May 2005.
- 69. "Economic importance of the Flemish maritime ports: Report 2003", by F. Lagneaux, *Document series*, May 2005.
- 70. "Measuring inflation persistence: A structural time series approach", by M. Dossche and G. Everaert, Research series, June 2005.
- 71. "Financial intermediation theory and implications for the sources of value in structured finance markets", by J. Mitchell, *Document series*, July 2005.
- 72. "Liquidity risk in securities settlement", by J. Devriese and J. Mitchell, Research series, July 2005.
- 73. "An international analysis of earnings, stock prices and bond yields", by A. Durré and P. Giot, *Research series*, September 2005.
- 74. "Price setting in the euro area: Some stylized facts from Individual Consumer Price Data", by E. Dhyne, L. J. Álvarez, H. Le Bihan, G. Veronese, D. Dias, J. Hoffmann, N. Jonker, P. Lünnemann, F. Rumler and J. Vilmunen, *Research series*, September 2005.
- 75. "Importance économique du Port Autonome de Liège: rapport 2003", by F. Lagneaux, *Document series*, October 2005.
- 76. "The pricing behaviour of firms in the euro area: New survey evidence, by S. Fabiani, M. Druant, I. Hernando, C. Kwapil, B. Landau, C. Loupias, F. Martins, T. Mathä, R. Sabbatini, H. Stahl and A. Stokman, *Research series*, November 2005.
- 77. "Income uncertainty and aggregate consumption", by L. Pozzi, Research series, November 2005.
- 78. "Crédits aux particuliers Analyse des données de la Centrale des Crédits aux Particuliers", by H. De Doncker, *Document series*, January 2006.
- 79. "Is there a difference between solicited and unsolicited bank ratings and, if so, why?", by P. Van Roy, Research series, February 2006.
- 80. "A generalised dynamic factor model for the Belgian economy Useful business cycle indicators and GDP growth forecasts", by Ch. Van Nieuwenhuyze, *Research series*, February 2006.
- 81. "Réduction linéaire de cotisations patronales à la sécurité sociale et financement alternatif", by Ph. Jeanfils, L. Van Meensel, Ph. Du Caju, Y. Saks, K. Buysse and K. Van Cauter, *Document series*, March 2006.
- 82. "The patterns and determinants of price setting in the Belgian industry", by D. Cornille and M. Dossche, *Research series*, May 2006.
- 83. "A multi-factor model for the valuation and risk management of demand deposits", by H. Dewachter, M. Lyrio and K. Maes, *Research series*, May 2006.
- 84. "The single European electricity market: A long road to convergence", by F. Coppens and D. Vivet, *Document series*, May 2006.
- 85. "Firm-specific production factors in a DSGE model with Taylor price setting", by G. de Walque, F. Smets and R. Wouters, *Research series*, June 2006.
- 86. "Economic importance of the Belgian ports: Flemish maritime ports and Liège port complex Report 2004", by F. Lagneaux, *Document series*, June 2006.
- 87. "The response of firms' investment and financing to adverse cash flow shocks: The role of bank relationships", by C. Fuss and Ph. Vermeulen, *Research series*, July 2006.
- 88. "The term structure of interest rates in a DSGE model", by M. Emiris, Research series, July 2006.
- 89. "The production function approach to the Belgian output gap, estimation of a multivariate structural time series model", by Ph. Moës, *Research series*, September 2006.
- 90. "Industry wage differentials, unobserved ability, and rent-sharing: Evidence from matched worker-firm data, 1995-2002", by R. Plasman, F. Rycx and I. Tojerow, *Research series*, October 2006.
- 91. "The dynamics of trade and competition", by N. Chen, J. Imbs and A. Scott, *Research series*, October 2006.
- 92. "A New Keynesian model with unemployment", by O. Blanchard and J. Gali, *Research series*, October 2006.
- 93. "Price and wage setting in an integrating Europe: Firm level evidence", by F. Abraham, J. Konings and S. Vanormelingen, *Research series*, October 2006.
- 94. "Simulation, estimation and welfare implications of monetary policies in a 3-country NOEM model", by J. Plasmans, T. Michalak and J. Fornero, *Research series*, October 2006.

- 95. "Inflation persistence and price-setting behaviour in the euro area: A summary of the Inflation Persistence Network evidence ", by F. Altissimo, M. Ehrmann and F. Smets, *Research series*, October 2006.
- 96. "How wages change: Micro evidence from the International Wage Flexibility Project", by W.T. Dickens, L. Goette, E.L. Groshen, S. Holden, J. Messina, M.E. Schweitzer, J. Turunen and M. Ward, *Research series*, October 2006.
- 97. "Nominal wage rigidities in a new Keynesian model with frictional unemployment", by V. Bodart, G. de Walque, O. Pierrard, H.R. Sneessens and R. Wouters, *Research series*, October 2006.
- 98. "Dynamics on monetary policy in a fair wage model of the business cycle", by D. De la Croix, G. de Walque and R. Wouters, *Research series*, October 2006.
- 99. "The kinked demand curve and price rigidity: Evidence from scanner data", by M. Dossche, F. Heylen and D. Van den Poel, *Research series*, October 2006.
- 100. "Lumpy price adjustments: A microeconometric analysis", by E. Dhyne, C. Fuss, H. Peseran and P. Sevestre, *Research series*, October 2006.
- 101. "Reasons for wage rigidity in Germany", by W. Franz and F. Pfeiffer, Research series, October 2006.
- 102. "Fiscal sustainability indicators and policy design in the face of ageing", by G. Langenus, *Research series*, October 2006.
- 103. "Macroeconomic fluctuations and firm entry: Theory and evidence", by V. Lewis, *Research series*, October 2006.
- 104. "Exploring the CDS-bond basis", by J. De Wit, Research series, November 2006.
- 105. "Sector concentration in loan portfolios and economic capital", by K. Düllmann and N. Masschelein, *Research series*, November 2006.
- 106. "R&D in the Belgian pharmaceutical sector", by H. De Doncker, Document series, December 2006.
- 107. "Importance et évolution des investissements directs en Belgique", by Ch. Piette, *Document series*, January 2007.
- 108. "Investment-specific technology shocks and labor market frictions", by R. De Bock, *Research series*, February 2007.
- 109. "Shocks and frictions in US business cycles: A Bayesian DSGE approach", by F. Smets and R. Wouters, Research series, February 2007.
- 110. "Economic impact of port activity: A disaggregate analysis. The case of Antwerp", by F. Coppens, F. Lagneaux, H. Meersman, N. Sellekaerts, E. Van de Voorde, G. van Gastel, Th. Vanelslander, A. Verhetsel, *Document series*, February 2007.
- 111. "Price setting in the euro area: Some stylised facts from individual producer price data", by Ph. Vermeulen, D. Dias, M. Dossche, E. Gautier, I. Hernando, R. Sabbatini, H. Stahl, Research series, March 2007.
- 112. "Assessing the gap between observed and perceived inflation in the euro area: Is the credibility of the HICP at stake?", by L. Aucremanne, M. Collin and Th. Stragier, *Research series*, April 2007.
- 113. "The spread of Keynesian economics: A comparison of the Belgian and Italian experiences", by I. Maes, Research series, April 2007.
- 114. "Imports and exports at the level of the firm: Evidence from Belgium", by M. Muûls and M. Pisu, Research series, May 2007.
- 115. "Economic importance of the Belgian ports: Flemish maritime ports and Liège port complex Report 2005", by F. Lagneaux, *Document series*, May 2007.
- 116. "Temporal distribution of price changes: Staggering in the large and synchronization in the small", by E. Dhyne and J. Konieczny, *Research series*, June 2007.
- 117. "Can excess liquidity signal an asset price boom?", by A. Bruggeman, Research series, August 2007.
- 118. "The performance of credit rating systems in the assessment of collateral used in Eurosystem monetary policy operations", by F. Coppens, F. González and G. Winkler, *Research series*, September 2007.
- 119. "The determinants of stock and bond return comovements", by L. Baele, G. Bekaert and K. Inghelbrecht, Research series, October 2007.
- 120. "Monitoring pro-cyclicality under the capital requirements directive: Preliminary concepts for developing a framework", by N. Masschelein, *Document series*, October 2007.
- 121. "Dynamic order submission strategies with competition between a dealer market and a crossing network", by H. Degryse, M. Van Achter and G. Wuyts, *Research series*, November 2007.
- 122. "The gas chain: Influence of its specificities on the liberalisation process", by C. Swartenbroekx, *Document series*, November 2007.
- 123. "Failure prediction models: Performance, disagreements, and internal rating systems", by J. Mitchell and P. Van Roy, *Research series*, December 2007.
- 124. "Downward wage rigidity for different workers and firms: An evaluation for Belgium using the IWFP procedure", by Ph. Du Caju, C. Fuss and L. Wintr, *Research series*, December 2007.

- 125. "Economic importance of Belgian transport logistics", by F. Lagneaux, Document series, January 2008.
- 126. "Some evidence on late bidding in eBay auctions", by L. Wintr, Research series, January 2008.
- 127. "How do firms adjust their wage bill in Belgium? A decomposition along the intensive and extensive margins", by C. Fuss, *Research series*, January 2008.
- 128. "Exports and productivity Comparable evidence for 14 countries", by The International Study Group on Exports and Productivity, *Research series*, February 2008.
- 129. "Estimation of monetary policy preferences in a forward-looking model: A Bayesian approach", by P. Ilbas, *Research series*, March 2008.
- 130. "Job creation, job destruction and firms' international trade involvement", by M. Pisu, *Research series*, March 2008.
- 131. "Do survey indicators let us see the business cycle? A frequency decomposition", by L. Dresse and Ch. Van Nieuwenhuyze, *Research series*, March 2008.
- 132. "Searching for additional sources of inflation persistence: The micro-price panel data approach", by R. Raciborski, *Research series*, April 2008.
- 133. "Short-term forecasting of GDP using large monthly datasets A pseudo real-time forecast evaluation exercise", by K. Barhoumi, S. Benk, R. Cristadoro, A. Den Reijer, A. Jakaitiene, P. Jelonek, A. Rua, G. Rünstler, K. Ruth and Ch. Van Nieuwenhuyze, *Research series*, June 2008.
- 134. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels Report 2006", by S. Vennix, *Document series*, June 2008.
- 135. "Imperfect exchange rate pass-through: The role of distribution services and variable demand elasticity", by Ph. Jeanfils, *Research series*, August 2008.
- 136. "Multivariate structural time series models with dual cycles: Implications for measurement of output gap and potential growth", by Ph. Moës, *Research series*, August 2008.
- 137. "Agency problems in structured finance A case study of European CLOs", by J. Keller, *Document series*, August 2008.
- 138. "The efficiency frontier as a method for gauging the performance of public expenditure: A Belgian case study", by B. Eugène, *Research series*, September 2008.
- 139. "Exporters and credit constraints. A firm-level approach", by M. Muûls, Research series, September 2008.
- 140. "Export destinations and learning-by-exporting: Evidence from Belgium", by M. Pisu, *Research series*, September 2008.
- 141. "Monetary aggregates and liquidity in a neo-Wicksellian framework", by M. Canzoneri, R. Cumby, B. Diba and D. López-Salido, *Research series*, October 2008.
- 142 "Liquidity, inflation and asset prices in a time-varying framework for the euro area, by Ch. Baumeister, E. Durinck and G. Peersman, *Research series*, October 2008.
- 143. "The bond premium in a DSGE model with long-run real and nominal risks", by G. D. Rudebusch and E. T. Swanson, *Research series*, October 2008.
- 144. "Imperfect information, macroeconomic dynamics and the yield curve: An encompassing macro-finance model", by H. Dewachter, *Research series*, October 2008.
- 145. "Housing market spillovers: Evidence from an estimated DSGE model", by M. lacoviello and S. Neri, Research series, October 2008.
- 146. "Credit frictions and optimal monetary policy", by V. Cúrdia and M. Woodford, *Research series*, October 2008.
- 147. "Central Bank misperceptions and the role of money in interest rate rules", by G. Beck and V. Wieland, Research series, October 2008.
- 148. "Financial (in)stability, supervision and liquidity injections: A dynamic general equilibrium approach", by G. de Walque, O. Pierrard and A. Rouabah, *Research series*, October 2008.
- 149. "Monetary policy, asset prices and macroeconomic conditions: A panel-VAR study", by K. Assenmacher-Wesche and S. Gerlach, *Research series*, October 2008.
- 150. "Risk premiums and macroeconomic dynamics in a heterogeneous agent model", by F. De Graeve, M. Dossche, M. Emiris, H. Sneessens and R. Wouters, *Research series*, October 2008.
- 151. "Financial factors in economic fluctuations", by L. J. Christiano, R. Motto and M. Rotagno, *Research series*, to be published.
- 152. "Rent-sharing under different bargaining regimes: Evidence from linked employer-employee data", by M. Rusinek and F. Rycx, *Research series*, December 2008.
- 153. "Forecast with judgment and models", by F. Monti, Research series, December 2008.
- 154. "Institutional features of wage bargaining in 23 European countries, the US and Japan", by Ph. Du Caju, E. Gautier, D. Momferatou and M. Ward-Warmedinger, *Research series*, December 2008.
- 155. "Fiscal sustainability and policy implications for the euro area", by F. Balassone, J. Cunha, G. Langenus, B. Manzke, J Pavot, D. Prammer and P. Tommasino, *Research series*, January 2009.

- 156. "Understanding sectoral differences in downward real wage rigidity: Workforce composition, institutions, technology and competition", by Ph. Du Caju, C. Fuss and L. Wintr, *Research series*, February 2009.
- 157. "Sequential bargaining in a New Keynesian model with frictional unemployment and staggered wage negotiation", by G. de Walque, O. Pierrard, H. Sneessens and R. Wouters, *Research series*, February 2009.
- 158. "Economic importance of air transport and airport activities in Belgium", by F. Kupfer and F. Lagneaux, *Document series*, March 2009.
- 159. "Rigid labour compensation and flexible employment? Firm-Level evidence with regard to productivity for Belgium", by C. Fuss and L. Wintr, *Research series*, March 2009.
- 160. "The Belgian iron and steel industry in the international context", by F. Lagneaux and D. Vivet, *Document series*, March 2009.
- 161. "Trade, wages and productivity", by K. Behrens, G. Mion, Y. Murata and J. Südekum, *Research series*, March 2009.
- 162. "Labour flows in Belgium", by P. Heuse and Y. Saks, Research series, April 2009.
- 163. "The young Lamfalussy: An empirical and policy-oriented growth theorist", by I. Maes, *Research series*, April 2009.
- 164. "Inflation dynamics with labour market matching: Assessing alternative specifications", by K. Christoffel, J. Costain, G. de Walque, K. Kuester, T. Linzert, S. Millard and O. Pierrard, *Research series*, May 2009.
- 165. "Understanding inflation dynamics: Where do we stand?", by M. Dossche, Research series, June 2009.
- 166. "Input-output connections between sectors and optimal monetary policy", by E. Kara, *Research series*, June 2009.
- 167. "Back to the basics in banking? A micro-analysis of banking system stability", by O. De Jonghe, *Research series*, June 2009.
- 168. "Model misspecification, learning and the exchange rate disconnect puzzle", by V. Lewis and A. Markiewicz, *Research series*, July 2009.
- 169. "The use of fixed-term contracts and the labour adjustment in Belgium", by E. Dhyne and B. Mahy, Research series, July 2009.
- 170. "Analysis of business demography using markov chains An application to Belgian data", by F. Coppens and F. Verduyn, *Research series*, July 2009.
- 171. "A global assessment of the degree of price stickiness Results from the NBB business survey", by E. Dhyne, *Research series*, July 2009.
- 172. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels Report 2007", by C. Mathys, *Document series*, July 2009.
- 173. "Evaluating a monetary business cycle model with unemployment for the euro area", by N. Groshenny, Research series, July 2009.
- 174. "How are firms' wages and prices linked: Survey evidence in Europe", by M. Druant, S. Fabiani and G. Kezdi, A. Lamo, F. Martins and R. Sabbatini, *Research series*, August 2009.
- 175. "Micro-data on nominal rigidity, inflation persistence and optimal monetary policy", by E. Kara, *Research series*, September 2009.
- 176. "On the origins of the BIS macro-prudential approach to financial stability: Alexandre Lamfalussy and financial fragility", by I. Maes, *Research series*, October 2009.
- 177. "Incentives and tranche retention in securitisation: A screening model", by I. Fender and J. Mitchell, Research series, October 2009.
- 178. "Optimal monetary policy and firm entry", by V. Lewis, Research series, October 2009.
- 179. "Staying, dropping, or switching: The impacts of bank mergers on small firms", by H. Degryse, N. Masschelein and J. Mitchell, *Research series*, October 2009.
- 180. "Inter-industry wage differentials: How much does rent sharing matter?", by Ph. Du Caju, F. Rycx and I. Tojerow, *Research series*, October 2009.
- 181. "Empirical evidence on the aggregate effects of anticipated and unanticipated US tax policy shocks", by K. Mertens and M. O. Ravn, *Research series*, November 2009.
- 182. "Downward nominal and real wage rigidity: Survey evidence from European firms", by J. Babecký, Ph. Du Caju, T. Kosma, M. Lawless, J. Messina and T. Rõõm, *Research series*, November 2009.
- 183. "The margins of labour cost adjustment: Survey evidence from European firms", by J. Babecký, Ph. Du Caju, T. Kosma, M. Lawless, J. Messina and T. Rõõm, *Research series*, November 2009.
- 184. "Discriminatory fees, coordination and investment in shared ATM networks" by S. Ferrari, *Research series*, January 2010.
- 185. "Self-fulfilling liquidity dry-ups", by F. Malherbe, Research series, March 2010.
- 186. "The development of monetary policy in the 20th century some reflections", by O. Issing, *Research series*, April 2010.

- 187. "Getting rid of Keynes? A survey of the history of macroeconomics from Keynes to Lucas and beyond", by M. De Vroey, *Research series*, April 2010.
- 188. "A century of macroeconomic and monetary thought at the National Bank of Belgium", by I. Maes, Research series, April 2010.
- 189. "Inter-industry wage differentials in EU countries: What do cross-country time-varying data add to the picture?", by Ph. Du Caju, G. Kátay, A. Lamo, D. Nicolitsas and S. Poelhekke, *Research series*, April 2010.
- 190. "What determines euro area bank CDS spreads?", by J. Annaert, M. De Ceuster, P. Van Roy and C. Vespro, *Research series*, May 2010.
- 191. "The incidence of nominal and real wage rigidity: An individual-based sectoral approach", by J. Messina, Ph. Du Caju, C. F. Duarte, N. L. Hansen, M. Izquierdo, *Research series*, June 2010.
- 192. "Economic importance of the Belgian ports: Flemish maritime ports, Liège port complex and the port of Brussels Report 2008", by C. Mathys, *Document series*, July 2010.
- 193. "Wages, labor or prices: how do firms react to shocks?", by E. Dhyne and M. Druant, *Research series*, July 2010.
- 194. "Trade with China and skill upgrading: Evidence from Belgian firm level data", by G. Mion, H. Vandenbussche, and L. Zhu, *Research series*, September 2010.
- 195. "Trade crisis? What trade crisis?", by K. Behrens, G. Corcos and G. Mion, *Research series*, September 2010.
- 196. "Trade and the global recession", by J. Eaton, S. Kortum, B. Neiman and J. Romalis, *Research series*, October 2010.
- 197. "Internationalization strategy and performance of small and medium sized enterprises", by J. Onkelinx and L. Sleuwaegen, *Research series*, October 2010.
- 198. "The internationalization process of firms: From exports to FDI?", by P. Conconi, A. Sapir and M. Zanardi, *Research series*, October 2010.
- 199. "Intermediaries in international trade: Direct versus indirect modes of export", by A. B. Bernard, M. Grazzi and C. Tomasi, *Research series*, October 2010.
- 200. "Trade in services: IT and task content", by A. Ariu and G. Mion, Research series, October 2010.