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The Impact of ICT Investments on the Relative Demand for High-Medium-, and Low-Skilled Workers: Industry versus Country Analysis

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The Impact of ICT Investments on the Relative Demand for High-, Medium-, and Low-Skilled Workers: Industry versus Country Analysis

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In this paper I analyze the effects of information and communication technology (ICT) on compensation shares of high-, medium-, and low-skilled workers. Compared to other studies, I investigate this question using a considerably richer data set with respect to the length of time series, set of countries and industries, and information on ICT. Next to investigating the influence of ICT in 14 countries, I concentrate on the analysis in 23 separate industries. The results I find show that the skill-biased technological change hypothesis is rejected if single countries are analyzed with an industry panel, while I find that technological change is a cause of changes in the relative compensation shares in single industries. Here there is a positive influence of ICT on high-skilled workers' relative compensation for the time before 1995, while ICT investments drive the medium- and low-skilled compensation shares together for a substantial amount of industries, especially since 1995.

Keywords: ICT, Skill, Income Inequality, Labor Demand
JEL Classification: J21, J23, J31

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1. Introduction

Since the 1980s the compensation of high-skilled workers relative to lower-skilled workers in the US increased substantially. Such an increase in inequality was also observable in other developed countries. This phenomenon has led to an extensive literature discussing reasons for this development. Next to changes in labor market institutions (Card and DiNardo, 2002; DiNardo et al., 1996) and outsourcing (Feenstra and Hanson, 2001), the increasing usage of information and communication technology (ICT) which led to a technological change in the production process has been discussed to be the leading source of the demand shift away from lower-skilled workers towards high-skilled workers. Lemieux (2008) calls the acceptance of the empirical finding of the demand shift towards high-skilled workers and the claim of a skill-biased technical change as the main source of this shift the “1990s consensus”.[1] In the last decade shifts of the demand for medium- and low-skilled workers also gained attention as researchers found a so called polarization in the distribution of wages. Polarization describes the increasing wage and employment gains by high earners and thus high-skilled workers and simultaneously decreasing wages and employment of medium-skilled workers who thus become more similar to low-skilled workers. A more recent strand of literature explains this development by the level of routine tasks performed by the worker groups (Autor et al., 2003; Spitz-Oener, 2006; Goos and Manning, 2007; Autor et al., 2006). This theory claims that medium-skilled workers tend to perform a higher share of routine tasks and are thus more easily substitutable by ICT than for example low-skilled workers with a higher share of manual tasks.

In this paper I analyze how ICT has influenced the relative compensation shares of high- medium-, and low-skilled workers in 14 industrialized countries, its effect on 23 separate industries, and how the effect changed over time. The objective of my paper is to analyze whether the impact of ICT on relative compensation by skill group is similar across countries and industries and can confirm the consensus described above. Furthermore, I investigate the development of the relationship of ICT and relative compensation shares across time. In a first step I discuss and extensive set of descriptive statistics on the development of employment and compensation shares and the investment into ICT. I then take the assumption of a skill-biased demand shift due to technological change to the data and estimate the effect of ICT investments on the relative compensation share of high-, medium-, and low-skilled workers in 14 advanced countries. For ten of these countries the time span analyzed is at least from 1982 to 2005. For the remaining four countries the time span between the early 1990’s to 2005 is investigated. This analysis shows for which countries the impact of ICT investments on the relative compensation shares is persistent and which skill group is gaining or losing due to the technological advances. If technological change due to the increasing use of ICT in production is the driving force behind the rising inequality and the observed polarization one would expect that ICT investments have a positive impact of the relative compensation share of high-skilled workers and a negative on medium-skilled workers’ share.

[1]See also Machin and Van Reenen (2007) for a review and assessment of this discussion.

My paper also goes beyond the analysis of individual countries and investigates the effect of ICT income inequality for individual industries of the private economy. This offers new explanations to differences in the results by country other than differences in institutions. Intuitively, estimating a cost function for an industry across countries may be more sensible than assuming a single cost function for all industries within one country. Thus in a second approach I investigate the influence of ICT investments on the relative compensation shares in individual industries in the ten countries with the longest available time series. Here I do not only focus on manufacturing, but I also include services and other sectors so that the analysis covers the largest part of private economic activity. Investments into ICT have been growing in service sectors remarkably since the 1970s. Thus my analysis closes a gap in the literature by including these sectors. The results by industry show that the influence of ICT investments depend on the industry. Some industries show the expected pattern while in some industries the relative compensation shares seem to be completely unaffected by ICT investments.

Lemieux (2008) and O'Mahony et al. (2008) discuss possible changes in the development of income inequality. O'Mahony et al. (2008) find structural changes in the effect of ICT on relative compensation shares in the early 1990s in the UK and US. I follow this finding and estimate the above mentioned analyses with the assumption of a structural break. I find structural breaks for ICT in several countries and industries. Furthermore there seems to be a structural break in the industry and country specific effect which may include things like institutions, organizational structure or tradability. The general picture of the results are that ICT investments used to influence high-skilled workers compensation shares positively until the mid 1990's. Afterwards the effect seems to vanish. The influence of ICT investments on the medium-skilled workers compensation shares is negative while it is positive on the low-skilled workers shares for a third to half of the industries, including service industries. This in-depth analysis is possible due to the long and wide dataset.

In the later part of the 1990's a large literature on the effect of changing technology on relative compensation developed. (See Lemieux (2008) and Machin and Van Reenen (2007) for reviews of this discussion.) Most studies focus on manufacturing (Machin and Van Reenen, 1998; Berman et al., 1994). Data on ICT has so far not been available so that it was proxied by other variables such as $R\&D$. My paper is close to O'Mahony et al. (2008) whose analysis goes beyond manufacturing. Furthermore, they include similar industries that I study. They also use a direct measure of ICT investments and analyze three (high, intermediate, low) skill groups. Nevertheless my study is much broader as 14 countries are subject to the analysis as opposed to three in O'Mahony et al. (2008). Moreover I consider data for a longer time span. Thus a larger time frame is available after the observed structural break in the mid 1990's. Consequently my study provides insights about the consistency of the effect of ICT on income inequality across countries and time.

The structure of the paper is as follows. The next section gives a description of the data used in this study. Section three introduces the basic economic model and the econometric methods. In the fourth section I separately discuss the results of the estimation by country, by industry and the estimation with a structural break. The fifth section concludes.

2. The Data

The data source of this study is the EU KLEMS dataset in its version of March 2008[2]. It is a harmonized sectoral dataset for the countries of the European Union and other advanced countries with comparable data across sectors, variable definitions and time. It was designed originally to measure economic growth and productivity. Thus it includes many measures of different capital inputs as well as labor input for three skill groups as well as age and gender groups. The data is available for most European countries and other advanced countries such as the US, Japan, Australia, and South Korea. Furthermore the dataset contains a large set of industries on several aggregation levels. The data originates from the individual statistical offices and was then harmonized to the same industry levels, reference years, and categorizations of capital and labor specifications by the EU KLEMS project.

The coverage varies by country, by industry and for the individual variables. The longest series cover the time span from 1970 to 2005. The variables used in this study are listed in table 1. The set of countries used in this study is listed in table 2, the set of industries is described in table 3. The 23 industries used here cover most of the countries' private economic activity including service sectors. Sectors which are mostly public or agricultural are left out of the analysis.

Variable	Abbreviation	EU KLEMS Description
Real Value Added	Y	$\frac{va}{va\_p} * 100$
Real Gross Fixed Capital Stock	K	k_gfcf
ICT Investments	K^{ICT}	iq_ict
Relative Compensation Shares	Share	labhs, labms, labls

Table 1: Description of Relevant Variables.

Countries	times periods
Australia	1982 - 2005
Austria	1980 - 2005
Czech Republic	1995 - 2005
Denmark	1980 - 2005
Finland	1970 - 2005
Germany	1991 - 2005
Italy	1970 - 2005
Japan	1973 - 2005
Korea	1977 - 2005
Netherlands	1979 - 2005
Slovenia	1995 - 2005
Sweden	1995 - 2005
United Kingdom	1970 - 2005
United States	1970 - 2005

Table 2: Set of countries analyzed in this study.

The dataset contains several capital stock variables. As a proxy for technological devel-

[2]Detailed information on the dataset can be found on the web page www.euklems.net or in Timmer, O'Mahony and van Ark (2007).

Industries
Mining and Quarrying, Food, Beverages and Tobacco, Textiles, Textile, Leather and Footwear, Wood and of Wood and Cork, Pulp, Paper, Printing and Publishing, Coke, refined petroleum and nuclear fuel, Chemicals and chemical, Rubber and plastics, Other Non-Metallic Mineral, Basic Metals and Fabricated Metal, Machinery; Nec., Electrical and Optical Equipment, Transport Equipment Manufacturing Nec.; Recycling, Electricity, Gas and Water Supply, Construction, Wholesale and Retail Trade, Hotels and Restaurants, Transport and Storage, Post and Telecommunications, Financial Intermediation, Real Estate, Renting and Business Activities, Other Community, Social and Personal Services

Table 3: Set of industries analyzed in this study.

opment ICT investments is applied.[3] ICT is considered as office and computing equipment, communication equipment and software. This should be the closest proxy for the technological change described by the skill-biased technological change literature.

The relative compensation shares are the shares of all wages and salaries including all costs that are covered by the employer of the respective skill group. The skill groups are defined by the level of education of the workers. As educational systems vary across the relevant countries the definitions of who belongs to which skill groups differ slightly. Generally, workers with a college degree are measured as high-skilled workers, workers with upper secondary education, some college or a vocational degree are counted as medium-skilled, and workers with at most secondary education or no formal qualifications are counted as low-skilled workers.[4]

Table 4 shows the development of the labor cost share of high-, medium-, and low-skilled workers in the upper rows. It can be seen that since 1985 the relative wage share of the high-skilled workers increased continuously. The relative employment share, which is measured in share of total hours worked by each skill group, is shown in the lower rows of the same table and mirror the development of the high-skilled wage share. Thus also relative employment rose since 1985 for high-skilled workers. Table 7 shows the average annual growth rate of compensation and employment shares for 10 year intervals between 1975 and 2005. Here it can also be seen that the growth rates are always positive for the high-skilled workers, but the size of the growth rates differ between time periods and countries. While in the UK, the US, Finland or Austria the growth of the compensation and employment shares of high-skilled slowed down during this time, the relative shares for high-skilled workers in Japan or Denmark had an almost constant growth over the available time period. In the other countries the growth rates increased, although much more for the high-skilled compensation shares than for the employment shares. This indicates an increase of the compensation share rather due to higher relative wages than due to higher employment.

A similar picture can be seen if separate industries are analyzed. Tables 5 and 6 show the average compensation and employment shares which are measured as an average of each industry for the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States. The data for the high-skilled workers show that

[3] In the EU KLEMS this is 'real gross fixed capital formation' of ICT assets.

[4] A detailed description of the definitions of skill levels for each country can be found in Timmer, van Moergastel, Stuivenwold, Ypma, O'Mahony and Kangasniemi (2007), page 28.

also across industries the compensation and wage shares of high-skilled workers increased since 1985 for all industries. However, between 1975 and 1985 in half of the industries, some manufacturing but also construction or service industries, the high-skilled compensation share decreased as it can be seen in tables 8 and 9. After 1985 all average growth rates for high-skilled workers compensation and employment shares are positive. The employment shares tend to be larger than the compensation shares, which again suggest increasing relative wages next to increasing employment. Especially in manufacturing industries the compensation shares for high-skilled workers increased at a higher rate since the mid 1990's compared to before.

As for the medium-skilled workers the development of their compensation shares are more heterogeneous across countries. Table (7) shows that the average growth rates of medium-skilled workers compensation shares went from positive before 1995 to negative afterwards for all countries, except for Australia, Denmark, and Finland. Although the compensation shares decreased in the latest period the employment share still increased, which implies a relative wage drop. The negative growth rates for medium-skilled workers seem mostly attributable to the service industries which follow this pattern, while manufacturing industries have positive average growth rates of medium-skilled workers compensation and employment shares.

The picture for low-skilled workers is very clear. Except for Germany the employment and compensation shares of low-skilled workers decreased across all countries and all industries. Especially in the period after 1995 the drop in the compensation shares is again stronger than the drop in the employment shares. Similar to the latest development for medium-skilled workers, the low-skilled workers seem to have lost in relative wages.

The explanation for these developments analyzed in this paper is the increasing importance of ICT in the production process, which can be a complement or substitute for the individual worker groups. Table 10 shows the development of total ICT investments by country. In all countries the ICT investments have increased over the available time period. In the US, Japan and Denmark the growth rates declined over time, while for the other countries the growth rates of ICT investments continuously increased since 1975. This is not very surprising as especially the US and Japan are considered to be the frontier of ICT development and these three countries had extremely high ICT investment growth rates between 1975 and 1985. In the analysis of individual industries, the very high growth rates in the service industries are remarkable. Earlier studies usually concentrated on manufacturing. But as ICT investments have been growing substantially also in the service sectors its effects should also be analyzed in these industries. Considering the drop in the relative compensation shares of medium-skilled workers in especially these industries and the simultaneous steep growth in ICT investment, technological changes seems to be a good candidate explanation for the changes in the relative wage share.

3. Estimation Method

This analysis follows a standard approach to estimate demand shifts for skill groups due to technological progress by employing a relative share equation derived from a translog cost function. The cost function of an industry or country i in year t is set up as[5]

$$\begin{aligned} ln\, C_{i,t} &= \alpha + \sum_{j \in h,m,l} \beta_{ji}\, ln\, w_{j,i,t} + \sum_{j \in h,m,l} \sum_{j' \in h,m,l} \beta_{jj'}\, ln\, w_{j,i,t}\, ln\, w_{j',i,t} \\ &+ \beta_Y\, ln\, Y + \sum_{j \in h,m,l} \beta_{jY}\, ln\, w_{j,i,t}\, ln\, Y_{i,t} + \beta_{K^{ICT}}\, ln\, K_{i,t}^{ICT} \\ &+ \sum_{j \in h,m,l} \beta_{jK^{ICT}}\, ln\, w_{j,i,t}\, ln\, K_{i,t}^{ICT} + \beta_K\, ln\, K_{i,t} \\ &+ \sum_{j \in h,m,l} \beta_{jK}\, ln\, w_{j,i,t}\, ln\, K_{i,t} + \sum_{j \in h,m,l} \beta_{ju}\, ln\, w_{j,i,t}\, u_{j,i,t} + u_{c,t}. \end{aligned}$$

Here the costs are a function of the prices of the variable input, wages (w) of high- (h), medium- (m), and low- (l) skilled workers, output or value added (Y), fixed capital (K) and ICT-capital investments (K^{ICT}). The function is set for time period t and for industry or country i.

The function can be simplified by some homogeneity restrictions and by normalization to the low-skilled workers' wages. (See Adams (1999) for details on the restrictions.) Under Shepard's lemma the translog cost function leads to the following cost share equation for high- and medium-skilled workers.

$$share_{jit} = \alpha + \sum_{j \in h,m} \beta_{w_j}\, ln\, \frac{w_j}{w_l} + \beta_K\, ln\, K_{i,t} + \beta_Y\, ln\, Y_{i,t} + \beta_{K^{ICT}}\, ln\, K_{i,t}^{ICT} + u_{j,i,t} \tag{1}$$

The relative cost shares are thus a function of relative wages, value added, capital stock and ICT capital. Clearly the wages are endogenous in this setup. Unfortunately, for the econometric specification, there are no convincing instruments in this case. As it is argued in other studies which follow a similar econometric setup, such as Berman et al. (1994), Machin and Van Reenen (1998), or O'Mahony et al. (2008), I replace the relative wages by year dummies. These time dummies are supposed to capture the effects of relative wages and macroeconomic shocks. As a drawback they might also capture some of the variation from the technological progress, as in other studies technological progress is often proxied by a linear time trend. The estimation equation thus takes on the following form,

$$share_{j,i,t} = \alpha + \beta_K\, ln\, K_{i,t} + \beta_Y\, ln\, Y_{i,t} + \beta_{K^{ICT}}\, ln\, K_{i,t}^{ICT} + \eta D_t + u_{j,i,t}, \tag{2}$$

where D_t represent the time dummies.

[5] This cost function follows closely the setup of Adams (1999) who derives the share equation in great detail. Chennells and Van Reenen (1999) and Sanders and ter Weel (2000) give overviews of this approach and review a large number of studies which have a similar setup.

The share equation can be expressed in capital and ICT shares of total output if the function follows constant returns to scale. The share function has the property of constant returns to scale and equation if the restriction in equation (3) holds. Then (2) can be reduced to equation (4) which depends only on the relative values of input factors to output.

$$\beta_Y = -\left(\beta_K + \beta_{K^{ICT}}\right) \tag{3}$$

$$share_{j,i,t} = \alpha + \beta_{KY}\, ln\left(\frac{K_{i,t}}{Y_{i,t}}\right) + \beta_{K^{ICT}Y}\, ln\left(\frac{K_{i,t}^{ICT}}{Y_{i,t}}\right) + \eta\, D_t + u_{j,i,t} \tag{4}$$

This condition is tested and for most industries and countries the assumption that cost function exhibits constant returns to scale seem plausible. The values of the test-statistics are presented in table (13) by country and in table (14) by industry. As a rule of thumb the hypothesis of constant returns to scale can be rejected on a 10 percent level if the test-statistic is greater than 2.5. This is the case for only a few regressions across industries and only four countries, separated by skill group. The main focus of this paper is on the estimation of equation (4) with the assumption of constant returns to scale, but for the regressions across the whole time period results are also given without the assumption of constant returns to scale in order to show compare the results for the countries and industries where constant returns to scale are implausible. Generally the results assuming constant returns to scale do not differ from the estimation of equation (2) with respect to the sign of the coefficients and their significance except for only a few cases.

The main part of this study concerns the estimation of equation (4) for each country across industries and for the individual industries across countries using the fixed effects estimator.Some of these industry or country specific effects can be institutions which also influence the relative wage share of the skill groups. Thus the variation between the industries and countries caused by institutions is controlled for and only the changes in institution across time within industries and countries remains. In comparison to the first difference estimator, used for example by Machin and Van Reenen (1998), which also controls for within group effects, the fixed effects estimator is more efficient.[6]

O'Mahony et al. (2008) use a variation of this equation and estimate it for several skill groups in France, the UK and the US for a similar time frame. They also find structural breaks in the first half of the 1990s. Other studies mention a structural break for ICT capital between 1994 and 1995. Thus I estimate equation (4) and interact the intercept, $\frac{K}{Y}$, and $\frac{K^{ICT}}{Y}$

[6]For robustness checks the estimations were also repeated with the first difference estimator. This estimator hardly ever delivered significant results which is most likely due to the estimator's properties which make it less efficient compared to the fixed effects estimator. While the standard errors grow considerably when the fixed effects estimator is used with robust standard errors as opposed to uncorrected standard errors, the cluster robust standard errors with the first difference estimator are smaller than the OLS standard errors in half of the cases. If larger lags in the exogenous regressors are implemented in the difference estimator the results high-skilled workers become significant for more countries and industries the larger the lag is. For eight year lags the results are most often positive and significant, but this is most likely only due to the positive correlation between high-skilled workers compensation share and ICT investments. Lagged ICT investment as a regressors in the fixed effects estimation is always insignificant. Due to all these results, the fixed effects estimator seems far more suited for this study.

with a dummy for the time period before 1995 and a time dummy for 1995 and after. The difference of the coefficients of the two time periods is also tested.[7]

In order to account for the differences in industry size and its potential to cause heteroscedasticity each industry is weighted by its average share of total labor costs of within the respective country across the available time frame.[8] Robust standard errors correct for the remaining heteroscedasticity, and serial correlation.

4. Estimation Results

Following the hypothesis of skill-biased technological change the ICT coefficient $\beta_{K^{ICT}}$ should be positive and significant when high-skilled workers' compensation shares are analyzed. The expectations on $\beta_{K^{ICT}}$ are less clear for the case of medium- and low-skilled worker compensations shares. The traditional idea of skill-biased technological change implies a somewhat linear relationship between skill and the positive effect of technological change. So one would expect a negative $\beta_{K^{ICT}}$ for the analysis with low-skilled workers' compensation shares, and no clear result for medium-skilled workers' compensation shares. More recent micro-level studies find a polarization of compensation shares of the skill groups.[9] In these studies it is argued that especially since the 1990s the relative wage shares of medium-skilled workers is decreasing due to ICT while the relative wage shares for low-skilled workers are not or much less affected by ICT. In those papers the line of argumentation is that the tasks of medium-skilled workers are in general more easily replaceable by ICT and low-skilled workers are only marginally affected by ICT due to their task structure. Thus we would expect not much of an effect of ICT on the low-skilled workers compensation shares and a negative effect on the medium-skilled compensation shares.

4.1. Estimation Results by Country

Tables 15 to 17 show the results for the fixed effects estimation of equation (2) for the 14 countries in the sample. Tables 18 to 20 show the results for the assumption of constant returns to scale. Following the test results for constant returns to scale in table 13 constant returns to scale can be easily assumed for all countries except for Austria, Sweden, United Kingdom, and the United States. Generally the results do not differ much between the two estimation assumptions with respect to sign and significance.

The results of the estimation vary remarkably across countries. Only for Australia, Denmark, and Korea the ICT coefficient $\beta_{K^{ICT}}$ is the way it was expected for the high-skilled compensation shares, namely positive and highly significant. The results for Australia imply

[7] For robustness checks and for comparisons with O'Mahony et al. (2008) the same is also done with a time break between 1990 and 1991.

[8] I have also used different alternatives to this as a robustness check. With respect to the size of the coefficients and the significance it does not matter much if the above mentioned weight is used or the labor cost share of the respective industry in specific years, such as 1982 or 1995, or if no weight is used at all.

[9] These findings are given in the light of the task literature of Autor et al. (2003). Autor et al. (2008) find polarizing wage structures for the US, Goos and Manning (2007) for the UK and Spitz-Oener (2006) for Germany.

what was expected from a skill-biased linear effect of ICT on the relative compensation. Here the medium-skilled workers' compensation share seems unaffected by ICT investment, but the compensation share of low-skilled workers is negatively affected by it. In Finland and Sweden the coefficient is negative and significant. ICT seems to have no significant effect on the high-skilled wage share in Austria, the Czech Republic, Germany, Japan, the Netherlands, Slovenia, Sweden, the UK, and the United States.

Clearly, one could argue that the technologies in these countries differ and that there might be clusters of countries which are more technologically advanced and thus ICT investments have different effects on the wage shares of workers. The composition of the three groups is nevertheless surprising. Also that the coefficients in the UK and the US are insignificant is surprising when other studies are considered. For these countries studies have usually found a strong positive effect of ICT on the relative compensation of high-skilled workers. (Machin and Van Reenen, 1998; O'Mahony et al., 2008)

In order to analyze whether ICT contributes to a polarization for the relative incomes by education equation (2) and (4) are also estimated for medium- and low-skilled workers compensation shares. For Austria and the Netherlands ICT investments have a negative impact on the relative compensation share of medium-skilled workers. This can be explained if one assumes that medium-skilled workers tend to have jobs with repetitive tasks and can be easily replace by computers. Thus as medium-skilled workers are substitutes to computers their compensation shares decrease as ICT becomes cheaper. For half the other countries the ICT investment coefficient of the regression for medium skilled workers is negative, but not significant and for the other half the coefficient is positive, but insignificant. Only in Finland ICT investments have a strong positive influence on medium-skilled workers' compensation shares.

With regards to the low-skilled workers' compensation shares the coefficient for ICT investments is positive for Slovenia and the US. This is a bit surprising. The classical skill-biased technological change hypothesis assumes that low-skilled workers are substituted by ICT and would thus expect a negative coefficient here. This is only the case for Australia and Finland. The task approach implies that for traditional low-skilled jobs such as cleaning or filling shelves, ICT is not relevant and would thus predict an non-significant coefficient. A positive coefficient now indicates that their work is rather complementary to ICT. For the estimation under the assumption of constant returns to scale the results remain basically the same. In Australia and Finland the impact of ICT on the high-skilled workers' compensation share is negative while it is positive in the case for medium-skilled.

For Austria, Italy, and the US the results indicate that ICT seems to have a polarizing effect on the lower end of relative compensation distribution as low- and medium-skilled shares are driven together by ICT investment. Generally it is quite remarkable that these results are so heterogeneous. As these countries have all access the same technology, it seems puzzling that ICT has such different impacts on the relative skill groups wage shares.

4.2. Estimation Results by Industries

Intuitively the same industries across advanced countries use the same technology. Thus estimating a share equation for one industry across countries may lead to more consistent estimates than to estimate a share equation for one country across industries. Another way to analyze the effect of ICT is to take each industry and pool over countries and thus control for country specific effects through the fixed effects estimation within one industry. The results of estimating equation (2) by industry are listed in tables 21 to 25. Estimation results with the assumption of constant returns to scale equation (4) can be found in tables 26 to 30.[10] The results by industry are also heterogeneous, but may be explainable by the differences in technology between the industries.

In five industries, *Textiles, Textile, Leather and Footwear*, *Pulp, Paper, Printing and Publishing*, *Chemicals*, *Machinery, Nec.*, and *Post and Telecommunications*, ICT investments have a significant positive effect on high-skilled workers' compensation share since 1970. For a large set of industries there is no significant impact of ICT investment on the high-skilled compensation share. This is true for *Mining and Quarrying*, *Food, Beverages and Tobacco*, *Rubber and plastics*, *Electrical and Optical Equipment*, *Transport Equipment* and *Real Estate, Renting and Business Activities.* In these industries ICT leads to a polarization on the bottom end of the distribution by skill-groups as the coefficients for ICT are negative and significant for the mediums-skilled workers' regressions and positive and mostly significant at the 10 percent level for the low-skilled. Within these industries the gains of the low-skilled due to ICT seem to be at the expense of the medium-skilled whose compensation shares are negatively affected by ICT investments. In the remaining industries ICT investment do not influence the relative compensation shares significantly in the relevant time frame.

As mentioned above, it can be assumed that the same technology is used in the same industry in different countries. Differences in the findings for the effect of ICT investments across industries may be attributable to different tasks in the industry. A high-skilled worker in the sector for financial intermediation has most likely a different set of tasks than a high-skilled worker in chemicals. The same holds if you compare medium- or low-skilled workers in hotels compared to mining. Autor et al. (2003) introduced the idea that differences in the tasks determine whether a worker's wage and employment is positively or negatively influenced by ICT. In this task approach it is claimed that routine tasks are more easily substitutable with computers while interactive and non-routine tasks are more complementary to ICT. Autor et al. (2008), Goos and Manning (2007), and Spitz-Oener (2006) find evidence for these effects in the US, the UK, and in Germany and also discuss an ongoing polarization in the wage distribution due to the fact that ICT has only a marginal influence on manual tasks. Autor et al. (2006) take this idea and combine the tasks with skill. In a theoretical model they use the idea that high-skilled workers perform mainly abstract, meaning non-routine and interactive tasks, while medium and low-skilled workers have routine or manual tasks. Differences in the results for the estimation by industry could thus be attributed to

[10] The results are estimated only with data from Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, UK and USA. These are the countries with the longest available time series.

differences in tasks structures for the industries. Costinot et al. (2009) calculate the routine tasks content by industry for the US in 2006. I tried to match their industry classification to mine and see whether the routineness of the industry can explain in which industries high-, medium-, and low-skilled workers compensation shares are affected more intensively or less by ICT investments.[11] Unfortunately Costinot et al. (2009) use a lower industry aggregation which is restricted to manufacturing. Thus I was only able to match half of the industries to the ones used in this study. In three of the four routine industries ICT has a significantly negative effect on medium-skilled compensation share. In the non-routine industries high-skilled workers compensation shares increase due to ICT in all four but only in two on a highly significant level. In order to further analyze these effects, it would be necessary to investigate what tasks each skill group in each industry has. This may explain the differences which are observable in this estimation. However this is beyond the scope of this paper and thus left to future research.

4.3. Estimation Results under the Assumption of a Structural Break

The aforementioned results are surprising, especially for the estimation for individual countries, as other studies find a significant and positive effect of ICT on the high-skilled wage shares. For example O'Mahony et al. (2008) find strong positive effects for the UK and the US. Nevertheless they also test for structural breaks due to a de-skilling in the long run. They find structural breaks between 1991 and 1994 for high- and medium-skilled workers compensation shares. Thus I re-estimated all regressions with dummies for a structural break for the time period before 1994 and after. I do this only for Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, UK, and USA, as these times series are long enough prior to 1994. These results can be found by country in tables 31 to 33 and by industry in tables 34 to 39. The coefficients for ICT investment share and the capital output ratio were tested for a structural break. Were a structural break can be assumed on the 10 percent level the coefficient values are given in italics.

4.3.1. Estimation Results by Country

For the high-skilled workers the effect of ICT on their wage share has changed over time in Australia, Denmark, Finland, and the US. In Denmark and the US the effect of ICT on the high-skilled compensation share was insignificant before 1994 and then turned positive and significant for the time period between 1995 and 2005. In Australia the coefficient was highly significant in the earlier period and then turned insignificant later on. In Finland the negative sign of the coefficient only holds for the earlier period, which seems to drive the results of

[11] For this exercise I divided the industries in Costinot et al. (2009) by their routineness into thirds. The third with highest level of routineness I called routine, the next next third medium routine, and the last non-routine. I then matched the industries to the ones I use. This leads to the following classifications: non-routine: *Pulp, Paper, Printing and Publishing*, *Coke, refined petroleum and nuclear fuel*, *Electrical and Optical Equipment*, *Chemicals*; medium routine: *Mining and Quarrying*, *Wood and Cork*, *Basic Metals and Fabricated Metal*, *Machinery, Nec.*; routine: *Food, Beverages and Tobacco*, *Textiles, Textile, Leather and Footwear*, *Rubber and Plastics*, *Transport Equipment.*

the result for the estimation where no structural break is assumed. In Japan the positive and significant effect of ICT on the high-skilled compensation share was positive already until 1994 and became even larger and more significant thereafter. In six out of the 10 countries analyzed here, the coefficient of ICT investments is significantly different in the later period compared to the time before 1994.

While the results for the high-skilled compensation shares are quite heterogeneous the results on the medium-skilled compensation shares are quite consistent across countries. Except for the UK, ICT investments have a negative impact on the medium-skilled workers' shares since 1995. For six of the countries the results are also highly significant. In the earlier period the negative effect of ICT is not significant and therefore the coefficient for the estimation without structural break is mostly insignificant in this case. Only in Finland a significant positive effect of ICT turned to negative but insignificant. As for the high-skilled compensation share estimation there is a significant difference for most coefficients between the two time periods.

Concerning the low-skilled compensation share the negative significant effects found above can again be found for Australia and Finland, although only for the time until 1994. Afterwards it is insignificant. For the other countries, ICT influences the low-skilled workers' compensation shares positively, especially in the second period. Only in the UK ICT does not seem to have an effect at all on the relative compensation. As it can be seen from the results, in most cases the sign of the coefficients do not change over time, only the level of significance changed. Thus only in the US there is a significant difference between the two time periods with respect to the influence of ICT on the relative compensation shares.

4.3.2. Estimation Results by Industry

The positive results for the influence of ICT investments on the high-skilled workers' compensation shares were found for the whole time period for *Textiles, Textile, Leather and Footwear*, *Pulp, Paper, Printing and Publishing*, *Chemicals*, *Manufacturing, Nec.; Recycling*, *Transport and Storage*, and *Post and Telecommunications* and is mostly found for the time period until 1994. For the more recent time period the coefficients turn insignificant or even significantly negative in the case of *Transport and Storage*. In *Construction*, *Transport Equipment*, and *Machinery, Nec.* ICT investments also had a significantly negative impact on the high-skilled workers' compensation shares. While for a half of the industries the coefficient for ICT is positive for the time between 1995 and 2005 it is only significant in *Chemicals*.

While the results across countries showed a strong negative effect of ICT on the medium-skilled compensation shares in the second time period the effect is much less pronounced in the regressions across industries. Only in *Manufacturing, Nec.; Recycling* this can be found. In *Food, Beverages and Tobacco*, *Rubber and Plastics*, and *Transport Equipment* the significant negative effect of ICT turned insignificant after 1995. In *Machinery, Nec.*, *Electrical and Optical Equipment*, *Electricity, Gas and Water Supply*, *Wholesale and Retail Trade*, and *Real Estate* the earlier negative influence of ICT on medium-skilled workers' compensation shares turned from negative to positive.

For low-skilled workers' compensation shares, ICT has only a significantly negative effect in the time from 1995 in *Electricity, Gas and Water Supply*. A positive and significant influence of ICT on this share is found for the earlier period in *Food, Beverages and Tobacco*, *Rubber and plastics*, *Machinery, Nec.*, and *Electrical and Optical Equipment* and in *Mining and Quarrying*, *Transport Equipment*, and *Transport and Storage* for the period after 1995.

For the industry estimation only very few estimations show a significant difference in the ICT coefficients between the two periods although there are clear changes in signs and significance levels as mentioned above. In the regressions I also allow the intercept to change between 1994 and 1995. The difference in the intercept was only significant in 8 cases for the high-skilled compensation share. For the medium and low-skilled compensation share estimation the difference in the intercept was significant on a 10 percent level for 14 and 16 industries.

As a robustness check I also estimated the coefficients with the assumption of a structural break with two equations, one for each time period, as opposed to one equation and dummies for the time periods. In an OLS regression this should not make a difference, but with the assumption of fixed effects, the estimation with separate regressions allows for differences in the industry and country fixed effect of the time periods. The results for these estimations can be found in tables 40 to 45. Here, in 14 out of the 23 industries the coefficient for ICT in the earlier period is highly significant and positive for the high-skilled workers' compensation share. For all other industries except for *Financial Intermediation* the coefficient is also positive. In the later period the coefficient is negative and insignificant for all but *Mining and Quarrying*, *Wood and Cork*, *Pulp, Paper, Printing and Publishing*, and *Chemicals* where the coefficient is positive and insignificant.

The picture for the medium- and low-skilled workers' compensation shares do not change much when changes in the fixed effects are allowed for. If there is a significant impact of ICT on the medium-skilled compensation share it is negative. Low-skilled workers' compensation share are positive if significant in the later period. As mentioned earlier the fixed effects cover different characteristics of each industry and each country such as institutions, which do not change over the respective time period. Thus, a change in the industry and country specific fixed effect could be caused by changes in institutions, industry structure, organizational change or changes in tradability. If changes like these are not controlled for in the estimation for the full time period then the results would be biased. If the results with the two estimations and thus allowing for changing fixed effects is taken seriously, it would imply that there was a strong positive effect of ICT investments until 1994 for high-skilled workers compensation shares which vanished afterwards.

For lower skilled workers there seems to be a polarizing effect in about half of the industries where either medium-skilled workers' compensation shares are negatively influenced by ICT and/or low-skilled workers' shares are positively influenced.[12] O'Mahony et al. (2008) also find a weakening of the impact of ICT on the relative compensation shares over time. They

[12]For robustness I also estimated everything assuming a break between 1990 and 1991. The results are not much different, only some single coefficients are more or less significant with the earlier break. Especially for the estimations with the high-skilled compensation shares the differences are very small.

describe the skill-bias of technical change as a temporary phenomenon for the cases of the UK and the USA. These results, with or without structural break, show that ICT investments are not likely to be the sole source of the continuously increasing high-skilled compensation shares.

5. Conclusion

My paper analyzes the effect of ICT investments on relative compensation shares of high−, medium- and low-skilled workers in 23 private industries of 14 industrialized countries. The analysis thus includes a much larger number of countries than earlier studies and also covers most of the private sector opposed to studies that focus on manufacturing. Only very long time coverage enables a distinct analysis of the skill-biased characteristics ICT over time. Additionally ICT investments are directly included in the analysis. I find that there is no persistent effect of ICT investments on the relative wage shares across countries. Nevertheless there seem to be stronger effects of ICT investments in single industries across countries. I argue that the effect of technology changes should be measured on the industry level as opposed to the country level. The reason is that within industries the production should be more similar than across industries within one country.

On the industry level there is evidence that observed polarization in some countries may be driven by the different task structures in the industries. In many industries medium-skilled workers are negatively affected by ICT, while there are mixed results for high- and low-skilled workers. These mixed results may be explained by differences in tasks across industries for the skill groups. Furthermore allowing for a structural break in the early to mid 1990s shows that the effect of ICT on the relative skill-demands has changed over the last 30 years. Before the mid 1990s ICT had a positive effect on the relative wage-shares of high-skilled workers in a substantial number of industries, which has changed to insignificance after the mid 1990s. Lower skilled workers' compensation shares seem less influenced by ICT investments although there tends to be a negative influence on the medium-skilled workers wage shares and a positive on the low-skilled workers shares. This suggests that firms and workers have adapted to the new technology and that the linear effect suggested by the hypothesis of skill-biased technological change was not persistent over time. After the mid 1990s technology seems to lead more to a polarization at the lower end of the income distribution as medium-skilled workers' compensation shares tend to be affected more negatively by ICT while low-skilled workers now gain in their wage shares.

It is still puzzling what is driving the continuing divergence in the relative compensation shares especially on the upper end of the income distribution. High-skilled workers' compensation shares are still growing at the expense of medium- and low-skilled workers which cannot be explained by increasing use and investment into ICT.

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A. Descriptives and Test Statistics

Levels of Total Compensation Share (upper row) and Employment Share (lower row)

High-Skilled			Medium-Skilled			Low-Skilled		
1985	1995	2005	1985	1995	2005	1985	1995	2005
Australia								
11.5	22.4	30.2	40.6	36.9	37.8	47.9	40.8	32.0
7.1	14.6	19.6	36.1	34.7	39.1	56.8	50.7	41.3
Austria								
11.6	15.7	20.2	64.8	67.1	66.5	23.6	17.2	13.3
6.5	9.7	13.5	59.7	65.3	66.7	33.8	25.0	19.8
Czech Republic								
	22.5	27.8		71.6	68.5		5.9	3.7
	11.2	14.1		79.4	79.8		9.5	6.2
Denmark								
6.3	8.9	12.6	57.6	65.8	68.0	36.1	25.3	19.4
3.5	5.5	5.8	50.5	59.9	60.4	46.0	34.7	33.8
Finland								
31.6	41.9	46.6	32.2	35.4	38.9	36.2	22.6	14.5
21.6	32.0	35.0	37.2	41.1	45.9	41.2	26.9	19.1
Germany								
	15.3	18.3		68.0	63.7		16.7	18.0
	8.3	9.5		64.9	62.1		26.8	28.5
Italy								
6.6	9.5	17.9	89.8	89.5	81.8	3.6	1.0	0.2
5.8	7.8	12.8	89.0	89.6	86.1	5.2	2.7	1.2
Japan								
23.4	29.2	37.2	53.3	58.2	57.0	23.3	12.6	5.8
15.0	19.1	26.3	56.6	65.0	66.0	28.4	16.0	7.7
Korea								
37.1	42.6	58.6	38.4	40.6	34.7	24.5	16.9	6.7
21.3	30.6	47.3	43.2	47.3	43.1	35.4	22.1	9.6
Netherlands								
9.2	12.6	20.1	80.7	81.6	76.5	10.1	5.8	3.5
5.2	8.1	12.9	82.0	83.7	81.8	12.8	8.1	5.3
Slovenia								
	26.2	35.5		55.1	53.0		18.6	11.5
	13.4	20.5		60.1	62.2		26.5	17.3
Sweden								
15.8	17.9	26.8	61.7	62.0	60.7	22.5	20.0	12.5
10.6	12.1	19.9	63.3	64.8	64.6	26.2	23.1	15.4
UK								
14.8	22.0	27.9	62.7	66.2	64.6	22.5	11.8	7.6
8.0	12.7	18.9	62.7	68.5	68.8	29.3	18.8	12.3
US								
34.2	41.1	48.1	54.8	52.5	47.0	11.1	6.4	4.9
23.6	27.3	31.7	61.4	61.9	58.5	15.0	10.8	9.9

Table 4: Descriptive statistics by country for the total compensation share and total employment share (share of total hours) by skill group.

Levels of the Average Compensation Share (upper row) and Employment Share (lower row) by Industry Across Countries

High-Skilled			Medium-Skilled			Low-Skilled		
1985	1995	2005	1985	1995	2005	1985	1995	2005
Mining and Quarrying								
11.9	16.8	20.2	56.1	59.9	64.3	31.9	23.4	15.5
8.1	11.8	14.3	55.1	61.1	66.5	36.8	27.1	19.2
Food, Beverages and Tobacco								
11.6	15.7	20.2	64.8	67.1	66.5	23.6	17.2	13.3
5.0	7.7	11.3	54.6	61.2	65.5	40.4	31.1	23.2
Textiles, Textile, Leather and Footwear								
6.8	10.4	17.0	55.1	61.6	64.8	38.1	28.0	18.3
3.8	6.3	10.6	52.9	60.3	65.7	43.4	33.4	23.7
Wood and of Wood and Cork								
9.4	12.7	18.6	55.9	63.2	64.8	34.7	24.1	16.6
5.9	8.9	13.0	54.7	62.8	66.0	39.5	28.3	20.9
Pulp, Paper, Printing and Publishing								
12.9	17.7	23.1	60.0	63.8	64.4	27.2	18.5	12.5
8.6	13.1	17.4	58.9	63.9	66.2	32.5	23.0	16.5
Coke, Refined Petroleum and Nuclear Fuel								
15.0	19.1	24.7	60.3	63.6	63.6	24.7	17.3	11.7
10.3	14.2	18.0	60.7	64.9	66.7	29.0	20.9	15.3
Chemicals and Chemical								
16.8	22.3	29.2	57.4	59.8	59.3	25.8	17.9	11.5
11.3	16.7	21.9	57.8	61.4	63.0	30.9	21.9	15.1
Rubber and Plastics								
11.4	14.9	20.8	58.4	63.7	64.7	30.2	21.4	14.5
7.2	10.4	14.3	57.5	63.9	67.1	35.2	25.8	18.7
Other Non-Metallic Mineral								
10.2	13.0	19.1	56.0	62.8	64.6	33.8	24.2	16.3
6.6	9.1	13.3	55.2	62.9	66.5	38.2	28.0	20.2
Basic Metals and Fabricated Metal								
10.2	13.0	18.7	58.4	64.6	66.4	31.4	22.4	14.9
6.7	9.2	13.1	57.2	64.5	68.0	36.2	26.4	18.9
Machinery, Nec.								
12.3	16.5	24.3	63.6	66.4	64.5	24.1	17.2	11.2
8.3	11.7	17.3	62.8	67.4	68.1	28.9	20.9	14.7
Electrical and Optical Equipment								
14.7	19.9	27.9	62.1	63.6	61.3	23.2	16.5	10.8
9.8	14.0	20.1	61.9	65.6	65.5	28.3	20.5	14.4
Transport Equipment								
14.1	16.6	22.8	62.8	64.9	64.8	23.1	18.5	12.4
8.4	12.0	16.4	61.5	65.9	67.8	30.0	22.0	15.8
Manufacturing Nec.; Recycling								
12.1	13.8	19.8	57.5	62.5	64.6	30.4	23.8	15.5
6.6	9.6	13.5	55.8	62.2	66.3	37.6	28.2	20.2

Table 5: Descriptive statistics by industry for the average compensation share and total employment share (share of total hours) by skill group across country. Compensation and employment shares are measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

Levels of the Average Compensation Share (upper row) and Employment Share (lower row) by Industry Across Countries

High-Skilled			Medium-Skilled			Low-Skilled		
1985	1995	2005	1985	1995	2005	1985	1995	2005
Electricity, Gas and Water Supply								
16.5	20.8	25.5	63.6	66.1	65.2	20.0	13.1	9.2
12.5	16.7	20.4	63.8	67.4	67.6	23.7	15.9	12.0
Construction								
12.4	14.0	16.2	60.7	67.4	69.7	26.9	18.6	14.1
9.3	11.1	12.8	59.8	66.7	69.2	30.9	22.3	17.9
Wholesale and Retail Trade								
14.4	16.1	22.8	62.5	66.8	64.0	23.1	17.1	13.2
9.6	11.3	15.9	62.3	66.7	66.3	28.1	22.0	17.9
Hotels and Restaurants								
8.4	11.2	16.6	60.5	65.8	66.1	31.1	23.0	17.3
5.5	7.8	11.3	58.4	64.2	66.2	36.1	28.0	22.5
Transport and Storage								
7.5	10.2	14.3	60.2	66.2	67.7	32.3	23.7	18.0
5.5	7.8	10.8	58.7	65.7	68.1	35.8	26.5	21.1
Post and Telecommunications								
8.8	13.8	24.2	61.5	64.6	61.0	29.6	21.6	14.7
6.8	11.2	17.9	60.4	64.6	63.7	32.8	24.2	18.5
Financial Intermediation								
25.1	32.8	43.0	61.8	58.0	50.8	13.1	9.2	6.3
18.1	24.7	32.5	65.2	62.5	57.6	16.7	12.8	10.0
Real Estate, Renting and Business Activities								
30.1	38.1	47.6	53.7	50.3	44.5	16.2	11.6	7.9
22.0	28.2	36.2	55.7	54.8	51.1	22.3	17.0	12.7
Other Community, Social and Personal Services								
20.6	26.0	31.8	57.8	58.5	58.1	21.6	15.5	10.1
12.7	18.1	22.9	58.5	61.2	62.5	28.8	20.7	14.6

Table 6: Descriptive statistics by industry for the average compensation share and total employment share (share of total hours) by skill group across country. Compensation and employment shares are measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

Average Annual Growth Rate of the Total Compensation Share (upper row) and Employment Share (lower row) by Country

	High-Skilled			Medium-Skilled			Low-Skilled		
	1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005
Australia									
		0.067	0.030		-0.010	0.003		-0.016	-0.024
		0.073	0.029		-0.004	0.012		-0.012	-0.020
Austria									
		0.030	0.025		0.003	-0.001		-0.031	-0.026
		0.039	0.034		0.009	0.002		-0.030	-0.024
Czech Republic									
			0.021			-0.004			-0.047
			0.023			0.001			-0.043
Denmark									
		0.035	0.035		0.013	0.003		-0.035	-0.027
		0.050	0.036		0.018	0.006		-0.031	-0.020
Finland									
	0.021	0.028	0.011	0.033	0.009	0.009	-0.035	-0.047	-0.044
	0.040	0.039	0.009	0.041	0.010	0.011	-0.039	-0.043	-0.034
Germany									
			0.018			-0.006			0.007
			0.013			-0.004			0.006
Italy									
	0.019	0.036	0.064	0.002	0.000	-0.009	-0.057	-0.126	-0.159
	0.033	0.030	0.050	0.003	0.001	-0.004	-0.062	-0.067	-0.082
Japan									
	0.028	0.022	0.024	0.012	0.009	-0.002	-0.041	-0.061	-0.077
	0.038	0.024	0.032	0.018	0.014	0.002	-0.040	-0.058	-0.073
Korea									
	0.001	0.014	0.032	0.019	0.005	-0.016	-0.026	-0.037	-0.093
	0.013	0.036	0.043	0.032	0.009	-0.009	-0.034	-0.047	-0.084
Netherlands									
		0.032	0.047		0.001	-0.006		-0.055	-0.051
		0.046	0.046		0.002	-0.002		-0.046	-0.043
Slovenia									
			0.030			-0.004			-0.048
			0.042			0.003			-0.043
Sweden									
		0.012	0.040		0.001	-0.002		-0.012	-0.047
		0.014	0.050		0.002	0.000		-0.013	-0.040
UK									
	0.087	0.039	0.024	0.023	0.005	-0.002	-0.067	-0.064	-0.045
	0.094	0.047	0.039	0.027	0.009	0.000	-0.051	-0.045	-0.042
US									
	0.031	0.018	0.016	0.001	-0.004	-0.011	-0.063	-0.055	-0.027
	0.032	0.014	0.015	0.007	0.001	-0.006	-0.054	-0.033	-0.009

Table 7: Descriptive statistics by country for the 10 year average annual growth rate of the average compensation share and total employment share (share of total hours) by skill group.

Average Annual Growth Rate of the Average Total Compensation Share (upper row) and Employment Share (lower row) by Industry

High-Skilled			Medium-Skilled			Low-Skilled		
1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005
Mining and Quarrying								
0.000	0.006	0.019	0.027	0.006	0.007	-0.034	-0.031	-0.041
0.009	0.037	0.019	0.022	0.010	0.008	-0.028	-0.031	-0.034
Food, Beverages and Tobacco								
-0.007	0.038	0.038	0.025	0.009	0.004	-0.030	-0.031	-0.037
0.005	0.044	0.039	0.027	0.011	0.007	-0.028	-0.026	-0.030
Textiles, Textile, Leather and Footwear								
-0.004	0.042	0.049	0.028	0.011	0.005	-0.030	-0.031	-0.043
0.012	0.051	0.052	0.030	0.013	0.009	-0.028	-0.026	-0.034
Wood and of Wood and Cork								
0.005	0.030	0.038	0.028	0.012	0.003	-0.034	-0.036	-0.038
0.016	0.042	0.038	0.024	0.014	0.005	-0.028	-0.033	-0.030
Pulp, Paper, Printing and Publishing								
-0.008	0.032	0.026	0.023	0.006	0.001	-0.035	-0.038	-0.039
-0.001	0.041	0.028	0.019	0.008	0.003	-0.027	-0.034	-0.033
Coke, Refined Petroleum and Nuclear Fuel								
-0.013	0.024	0.026	0.023	0.005	0.000	-0.035	-0.035	-0.039
-0.007	0.032	0.024	0.019	0.007	0.003	-0.030	-0.033	-0.031
Chemicals and Chemical								
-0.009	0.028	0.027	0.023	0.004	-0.001	-0.034	-0.036	-0.044
-0.004	0.039	0.027	0.019	0.006	0.003	-0.027	-0.034	-0.037
Rubber and Plastics								
-0.008	0.027	0.033	0.023	0.009	0.002	-0.031	-0.034	-0.039
0.004	0.036	0.032	0.020	0.010	0.005	-0.026	-0.031	-0.032
Other Non-Metallic Mineral								
0.003	0.024	0.039	0.024	0.011	0.003	-0.031	-0.033	-0.040
0.013	0.032	0.037	0.021	0.013	0.006	-0.026	-0.031	-0.033
Basic Metals and Fabricated Metal								
-0.002	0.024	0.037	0.024	0.010	0.003	-0.033	-0.034	-0.041
0.009	0.032	0.035	0.020	0.012	0.005	-0.026	-0.032	-0.033
Machinery, Nec.								
0.005	0.029	0.039	0.021	0.004	-0.003	-0.042	-0.034	-0.043
0.017	0.034	0.039	0.020	0.007	0.001	-0.037	-0.033	-0.035
Electrical and Optical Equipment								
0.002	0.031	0.034	0.019	0.002	-0.004	-0.039	-0.034	-0.042
0.012	0.036	0.036	0.018	0.006	0.000	-0.034	-0.032	-0.035
Transport Equipment								
0.016	0.016	0.032	0.023	0.003	0.000	-0.050	-0.022	-0.040
0.016	0.036	0.031	0.022	0.007	0.003	-0.037	-0.031	-0.033
Manufacturing Nec.; Recycling								
0.017	0.013	0.037	0.026	0.008	0.003	-0.041	-0.025	-0.043
0.012	0.037	0.035	0.025	0.011	0.006	-0.030	-0.029	-0.033

Table 8: Descriptive statistics by industry for the 10 year average annual growth rate of the average compensation share and total employment share (share of total hours) by skill group across countries. Compensation and employment shares are measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

Average Annual Growth Rate of the Average Total Compensation Share (upper row) and Employment Share (lower row) by Industry

High-Skilled			Medium-Skilled			Low-Skilled		
1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005	1975-1985	1985-1995	1995-2005
Electricity, Gas and Water Supply								
-0.008	0.023	0.021	0.012	0.004	-0.001	-0.027	-0.042	-0.035
-0.002	0.029	0.020	0.009	0.005	0.000	-0.020	-0.040	-0.028
Construction								
-0.013	0.012	0.014	0.015	0.010	0.003	-0.023	-0.037	-0.028
-0.007	0.018	0.015	0.013	0.011	0.004	-0.019	-0.033	-0.022
Wholesale and Retail Trade								
-0.015	0.011	0.035	0.014	0.007	-0.004	-0.024	-0.030	-0.026
-0.004	0.016	0.034	0.010	0.007	-0.001	-0.019	-0.024	-0.021
Hotels and Restaurants								
-0.001	0.029	0.039	0.020	0.008	0.001	-0.030	-0.030	-0.029
0.010	0.035	0.037	0.018	0.009	0.003	-0.024	-0.025	-0.022
Transport and Storage								
0.000	0.030	0.034	0.015	0.010	0.002	-0.023	-0.031	-0.027
0.009	0.034	0.033	0.014	0.011	0.004	-0.021	-0.030	-0.023
Post and Telecommunications								
0.003	0.045	0.056	0.007	0.005	-0.006	-0.013	-0.032	-0.038
0.008	0.049	0.047	0.002	0.007	-0.001	-0.006	-0.030	-0.027
Financial Intermediation								
-0.006	0.027	0.027	0.003	-0.006	-0.013	-0.004	-0.035	-0.038
-0.001	0.031	0.027	0.000	-0.004	-0.008	0.000	-0.027	-0.025
Real Estate, Renting and Business Activities								
-0.005	0.024	0.022	0.007	-0.007	-0.012	-0.013	-0.034	-0.038
-0.003	0.025	0.025	0.007	-0.002	-0.007	-0.013	-0.027	-0.029
Other Community, Social and Personal Services								
0.006	0.023	0.020	0.016	0.001	-0.001	-0.037	-0.033	-0.042
0.006	0.036	0.023	0.018	0.005	0.002	-0.030	-0.033	-0.035

Table 9: Descriptive statistics by industry for the 10 year average annual growth rate of the average compensation share and total employment share (share of total hours) by skill group across countries. Compensation and employment shares are measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

Levels and Annual Average Growth Rates of the Share of ICT Investment in Total Value Added

$\frac{K^{ICT}}{Y}$ in levels			$\frac{K^{ICT}}{Y}$ average annual growth rate		
1985	1995	2005	1975-1985	1985-1995	1995-2005
Australia					
0.010	0.030	0.195	0.066	0.105	0.188
Austria					
0.009	0.019	0.076		0.077	0.137
Czech Republic					
	0.031	0.103			0.119
Denmark					
0.011	0.033	0.181	0.234	0.114	0.170
Finland					
0.012	0.029	0.060	0.070	0.093	0.071
Germany					
	0.021	0.064			0.112
Italy					
0.011	0.020	0.050	0.071	0.064	0.091
Japan					
0.015	0.028	0.059	0.135	0.062	0.073
Korea					
0.012	0.030	0.071		0.090	0.086
Netherlands					
0.012	0.027	0.104	0.084	0.080	0.133
Slovenia					
	0.026	0.077			0.110
Sweden					
	0.035	0.057			0.048
UK					
0.013	0.035	0.127	0.078	0.100	0.128
US					
0.002	0.010	0.068	0.389	0.171	0.195

Table 10: Descriptive statistics by country for the share of ICT investment in total value added in levels and the 10 year average annual growth rate.

Levels and Annual Average Growth Rates of the Share of ICT Investment in Total Value Added

	$\frac{K^{ICT}}{Y}$ in levels		$\frac{K^{ICT}}{Y}$ average annual growth rate		
1985	1995	2005	1975-1985	1985-1995	1995-2005
Mining and Quarrying					
0.006	0.013	0.057	0.140	0.072	0.149
Food, Beverages and Tobacco					
0.006	0.016	0.074	0.081	0.104	0.152
Textiles, Textile, Leather and Footwear					
0.003	0.011	0.065	0.126	0.132	0.174
Wood and of Wood and Cork					
0.005	0.009	0.042	-0.005	0.055	0.155
Pulp, Paper, Printing and Publishing					
0.008	0.026	0.126	0.114	0.118	0.160
Coke, Refined Petroleum and Nuclear Fuel					
0.032	0.128	0.124	0.174	0.140	0.169
Chemicals and Chemical					
0.011	0.019	0.056	-0.027	0.060	0.106
Rubber and Plastics					
0.007	0.013	0.049	0.141	0.068	0.131
Other Non-Metallic Mineral					
0.005	0.012	0.067	0.145	0.086	0.171
Basic Metals and Fabricated Metal					
0.006	0.014	0.043	0.067	0.078	0.112
Machinery, Nec.					
0.010	0.021	0.079	0.118	0.068	0.135
Electrical and Optical Equipment					
0.027	0.037	0.079	0.079	0.032	0.075
Transport Equipment					
0.010	0.021	0.067	0.134	0.073	0.115
Manufacturing Nec.; Recycling					
0.005	0.015	0.071	0.108	0.101	0.156
Electricity, Gas and Water Supply					
0.012	0.021	0.089	0.036	0.058	0.143
Construction					
0.002	0.009	0.030	0.100	0.124	0.125

Table 11: Descriptive statistics by industry for the average share of ICT investment in total value added in levels and the 10 year average annual growth rate. $\frac{ICT}{Y}$ is measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

Levels and Annual Average Growth Rates of the Share of ICT Investment in Total Value Added

$\frac{K^{ICT}}{Y}$ in levels			$\frac{K^{ICT}}{Y}$ average annual growth rate		
1985	1995	2005	1975-1985	1985-1995	1995-2005
Wholesale and Retail Trade					
0.011	0.022	0.088	0.102	0.072	0.139
Hotels and Restaurants					
0.005	0.012	0.043	0.157	0.085	0.126
Transport and Storage					
0.017	0.032	0.090	0.038	0.061	0.104
Post and Telecommunications					
0.132	0.161	0.156	0.109	0.020	-0.003
Financial Intermediation					
0.020	0.057	0.200	0.092	0.103	0.126
Real Estate, Renting and Business Activities					
0.010	0.030	0.138	0.116	0.115	0.151
Other Community, Social and Personal Services					
0.013	0.033	0.138	0.158	0.093	0.142

Table 12: Descriptive statistics by industry for the average share of ICT investment in total value added in levels and the 10 year average annual growth rate. $\frac{ICT}{Y}$ is measured here as an average of each industry across the countries Australia, Austria, Denmark, Finland, Italy, Japan, Korea, Netherlands, United Kingdom, and United States.

F-Statistic for	High-Skilled	Medium-Skilled	Low-Skilled
Australia	0.32	2.51	0.00
Austria	5.30	11.56	5.45
Czech Republic	0.54	0.49	0.63
Denmark	0.65	0.64	2.66
Finland	0.07	1.08	1.01
Germany	0.02	6.61	3.21
Italy	1.16	0.09	4.26
Japan	1.89	0.62	0.24
Korea	1.95	0.38	1.30
Netherlands	5.27	8.81	9.36
Slovenia	0.92	11.45	1.21
Sweden	3.58	8.42	4.52
United Kingdom	3.98	5.99	5.65
United States	45.70	129.68	95.23

Test of the H0: $\beta_Y + \beta_K + \beta_{K^{ICT}} = 0$.

Table 13: Results for test of the constant returns to scale restriction in equation (3) by country.

F-Statistic for	High-Skilled	Medium-Skilled	Low-Skilled
Mining and Quarrying	0.52	2.96	1.75
Food, Beverages and Tobacco	1.20	2.00	0.70
Textiles, Textile, Leather and Footwear	0.02	2.83	1.58
Wood and of Wood and Cork	0.08	7.18	2.38
Chemicals and chemical	0.17	1.23	0.53
Pulp, Paper, Printing and Publishing	0.35	1.62	1.11
Coke, refined petroleum and nuclear fuel	0.37	0.58	0.37
Rubber and plastics	0.05	1.25	0.75
Other Non-Metallic Mineral	0.00	0.52	0.20
Basic Metals and Fabricated Metal	1.76	2.11	2.03
Machinery, Nec.	0.04	0.37	0.35
Electrical and Optical Equipment	0.46	0.01	0.15
Transport Equipment	13.36	0.22	3.98
Manufacturing Nec.; Recycling	1.78	0.07	1.36
Electricity, Gas and Water Supply	0.51	1.11	2.24
Construction	0.01	25.04	17.37
Wholesale and Retail Trade	0.20	10.25	5.82
Hotels and Restaurants	4.13	1.42	0.48
Transport and Storage	0.93	6.96	1.09
Post and Telecommunications	0.63	3.78	6.88
Financial Intermediation	0.55	6.48	0.38
Real Estate, Renting and Business Activities	0.00	0.02	0.05
Other Community, Social and Personal Services	3.51	0.24	4.96

Test of the H0: $\beta_Y + \beta_K + \beta_{KICT} = 0$.

Table 14: Results for test of the constant returns to scale restriction in equation (3) by industry.

B. Estimation Results

Australia			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	4.008*	0.140	-4.147**
	(1.873)	(0.596)	(1.980)
Y	7.606	1.877	-9.483*
	(5.094)	(1.535)	(5.291)
K	-7.177	-5.921	13.10
	(8.409)	(3.932)	(11.63)
N	552	552	552
R^2	0.622	0.625	0.479
Austria			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.904	-2.823**	1.919
	(1.377)	(1.147)	(1.165)
Y	-1.288	3.036	-1.748
	(2.143)	(2.440)	(1.968)
K	10.85**	-17.03***	6.180**
	(4.406)	(5.401)	(2.764)
N	598	598	598
R^2	0.594	0.659	0.883
Czech Republic			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.180	0.116	0.118
	(0.271)	(0.227)	(0.126)
Y	-0.357	0.246	0.214
	(0.552)	(0.415)	(0.227)
K	2.378	-1.667	-1.161
	(3.023)	(2.232)	(1.294)
N	253	253	253
R^2	0.513	0.193	0.799
Denmark			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.982*	-1.293	0.310
	(0.476)	(1.407)	(1.123)
Y	4.017***	-8.777*	4.760
	(1.090)	(3.650)	(2.773)
K	-6.328***	6.819	-0.491
	(2.081)	(4.614)	(2.839)
N	598	598	598
R^2	0.697	0.735	0.866
Germany			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.134	-1.538	1.407
	(0.643)	(1.291)	(1.746)
Y	-0.198	-0.183	0.400
	(0.231)	(0.623)	(0.840)
K	-0.122	-4.353	4.575
	(1.798)	(2.837)	(4.217)
N	322	345	345
R^2	0.810	0.438	0.399

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 15: Results for Australia, Austria, Czech Republic, Denmark, and Germany for Regression Equation (2)

Finland			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-1.135*	2.094***	-0.959**
	(0.551)	(0.713)	(0.450)
Y	2.882	-1.300	-1.583
	(2.000)	(3.169)	(2.484)
K	-1.068	-5.486	6.553
	(3.269)	(6.960)	(5.780)
N	797	797	797
R^2	0.895	0.836	0.974
Italy			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	1.195	-2.290*	1.095*
	(1.075)	(1.112)	(0.608)
Y	5.987*	-9.859**	3.872*
	(3.266)	(3.526)	(1.946)
K	-11.42	11.02	0.399
	(7.050)	(7.162)	(0.996)
N	828	828	828
R^2	0.308	0.295	0.713
Japan			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	2.511	-4.235	1.724
	(1.661)	(3.556)	(2.037)
Y	4.028**	-9.109*	5.081
	(1.603)	(4.960)	(3.579)
K	-3.343	7.584	-4.241
	(3.350)	(8.753)	(5.703)
N	759	759	759
R^2	0.883	0.520	0.896
Korea			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	1.644**	-1.862	0.218
	(0.729)	(1.197)	(1.332)
Y	0.842	-3.007	2.165
	(1.331)	(2.622)	(3.173)
K	-0.749	6.768**	-6.019*
	(1.571)	(2.762)	(3.367)
N	667	667	667
R^2	0.784	0.403	0.738
Netherlands			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-1.380	-0.283	1.663
	(1.030)	(2.088)	(1.162)
Y	0.742	-5.875	5.133
	(2.960)	(6.642)	(3.989)
K	8.319**	-16.20**	7.877**
	(3.423)	(6.120)	(3.210)
N	621	621	621
R^2	0.729	0.469	0.843

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 16: Results for Finland, Italy, Japan, Korea, and Netherlands for Regression Equation (2)

Slovenia			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.271	-0.282	0.553
	(0.604)	(0.385)	(0.442)
Y	0.145	-0.105	-0.0400
	(0.376)	(0.382)	(0.371)
K	1.985	-3.769**	1.783
	(2.662)	(1.634)	(2.778)
N	253	253	253
R^2	0.487	0.214	0.487
Sweden			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-1.576*	1.398	0.178
	(0.804)	(1.551)	(1.384)
Y	1.433	-3.103*	1.670*
	(1.082)	(1.517)	(0.836)
K	6.113*	-10.22*	4.108
	(3.547)	(5.712)	(4.260)
N	299	299	299
R^2	0.610	0.377	0.882
UK			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.404	-1.490	1.086
	(1.402)	(3.334)	(2.554)
Y	5.248	-14.14	8.896
	(4.621)	(10.35)	(6.313)
K	1.700	-5.613	3.912
	(4.314)	(11.53)	(7.767)
N	828	828	828
R^2	0.803	0.734	0.928
USA			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.186	-1.700	1.514*
	(0.662)	(1.326)	(0.744)
Y	3.554***	-5.096*	1.541
	(1.237)	(2.503)	(1.887)
K	5.044***	-14.37***	9.323***
	(0.969)	(1.620)	(1.239)
N	828	828	828
R^2	0.915	0.643	0.938

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 17: Results for Slovenia, Sweden, UK, and USA for Regression Equation (2)

Variable	High-Skilled	Medium-Skilled	Low-Skilled
Australia			
$\frac{K^{ICT}}{Y}$	4.095**	0.0625	-4.158**
	(1.905)	(0.611)	(1.958)
$\frac{K}{Y}$	-10.21*	-3.255	13.46*
	(5.942)	(2.822)	(7.719)
N	552	552	552
R^2	0.616	0.595	0.479
Austria			
$\frac{K^{ICT}}{Y}$	0.059	-1.466	1.406
	(1.688)	(1.660)	(1.167)
$\frac{K}{Y}$	4.881	-7.440*	2.558
	(3.241)	(4.285)	(2.133)
N	598	598	598
R^2	0.494	0.538	0.870
Czech Republic			
$\frac{K^{ICT}}{Y}$	-0.142	0.088	0.100
	(0.233)	(0.204)	(0.113)
$\frac{K}{Y}$	0.428	-0.284	-0.283
	(0.704)	(0.539)	(0.301)
N	253	253	253
R^2	0.495	0.178	0.791
Denmark			
$\frac{K^{ICT}}{Y}$	1.098*	-1.011	-0.086
	(0.606)	(1.588)	(1.184)
$\frac{K}{Y}$	-5.378***	9.143***	-3.765**
	(1.431)	(2.891)	(1.722)
N	598	598	598
R^2	0.693	0.733	0.863
Germany			
$\frac{K^{ICT}}{Y}$	0.111	-2.302	2.209
	(0.609)	(1.426)	(1.845)
$\frac{K}{Y}$	0.0994	2.972**	-3.122*
	(0.556)	(1.291)	(1.657)
N	322	345	345
R^2	0.810	0.365	0.346
Finland			
$\frac{K^{ICT}}{Y}$	-1.209**	2.605***	-1.396*
	(0.451)	(0.838)	(0.732)
$\frac{K}{Y}$	-1.666	-1.352	3.018
	(2.029)	(3.665)	(3.148)
N	797	797	797
R^2	0.895	0.828	0.972

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 18: Results for Equation 4 for Australia, Austria, Czech Republic, Denmark, and Germany

Italy			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	1.499	-2.209*	0.710
	(1.291)	(1.269)	(0.585)
$\frac{K}{Y}$	-8.886	11.69**	-2.808
	(5.503)	(5.369)	(1.910)
N	828	828	828
R^2	0.297	0.295	0.650
Japan			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	2.753	-4.672	1.919
	(1.680)	(3.570)	(2.053)
$\frac{K}{Y}$	-6.775**	13.77**	-6.994*
	(2.728)	(6.386)	(3.884)
N	759	759	759
R^2	0.877	0.505	0.895
Korea			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	1.346*	-2.187	0.841
	(0.681)	(1.406)	(1.506)
$\frac{K}{Y}$	-1.867	5.546**	-3.679
	(1.676)	(2.404)	(3.240)
N	667	667	667
R^2	0.782	0.397	0.730
Netherlands			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-1.539	0.180	1.359
	(1.254)	(2.593)	(1.391)
$\frac{K}{Y}$	2.076	1.973	-4.049
	(3.273)	(8.176)	(5.119)
N	621	621	621
R^2	0.695	0.277	0.777
Slovenia			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.208	-0.422	0.630*
	(0.616)	(0.499)	(0.346)
$\frac{K}{Y}$	-0.0917	0.874	-0.782
	(0.718)	(0.810)	(0.532)
N	253	253	253
R^2	0.482	0.172	0.466
Sweden			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-1.594*	0.180	1.359
	(0.893)	(2.593)	(1.391)
$\frac{K}{Y}$	-0.110	1.973	-4.049
	(1.443)	(8.176)	(5.119)
N	299	621	621
R^2	0.587	0.277	0.777

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 19: Results for equation 4 for Italy, Japan, Korea, Netherlands, Slovenia, and Sweden

UK			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.957	1.435	0.159
	(1.708)	(1.597)	(1.357)
$\frac{K}{Y}$	-0.618	2.210	-2.100
	(4.577)	(2.281)	(1.702)
N	828	299	299
R^2	0.773	0.273	0.866
USA			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.431	-0.213	0.645
	(0.970)	(2.083)	(1.163)
$\frac{K}{Y}$	-1.584	1.600	-0.0166
	(2.755)	(5.630)	(3.041)
N	828	828	828
R^2	0.877	0.142	0.855

***,**,*: statistically significant at 1, 5, and 10 % level, respectively; robust standard errors in parentheses

Table 20: Results for equation 4 UK and USA

Mining and Quarrying			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.794	-1.173**	1.966**
	(0.761)	(0.447)	(0.736)
Y	-1.624	-5.792	7.416
	(2.703)	(4.420)	(5.218)
K	3.793	-1.035	-2.758
	(3.977)	(3.519)	(6.506)
N	304	304	304
R^2	0.755	0.738	0.846

Food, Beverages and Tobacco			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.492	-5.206***	4.714**
	(1.213)	(1.541)	(1.739)
Y	3.878	-8.382	4.504
	(2.735)	(5.889)	(6.912)
K	-0.252	-3.528	3.780
	(3.659)	(7.210)	(9.639)
N	309	309	309
R^2	0.726	0.803	0.840

Textiles, Textile, Leather and Footwear			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	3.277**	1.324	-4.601
	(1.211)	(2.012)	(2.852)
Y	-5.680*	-13.30**	18.98**
	(2.691)	(4.936)	(6.391)
K	2.839	-2.835	-0.00335
	(3.240)	(6.455)	(9.139)
N	304	304	304
R^2	0.737	0.750	0.803

Wood and of Wood and Cork			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.554	1.213	-1.768
	(0.915)	(1.493)	(2.364)
Y	-0.442	-8.185	8.627
	(2.557)	(5.769)	(7.329)
K	1.410	-13.44*	12.03
	(5.044)	(6.354)	(10.34)
N	308	308	308
R^2	0.720	0.835	0.842

Pulp, Paper, Printing and Publishing			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	2.148**	-3.695	1.547
	(0.929)	(2.193)	(2.104)
Y	1.592	0.386	-1.978
	(2.885)	(3.594)	(4.178)
K	-2.019	-8.375	10.39
	(4.029)	(8.405)	(10.33)
N	309	309	309
R^2	0.823	0.668	0.813

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 21: Results for Separate Industries

Coke, Refined Petroleum and Nuclear Fuel			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.370	-1.634	1.264
	(0.506)	(1.905)	(2.123)
Y	1.565**	-1.084	-0.480
	(0.572)	(1.999)	(2.320)
K	-1.020	-5.758	6.777
	(1.994)	(5.914)	(6.620)
N	304	304	304
R^2	0.837	0.520	0.709
Chemicals and Chemical			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	2.216***	-2.332	0.116
	(0.467)	(3.611)	(3.506)
Y	0.053	-1.317	1.264
	(1.242)	(4.024)	(4.076)
K	-1.280	-4.219	5.499
	(2.686)	(8.756)	(9.063)
N	309	309	309
R^2	0.897	0.395	0.711
Rubber and Plastics			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.004	-4.289**	4.292*
	(0.885)	(1.641)	(2.127)
Y	3.633	-2.608	-1.025
	(2.021)	(4.462)	(4.683)
K	-4.460	-2.802	7.262
	(4.051)	(9.420)	(11.88)
N	302	302	302
R^2	0.756	0.731	0.778
Other Non-Metallic Mineral			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.148	-1.020	0.872
	(0.913)	(1.319)	(1.990)
Y	-0.145	-9.824*	9.968
	(2.829)	(6.138)	(8.687)
K	0.0695	7.943	-8.012
	(3.432)	(7.034)	(10.040)
N	308	308	308
R^2	0.688	0.781	0.794
Basic Metals and Fabricated Metal			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.639	-1.932	2.570
	(0.505)	(1.653)	(1.871)
Y	2.741	-1.022	-1.719
	(2.100)	(5.143)	(6.565)
K	-7.313	-8.961	16.27
	(4.587)	(8.951)	(13.08)
N	309	309	309
R^2	0.744	0.769	0.804

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 22: Results for Separate Industries

Machinery, Nec.			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.445	-1.335	1.780
	(2.189)	(1.874)	(2.833)
Y	4.248	0.692	-4.939
	(2.889)	(3.750)	(5.521)
K	-4.332	-4.172	8.504
	(5.158)	(11.320)	(14.980)
N	309	309	309
R^2	0.749	0.624	0.800

Electrical and Optical Equipment			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	1.430	-4.147**	2.716
	(0.843)	(1.582)	(1.716)
Y	6.763***	-2.132	-4.631
	(1.743)	(3.582)	(3.909)
K	-6.856**	6.715	0.141
	(2.833)	(5.928)	(6.779)
N	309	309	309
R^2	0.911	0.543	0.813

Transport Equipment			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	1.290	-3.861**	2.571*
	(0.726)	(1.368)	(1.174)
Y	2.788	4.202	-6.990
	(2.027)	(4.643)	(5.891)
K	-13.810**	-3.005	16.810
	(4.329)	(9.828)	(12.25)
N	309	309	309
R^2	0.797	0.672	0.835

Manufacturing Nec.; Recycling			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	2.044*	0.258	-2.302
	(1.098)	(1.412)	(2.451)
Y	-1.414	-10.410	11.820
	(3.289)	(6.136)	(8.986)
K	-5.856	9.163	-3.307
	(3.786)	(5.027)	(6.770)
N	306	306	306
R^2	0.614	0.718	0.746

Electricity, Gas and Water Supply			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.545	-2.036	1.491
	(1.225)	(1.122)	(1.428)
Y	3.130	6.062	-9.192
	(6.696)	(3.803)	(8.435)
K	-5.629	-10.150**	15.780
	(8.168)	(3.680)	(10.10)
N	309	309	309
R^2	0.744	0.520	0.752

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively; robust standard errors in parentheses

Table 23: Results for Separate Industries

Construction			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.125	0.524	-0.399
	(0.712)	(1.450)	(1.280)
Y	1.957	-11.25***	9.297**
	(2.934)	(2.655)	(3.071)
K	-2.134	-7.101	9.234
	(4.769)	(4.016)	(5.691)
N	307	307	307
R^2	0.589	0.756	0.872
Wholesale and Retail Trade			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.041	-1.935	1.895
	(1.058)	(1.284)	(1.171)
Y	3.659	-14.910	11.250
	(6.418)	(11.23)	(13.22)
K	-5.565	7.549	-1.984
	(4.527)	(11.180)	(12.910)
N	309	309	309
R^2	0.643	0.501	0.696
Hotels and Restaurants			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.795	-0.903	0.108
	(0.813)	(1.582)	(2.092)
Y	-1.581	-5.275	6.856
	(5.071)	(10.330)	(11.620)
K	7.072	2.920	-9.992
	(4.290)	(8.024)	(9.091)
N	307	307	307
R^2	0.633	0.672	0.727
Transport and Storage			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	1.237*	-0.680	-0.557
	(0.668)	(1.701)	(2.162)
Y	4.196	-19.840**	15.64
	(4.646)	(7.112)	(10.94)
K	0.181	1.670	-1.851
	(3.913)	(5.440)	(8.438)
N	309	309	309
R^2	0.651	0.783	0.798
Post and Telecommunications			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	2.204*	-3.149	0.945
	(1.070)	(2.331)	(2.198)
Y	4.249	9.343	-13.590*
	(2.654)	(6.526)	(7.392)
K	-3.069	-16.870	19.940**
	(6.240)	(10.95)	(8.592)
N	309	309	309
R^2	0.813	0.403	0.685

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 24: Results for Separate Industries

Financial Intermediation			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.317	-0.906	1.224
	(1.466)	(0.534)	(1.238)
Y	1.332	1.728	-3.060
	(4.959)	(2.818)	(3.430)
K	3.932	-8.220***	4.287
	(5.025)	(2.437)	(4.024)
N	309	309	309
R^2	0.820	0.780	0.651
Real Estate, Renting and Business Activities			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	-0.176	-1.233	1.409
	(0.981)	(0.674)	(1.003)
Y	-1.320	-5.797	7.117
	(6.568)	(8.630)	(6.210)
K	1.561	9.274	-10.830
	(4.170)	(7.597)	(7.624)
N	309	309	309
R^2	0.761	0.393	0.772
Other Community, Social and Personal Services			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
K^{ICT}	0.112	-0.185	0.073
	(1.130)	(1.378)	(2.008)
Y	12.520**	-6.056	-6.461
	(4.297)	(6.185)	(7.200)
K	-3.867	7.719	-3.852
	(3.212)	(5.847)	(7.139)
N	309	309	309
R^2	0.665	0.470	0.688

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 25: Results for Separate Industries

Mining and Quarrying			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.859	-0.794*	1.653**
	(0.737)	(0.402)	(0.672)
$\frac{K}{Y}$	2.726	5.171	-7.898
	(2.862)	(2.916)	(4.391)
N	304	304	304
R^2	0.753	0.700	0.837

Food, Beverages and Tobacco			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.370	-4.696**	4.326**
	(1.298)	(1.792)	(1.706)
$\frac{K}{Y}$	-1.815	2.970	-1.155
	(3.249)	(3.697)	(3.882)
N	309	309	309
R^2	0.714	0.752	0.824

Textiles, Textile, Leather and Footwear			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	3.240**	2.600	-5.840
	(1.197)	(3.027)	(3.755)
$\frac{K}{Y}$	2.667	3.015	-5.681
	(2.559)	(4.940)	(5.139)
N	304	304	304
R^2	0.737	0.655	0.758

Wood and of Wood and Cork			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.533	1.495	-2.028
	(0.916)	(1.458)	(2.330)
$\frac{K}{Y}$	0.451	-0.586	0.134
	(2.540)	(6.850)	(6.966)
N	308	308	308
R^2	0.718	0.759	0.811

Pulp, Paper, Printing and Publishing			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	2.000**	-2.691	0.691
	(0.874)	(2.516)	(2.396)
$\frac{K}{Y}$	-2.709	-3.689	6.398
	(3.142)	(5.477)	(5.699)
N	309	309	309
R^2	0.821	0.623	0.800

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 26: Results for Separate Industries

Coke, Refined Petroleum and Nuclear Fuel			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.278	-0.783	0.504
	(0.561)	(1.737)	(1.923)
$\frac{K}{Y}$	-1.792	1.397	0.395
	(1.067)	(3.544)	(3.983)
N	304	304	304
R^2	0.835	0.466	0.689

Chemicals and Chemical			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	2.241***	-2.528	0.287
	(0.467)	(3.657)	(3.561)
$\frac{K}{Y}$	-2.376	4.497	-2.121
	(1.532)	(6.494)	(6.727)
N	309	309	309
R^2	0.896	0.360	0.699

Rubber and Plastics			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.052	-3.636**	3.584*
	(0.717)	(1.430)	(1.680)
$\frac{K}{Y}$	-3.568*	7.614	-4.046
	(1.919)	(4.386)	(4.310)
N	302	302	302
R^2	0.755	0.702	0.763

Other Non-Metallic Mineral			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.141	-0.732	0.591
	(0.991)	(1.435)	(2.211)
$\frac{K}{Y}$	0.00562	10.49	-10.50
	(3.148)	(6.116)	(9.102)
N	308	308	308
R^2	0.688	0.778	0.792

Basic Metals and Fabricated Metal			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.284	0.177	-0.461
	(0.776)	(1.932)	(2.540)
$\frac{K}{Y}$	-3.272	0.280	2.992
	(2.912)	(6.964)	(9.385)
N	309	309	309
R^2	0.694	0.703	0.737

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively; robust standard errors in parentheses

Table 27: Results for Separate Industries

Machinery, Nec.			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.465	-1.517	1.981
	(2.217)	(1.777)	(2.688)
$\frac{K}{Y}$	-3.712	1.470	2.242
	(3.765)	(4.348)	(7.204)
N	309	309	309
R^2	0.749	0.603	0.792
Electrical and Optical Equipment			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	1.260	-4.203**	2.943*
	(0.813)	(1.563)	(1.599)
$\frac{K}{Y}$	-8.574***	6.155	2.419
	(1.623)	(4.708)	(5.712)
N	309	309	309
R^2	0.909	0.542	0.812
Transport Equipment			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	1.469	-3.812**	2.343
	(0.811)	(1.437)	(1.661)
$\frac{K}{Y}$	-1.454	0.377	1.077
	(3.335)	(4.657)	(7.281)
N	309	309	309
R^2	0.700	0.667	0.789
Manufacturing Nec.; Recycling			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	2.060*	0.261	-2.320
	(1.051)	(1.396)	(2.390)
$\frac{K}{Y}$	-3.192	9.665	-6.473
	(3.160)	(5.464)	(7.994)
N	306	306	306
R^2	0.592	0.718	0.740
Electricity, Gas and Water Supply			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.753	-1.386	0.634
	(1.178)	(1.041)	(1.175)
$\frac{K}{Y}$	-4.610	-6.952*	11.560
	(7.642)	(3.493)	(9.544)
N	309	309	309
R^2	0.741	0.487	0.733

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 28: Results for Separate Industries

Construction			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.118	0.930	-0.812
	(0.734)	(1.564)	(1.530)
$\frac{K}{Y}$	-1.912	6.006	-4.095
	(3.242)	(4.621)	(4.676)
N	307	307	307
R^2	0.589	0.699	0.836
Wholesale and Retail Trade			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.0414	-1.930	1.888
	(1.038)	(1.423)	(1.267)
$\frac{K}{Y}$	-4.547	12.62	-8.074
	(5.151)	(11.17)	(12.97)
N	309	309	309
R^2	0.641	0.464	0.671
Hotels and Restaurants			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	0.703	-0.855	0.152
	(0.796)	(1.552)	(2.070)
$\frac{K}{Y}$	8.071	2.402	-10.47
	(6.479)	(8.217)	(9.186)
N	307	307	307
R^2	0.585	0.665	0.725
Transport and Storage			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	1.006	0.096	-1.102
	(0.702)	(2.212)	(2.596)
$\frac{K}{Y}$	-0.0211	2.348	-2.326
	(4.755)	(8.091)	(8.525)
N	309	309	309
R^2	0.625	0.700	0.777
Post and Telecommunications			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	2.208*	-3.160	0.953
	(1.115)	(2.506)	(2.275)
$\frac{K}{Y}$	-7.344**	-3.382	10.73
	(2.838)	(7.666)	(9.523)
N	309	309	309
R^2	0.810	0.369	0.678

***,**,*: statistically significant at 1, 5, and 10 % level, respectively; robust standard errors in parentheses

Table 29: Results for Separate Industries

Financial Intermediation			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.192	-1.094	1.286
	(1.486)	(1.101)	(1.330)
$\frac{K}{Y}$	1.369	-4.387	3.018
	(4.047)	(2.731)	(3.471)
N	309	309	309
R^2	0.804	0.698	0.638

Real Estate, Renting and Business Activities			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.177	-1.262*	1.439
	(0.982)	(0.616)	(0.978)
$\frac{K}{Y}$	1.539	8.512**	-10.050*
	(3.779)	(3.714)	(5.051)
N	309	309	309
R^2	0.761	0.392	0.771

Other Community, Social and Personal Services			
Variable	High-Skilled	Medium-Skilled	Low-Skilled
$\frac{K^{ICT}}{Y}$	-0.042	-0.211	0.253
	(1.212)	(1.402)	(2.221)
$\frac{K}{Y}$	-8.689**	6.906	1.782
	(2.792)	(5.700)	(7.326)
N	309	309	309
R^2	0.620	0.467	0.657

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses

Table 30: Results for Separate Industries

Regression with two groups: 1994 and before and 1995 and after

Country	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Australia						
$\frac{K^{ICT}}{Y}$	4.855**	2.702	0.334	-0.171	-5.190**	-2.531
	(2.032)	(2.270)	(0.798)	(0.495)	(2.437)	(2.054)
$\frac{K}{Y}$	*-10.61**	*-7.432*	-3.636	-4.029	*14.24*	*11.46*
	(6.166)	(6.125)	(2.995)	(2.979)	(8.329)	(8.324)
N	552		552		552	
R^2	0.978		0.999		0.995	
Austria						
$\frac{K^{ICT}}{Y}$	*-0.055*	*1.574*	*-1.349*	*-3.863****	1.404	2.289**
	(1.110)	(1.451)	(1.365)	(1.311)	(1.390)	(1.089)
$\frac{K}{Y}$	1.680	3.406	*-2.944*	*-5.049*	1.264	1.643
	(2.663)	(2.951)	(3.390)	(3.201)	(1.985)	(2.111)
N	598		598		598	
R^2	0.977		0.999		0.994	
Denmark						
$\frac{K^{ICT}}{Y}$	*0.317*	*1.909***	*1.373*	*-5.221****	*-1.690*	*3.313****
	(0.566)	(0.708)	(2.250)	(1.615)	(1.816)	(1.053)
$\frac{K}{Y}$	*-4.253****	*-3.368***	5.316**	4.238	-1.063	-0.870
	(1.053)	(1.282)	(2.263)	(2.793)	(1.556)	(1.809)
N	598		598		598	
R^2	0.989		0.998		0.995	
Finland						
$\frac{K^{ICT}}{Y}$	*-1.188****	*2.025**	*2.344****	*-1.145*	-1.156*	-0.880
	(0.368)	(1.011)	(0.762)	(2.216)	(0.620)	(1.646)
$\frac{K}{Y}$	-1.207	-2.155	-0.996	-1.529	2.204	3.684
	(1.913)	(1.640)	(3.517)	(4.170)	(2.662)	(3.387)
N	797		797	797		
R^2	0.996		0.993		0.997	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 31: Results for the split sample between 1994 and 1995 for Australia, Austria, Denmark, and Finland

Regression with two groups: 1994 and before and 1995 and after

Country	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Italy						
$\frac{K^{ICT}}{Y}$	1.487	0.694	-2.433**	-3.279***	*0.946**	*2.585***
	(1.176)	(1.264)	(1.095)	(1.022)	(0.530)	(1.070)
$\frac{K}{Y}$	*-6.659**	*-2.049*	9.383**	4.840	-2.723*	-2.791
	(3.708)	(2.539)	(3.480)	(2.910)	(1.462)	(1.647)
N	828		828	828		
R^2	0.877		0.999		0.909	
Japan						
$\frac{K^{ICT}}{Y}$	*1.614*	*4.851***	*-1.972*	*-9.573****	*0.357*	*4.722***
	(0.952)	(1.795)	(2.142)	(3.356)	(1.427)	(1.886)
$\frac{K}{Y}$	*-3.835***	*-5.890***	*6.767*	*11.92***	*-2.932*	*-6.028**
	(1.564)	(2.104)	(4.586)	(5.270)	(3.204)	(3.467)
N	759		759		759	
R^2	0.995		0.995		0.986	
Korea						
$\frac{K^{ICT}}{Y}$	0.618	0.970	-2.283	-2.343*	1.666	1.372
	(0.873)	(0.712)	(1.342)	(1.345)	(1.717)	(1.647)
$\frac{K}{Y}$	*-1.409*	*1.083*	5.540**	6.166***	-4.131	-7.249***
	(1.598)	(1.661)	(2.377)	(1.736)	(3.494)	(2.208)
N	667		667		667	
R^2	0.992		0.992		0.971	
Netherlands						
$\frac{K^{ICT}}{Y}$	*-1.007*	*0.954*	*-0.876*	*-4.025*	1.883**	3.071**
	(0.706)	(1.456)	(1.439)	(2.675)	(0.810)	(1.350)
$\frac{K}{Y}$	*2.364*	*3.908**	*0.566*	*-3.259*	*-2.930*	*-0.649*
	(1.935)	(2.126)	(4.381)	(4.251)	(3.006)	(2.968)
N	621		621		621	
R^2	0.985		0.999		0.974	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 32: Results for the split sample between 1994 and 1995 for Italy, Japan, Korea, the Netherlands

Regression with two groups: 1994 and before and 1995 and after

Country	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
UK						
$\frac{K^{ICT}}{Y}$	-1.197	0.304	2.845	0.404	-1.648	-0.708
	(1.861)	(1.978)	(3.670)	(5.589)	(2.489)	(4.242)
$\frac{K}{Y}$	*1.314*	*4.239*	-1.819	-6.144	0.505	1.905
	(3.981)	(3.438)	(11.53)	(10.83)	(8.171)	(8.573)
N	828		828		828	
R^2	0.963		0.987		0.978	
USA						
$\frac{K^{ICT}}{Y}$	*-0.297*	*3.225***	*-0.297*	*-7.444****	*0.594*	*4.219****
	(0.689)	(1.257)	(1.335)	(1.783)	(0.732)	(1.106)
$\frac{K}{Y}$	*-2.680*	*-3.412*	3.696	4.228	-1.015	-0.816
	(2.197)	(2.608)	(4.155)	(4.404)	(2.227)	(2.335)
N	828		828		828	
R^2	0.995		0.995		0.978	

***,**,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 33: Results for the split sample between 1994 and 1995 for the UK and USA

Regression with two groups: 1994 and before and 1995 and after

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Mining and Quarrying						
$\frac{K^{ICT}}{Y}$	-1.174	-1.089	0.0993	-2.050	1.075	3.139***
	(0.753)	(0.819)	(0.593)	(1.240)	(1.097)	(0.818)
$\frac{K}{Y}$	2.806	5.990	4.080	3.309	-6.886	-9.299
	(2.728)	(3.927)	(3.267)	(3.388)	(4.881)	(5.967)
N	304		304		304	
R^2	0.978		0.996		0.986	
Food, Beverages and Tobacco						
$\frac{K^{ICT}}{Y}$	0.013	1.183	-4.906**	-4.304	4.892**	3.121
	(1.049)	(0.998)	(2.044)	(2.716)	(1.736)	(3.171)
$\frac{K}{Y}$	*0.393*	*-9.614**	4.298	-1.658	-4.691*	11.27
	(2.100)	(3.584)	(3.443)	(10.26)	(2.541)	(11.56)
N	309		309		309	
R^2	0.978		0.995		0.985	
Textiles, Textile, Leather and Footwear						
$\frac{K^{ICT}}{Y}$	2.938**	1.711	2.847	4.064	-5.785	-5.775
	(1.118)	(1.499)	(2.949)	(3.948)	(3.580)	(4.746)
$\frac{K}{Y}$	*5.395***	*1.590*	0.643	3.881	-6.038	-5.471
	(2.280)	(2.512)	(4.987)	(7.980)	(6.020)	(8.749)
N	304		304		304	
R^2	0.968		0.994		0.974	
Wood and of Wood and Cork						
$\frac{K^{ICT}}{Y}$	0.178	-0.185	1.440	0.899	-1.618	-0.714
	(0.703)	(1.943)	(1.275)	(2.871)	(1.941)	(3.608)
$\frac{K}{Y}$	1.446	-1.703	-0.468	-1.000	-0.978	2.703
	(2.191)	(4.122)	(6.216)	(8.476)	(6.120)	(9.944)
N	308		308		308	
R^2	0.983		0.996		0.981	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 34: Results for the assuption of a structural break between 1994 and 1995 for *Mining and Quarrying*, *Food, Baverages and Tabacco*, *Textiles, Textile, Leather and Foorwear*, and *Wood and of Wood and Cork*

Regression with two groups: 1994 and before and 1995 and after

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Pulp, Paper, Printing and Publishing						
$\frac{K^{ICT}}{Y}$	*1.782***	*-0.044*	-3.247	0.901	1.465	-0.857
	(0.576)	(0.871)	(1.902)	(2.819)	(1.831)	(3.345)
$\frac{K}{Y}$	-0.651	-5.266	-3.335	-5.871	3.986	11.14
	(2.258)	(4.213)	(4.207)	(10.38)	(4.712)	(12.48)
N	309		309		309	
R^2	0.989		0.994		0.974	
Coke, Refined Petroleum and Nuclear Fuel						
$\frac{K^{ICT}}{Y}$	0.635	-0.530	-0.622	-0.306	-0.0132	0.836
	(0.562)	(0.850)	(1.772)	(1.636)	(1.876)	(2.316)
$\frac{K}{Y}$	-1.782	-1.621	1.907	-0.445	-0.126	2.066
	(1.061)	(1.694)	(4.051)	(2.904)	(4.321)	(3.635)
N	304		304		304	
R^2	0.992		0.991		0.949	
Chemicals and Chemical						
$\frac{K^{ICT}}{Y}$	1.521**	2.639**	-3.919	2.359	2.398	-4.998
	(0.575)	(0.939)	(3.432)	(4.223)	(3.242)	(4.476)
$\frac{K}{Y}$	*-0.923*	*-7.947****	6.899	-3.977	-5.976	11.92*
	(2.227)	(2.395)	(7.106)	(8.072)	(7.127)	(6.370)
N	309		309		309	
R^2	0.995		0.991		0.959	
Rubber and Plastics						
$\frac{K^{ICT}}{Y}$	-0.573	0.467	-4.307**	-2.002	4.880**	1.535
	(0.773)	(1.573)	(1.496)	(2.313)	(1.767)	(3.472)
$\frac{K}{Y}$	-0.665	-7.111	10.98*	3.217	-10.31*	3.894
	(2.589)	(4.227)	(4.861)	(7.153)	(5.154)	(10.40)
N	302		302		302	
R^2	0.985		0.996		0.972	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 35: Results for the assuption of a structural break between 1994 and 1995 for *Pulp, Paper, Printing and Publishing*, *Coke, refined petroleum and nuclear fuel*, *Chemicals and chemical*, and *Rubber and plastics*

Regression with two groups: 1994 and before and 1995 and after

Industry Variable	High-Skilled until 1994	 1995-2005	Medium-Skilled until 1994	 1995-2005	Low-Skilled until 1994	 1995-2005
Other Non-Metallic Mineral						
$\frac{K^{ICT}}{Y}$	-0.138	0.296	-0.779	-2.132	0.918	1.836
	(1.007)	(1.086)	(1.264)	(1.664)	(2.094)	(2.101)
$\frac{K}{Y}$	0.626	-4.412	11.81*	4.368	-12.43	0.0444
	(2.671)	(4.223)	(5.549)	(5.610)	(8.091)	(9.011)
N	308		308		308	
R^2	0.977		0.997		0.980	
Basic Metals and Fabricated Metal						
$\frac{K^{ICT}}{Y}$	-0.494	-0.292	-0.480	-0.685	0.974	0.978
	(0.736)	(1.993)	(2.131)	(2.894)	(2.696)	(4.244)
$\frac{K}{Y}$	-0.211	-5.629	2.981	-1.597	-2.769	7.227
	(2.884)	(4.808)	(8.028)	(9.757)	(10.59)	(14.25)
N	309		309		309	
R^2	0.978		0.995		0.968	
Machinery, Nec.						
$\frac{K^{ICT}}{Y}$	-1.790	-3.705*	*-1.796*	*4.590**	3.586*	-0.885
	(1.560)	(1.896)	(1.523)	(2.436)	(1.857)	(3.205)
$\frac{K}{Y}$	*0.739*	*-9.213**	0.884	0.833	-1.623	8.380
	(2.905)	(4.136)	(3.626)	(6.613)	(4.671)	(10.38)
N	309		309		309	
R^2	0.984		0.997		0.974	
Electrical and Optical Equipment						
$\frac{K^{ICT}}{Y}$	1.176	0.748	*-4.185***	*2.368*	*3.010**	*-3.115*
	(0.720)	(1.529)	(1.370)	(2.323)	(1.529)	(3.213)
$\frac{K}{Y}$	-7.283***	-9.441***	2.673	0.230	4.610	9.212
	(2.057)	(2.222)	(4.940)	(4.527)	(6.172)	(6.134)
N	309		309		309	
R^2	0.993		0.997		0.972	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 36: Results for the assuption of a structural break between 1994 and 1995 for *Other Non-Metallic Mineral*, **Basic Metals and Fabricated Metal**, **Machinery, Nec.**, and **Electrical and Optical Equipment**.

Regression with two groups: 1994 and before and 1995 and after

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Transport Equipment						
$\frac{K^{ICT}}{Y}$	*0.734*	*-5.180***	-3.575**	-0.272	2.840	5.452*
	(0.555)	(1.662)	(1.538)	(2.326)	(1.884)	(2.498)
$\frac{K}{Y}$	*0.545*	*-4.971****	-0.271	1.401	-0.273	3.570
	(2.007)	(1.468)	(4.711)	(8.121)	(6.492)	(9.372)
N	309		309		309	
R^2	0.983		0.996		0.969	
Manufacturing Nec.; Recycling						
$\frac{K^{ICT}}{Y}$	1.957**	0.319	0.578	-3.266*	-2.534	2.947
	(0.808)	(1.676)	(1.446)	(1.718)	(2.140)	(2.738)
$\frac{K}{Y}$	-1.712	-4.793	11.31	12.27*	-9.594	-7.476
	(3.231)	(4.362)	(6.266)	(5.768)	(8.866)	(9.179)
N	306		306		306	
R^2	0.969		0.997		0.975	
Electricity, Gas and Water Supply						
$\frac{K^{ICT}}{Y}$	0.455	2.846	*-1.606**	*0.866*	*1.151*	*-3.712**
	(1.114)	(2.168)	(0.805)	(1.339)	(0.865)	(1.995)
$\frac{K}{Y}$	-3.095	-9.586	-5.967	-11.05**	*9.062*	*20.63**
	(6.773)	(8.703)	(3.383)	(3.847)	(7.944)	(10.26)
N	309		309		309	
R^2	0.986		0.997		0.974	
Construction						
$\frac{K^{ICT}}{Y}$	*-0.042*	*-3.064**	0.756	4.100	-0.713	-1.036
	(0.490)	(1.641)	(1.385)	(3.651)	(1.479)	(3.293)
$\frac{K}{Y}$	-1.352	-3.433	5.157	5.612	-3.805	-2.180
	(2.646)	(3.200)	(4.395)	(6.660)	(4.893)	(8.098)
N	307		307		307	
R^2	0.991		0.996		0.983	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 37: Results for the assuption of a structural break between 1994 and 1995 for *Transport Equipment*, *Manufacturing Nec.; Recycling*, and *Electricity, Gas and Water Supply*, *Construction*.

Regression with two groups: 1994 and before and 1995 and after

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Wholesale and Retail Trade						
$\frac{K^{ICT}}{Y}$	0.490	-1.551	*-3.115***	*6.137****	*2.624*	*-4.586*
	(0.857)	(1.539)	(1.200)	(1.657)	(1.777)	(2.546)
$\frac{K}{Y}$	-4.263	8.820	11.21	9.969	-6.943	-18.79**
	(5.010)	(9.208)	(7.098)	(15.24)	(9.486)	(7.360)
N	309		309		309	
R^2	0.983		0.998		0.974	
Hotels and Restaurants						
$\frac{K^{ICT}}{Y}$	0.669	-1.745	-0.727	1.816	0.0576	-0.0705
	(0.750)	(1.517)	(1.502)	(1.483)	(2.099)	(2.407)
$\frac{K}{Y}$	6.254	6.125	1.604	8.874	-7.858	-15.00
	(5.441)	(5.614)	(7.411)	(7.196)	(9.682)	(8.619)
N	307		307		307	
R^2	0.960		0.997		0.974	
Transport and Storage						
$\frac{K^{ICT}}{Y}$	*0.933****	*-2.765***	0.00672	-0.964	*-0.940*	*3.729**
	(0.188)	(1.052)	(2.332)	(2.553)	(2.416)	(2.009)
$\frac{K}{Y}$	-6.712***	-3.820*	1.597	0.0599	5.115	3.760
	(1.581)	(1.769)	(8.766)	(10.76)	(8.704)	(10.74)
N	309		309		309	
R^2	0.977		0.996		0.984	
Post and Telecommunications						
$\frac{K^{ICT}}{Y}$	2.347*	1.210	*-2.877*	*5.905**	*0.529*	*-7.115*
	(1.070)	(2.249)	(1.868)	(3.188)	(1.647)	(4.788)
$\frac{K}{Y}$	-6.108	-8.718**	-3.927	-8.961	10.04	17.68**
	(4.915)	(3.608)	(7.694)	(6.523)	(11.39)	(6.808)
N	309		309		309	
R^2	0.965		0.994		0.972	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 38: Results for the assuption of a structural break between 1994 and 1995 for *Wholesale and Retail Trade*, and *Hotels and Restaurants*, *Transport and Storage*, and *Post and Telecommunications*.

Regression with two groups: 1994 and before and 1995 and after

Industry Variable	High-Skilled until 1994	 1995-2005	Medium-Skilled until 1994	 1995-2005	Low-Skilled until 1994	 1995-2005
Financial Intermediation						
$\frac{K^{ICT}}{Y}$	-0.117	3.200	-1.609	0.0585	*1.727*	*-3.259*
	(1.411)	(2.841)	(1.063)	(2.652)	(0.996)	(2.241)
$\frac{K}{Y}$	*4.862*	*-5.427*	*-5.942**	*-0.298*	1.080	5.725*
	(3.981)	(5.074)	(2.857)	(4.538)	(2.919)	(2.788)
N	309		309		309	
R^2	0.990		0.998		0.973	
Real Estate, Renting and Business Activities						
$\frac{K^{ICT}}{Y}$	-0.340	1.328	-1.082**	1.311	1.422	-2.639
	(0.805)	(1.952)	(0.446)	(3.628)	(0.926)	(2.471)
$\frac{K}{Y}$	1.848	-3.234	9.193**	14.20*	-11.04*	-10.97*
	(3.409)	(4.057)	(3.259)	(7.550)	(5.264)	(5.830)
N	309		309		309	
R^2	0.988		0.995		0.977	
Other Community, Social and Personal Services						
$\frac{K^{ICT}}{Y}$	0.134	0.772	0.272	-2.100	-0.406	1.328
	(1.341)	(3.424)	(1.087)	(1.846)	(1.964)	(4.693)
$\frac{K}{Y}$	-8.855**	-7.777	*8.055*	*16.31***	0.800	-8.537
	(3.273)	(6.252)	(4.934)	(6.185)	(7.095)	(11.04)
N	309		309		309	
R^2	0.979		0.998		0.956	

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
cluster robust standard errors in parentheses; coefficients in italic indicate a significant structural break at the 10 percent level.

Table 39: Results for the assuption of a structural break between 1994 and 1995 for *Financial Intermediation*, **Real Estate, Renting and Business Activities**, and **Other Community, Social and Personal Services**.

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Mining and Quarrying						
$\frac{K^{ICT}}{Y}$	0.620	0.138	-0.499	0.217	-0.121	-0.355
	(0.740)	(0.476)	(0.701)	(0.863)	(1.226)	(1.284)
$\frac{K}{Y}$	2.092	2.091	4.986	-3.922	-7.078	1.831
	(2.453)	(3.797)	(2.977)	(2.880)	(4.280)	(5.785)
N	194	110	194	110	194	110
R^2	0.680	0.526	0.715	0.272	0.790	0.599
Food, Beverages and Tobacco						
$\frac{K^{ICT}}{Y}$	1.241	-0.445	-3.055	-1.198	1.814	1.643
	(1.060)	(1.326)	(1.759)	(0.931)	(1.587)	(1.066)
$\frac{K}{Y}$	-2.879	-2.387	5.406	2.309	-2.528	0.0771
	(2.361)	(3.214)	(5.078)	(2.936)	(5.108)	(3.501)
N	199	110	199	110	199	110
R^2	0.706	0.511	0.745	0.373	0.816	0.699
Textiles, Textile, Leather and Footwear						
$\frac{K^{ICT}}{Y}$	2.540***	-0.156	4.030	-0.211	-6.570**	0.367
	(0.530)	(1.012)	(2.661)	(0.851)	(2.718)	(1.244)
$\frac{K}{Y}$	-3.222	-0.366	-7.285	2.191	10.51*	-1.825
	(1.858)	(2.476)	(5.518)	(2.224)	(5.041)	(4.073)
N	194	110	194	110	194	110
R^2	0.754	0.538	0.713	0.338	0.791	0.664
Wood and of Wood and Cork						
$\frac{K^{ICT}}{Y}$	0.897*	0.0379	1.999	-2.074*	-2.896	2.036*
	(0.468)	(0.467)	(1.362)	(1.113)	(1.814)	(1.055)
$\frac{K}{Y}$	-0.421	-4.029	-5.724	6.313	6.145	-2.284
	(1.251)	(2.987)	(4.744)	(6.043)	(5.246)	(6.806)
N	198	110	198	110	198	110
R^2	0.769	0.632	0.799	0.371	0.841	0.713

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 40: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Mining and Quarrying*, *Food, Baverages and Tabacco*, *Textiles, Textile, Leather and Foorwear*, and *Wood and of Wood and Cork*.

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry Variable	High-Skilled until 1994	 1995-2005	Medium-Skilled until 1994	 1995-2005	Low-Skilled until 1994	 1995-2005
Pulp, Paper, Printing and Publishing						
$\frac{K^{ICT}}{Y}$	1.847**	0.536	-0.968	-1.049	-0.879	0.512
	(0.728)	(0.911)	(2.621)	(1.215)	(2.450)	(1.403)
$\frac{K}{Y}$	-2.112	1.601	-2.866	-2.571	4.978	0.970
	(1.831)	(4.224)	(9.425)	(2.797)	(9.243)	(5.267)
N	199	110	199	110	199	110
R^2	0.851	0.476	0.627	0.153	0.795	0.684
Coke, Refined Petroleum and Nuclear Fuel						
$\frac{K^{ICT}}{Y}$	1.221*	-0.215	0.488	0.173	-1.709	0.0415
	(0.556)	(0.408)	(2.691)	(0.308)	(2.875)	(0.481)
$\frac{K}{Y}$	-2.539***	-1.388	2.552	-0.682	-0.0123	2.070**
	(0.506)	(0.792)	(3.989)	(1.026)	(4.016)	(0.868)
N	194	110	194	110	194	110
R^2	0.864	0.637	0.534	0.126	0.698	0.737
Chemicals and Chemical						
$\frac{K^{ICT}}{Y}$	1.978***	0.231	-3.796	0.137	1.818	-0.368
	(0.306)	(0.738)	(3.471)	(0.541)	(3.457)	(0.956)
$\frac{K}{Y}$	-3.106**	-4.706	11.62	2.936	-8.510	1.770
	(1.003)	(4.030)	(7.381)	(2.868)	(8.135)	(3.849)
N	199	110	199	110	199	110
R^2	0.878	0.765	0.504	0.228	0.713	0.688
Rubber and Plastics						
$\frac{K^{ICT}}{Y}$	1.030	-0.547	-2.977	-1.812*	1.947	2.359**
	(0.738)	(0.815)	(2.010)	(0.828)	(1.938)	(0.896)
$\frac{K}{Y}$	-2.840	-5.563	1.992	6.715*	0.848	-1.153
	(1.843)	(4.718)	(6.175)	(3.136)	(5.889)	(3.580)
N	192	110	192	110	192	110
R^2	0.747	0.672	0.662	0.293	0.731	0.761

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 41: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Pulp, Paper, Printing and Publishing*, *Coke, refined petroleum and nuclear fuel*, *Chemicals and chemical*, and *Rubber and plastics*.

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Other Non-Metallic Mineral						
$\frac{K^{ICT}}{Y}$	1.340**	-0.697	0.606	0.00644	-1.946	0.691
	(0.580)	(1.022)	(1.267)	(1.030)	(1.658)	(1.363)
$\frac{K}{Y}$	1.163	-3.662	11.07	7.050	-12.23	-3.388
	(1.438)	(3.209)	(6.578)	(4.153)	(7.751)	(5.633)
N	198	110	198	110	198	110
R^2	0.747	0.605	0.779	0.329	0.812	0.681
Basic Metals and Fabricated Metal						
$\frac{K^{ICT}}{Y}$	1.036	-1.135	1.206	-2.196**	-2.242	3.331***
	(0.764)	(1.093)	(2.690)	(0.931)	(3.396)	(0.579)
$\frac{K}{Y}$	-2.401	-7.835*	-3.972	8.390**	6.373	-0.555
	(2.746)	(3.753)	(8.928)	(2.726)	(11.40)	(4.957)
N	199	110	199	110	199	110
R^2	0.720	0.643	0.683	0.381	0.732	0.735
Machinery, Nec.						
$\frac{K^{ICT}}{Y}$	0.417	-1.855	-1.196	0.963	0.779	0.892
	(1.375)	(1.426)	(2.355)	(1.561)	(3.161)	(1.039)
$\frac{K}{Y}$	-1.809	-2.565	-1.611	2.361	3.420	0.203
	(2.594)	(4.928)	(5.800)	(5.544)	(7.828)	(1.975)
N	199	110	199	110	199	110
R^2	0.771	0.606	0.688	0.174	0.786	0.728
Electrical and Optical Equipment						
$\frac{K^{ICT}}{Y}$	2.503***	-0.273	-4.018*	0.114	1.515	0.159
	(0.694)	(0.976)	(1.818)	(1.187)	(1.937)	(1.023)
$\frac{K}{Y}$	-3.948**	-6.298***	2.343	5.601***	1.605	0.697
	(1.395)	(1.523)	(4.536)	(1.306)	(5.341)	(2.226)
N	199	110	199	110	199	110
R^2	0.865	0.803	0.600	0.561	0.797	0.683

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 42: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Other Non-Metallic Mineral*, **Basic Metals and Fabricated Metal**, **Machinery, Nec.**, and **Electrical and Optical Equipment**.

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Transport Equipment						
$\frac{K^{ICT}}{Y}$	1.195**	-1.218	-2.621*	0.959	1.426	0.259
	(0.431)	(0.873)	(1.390)	(0.942)	(1.561)	(0.742)
$\frac{K}{Y}$	-3.075*	-2.828	-1.064	1.686	4.139	1.143
	(1.661)	(1.810)	(4.622)	(1.981)	(6.007)	(2.561)
N	199	110	199	110	199	110
R^2	0.662	0.645	0.726	0.0844	0.787	0.670
Manufacturing Nec.; Recycling						
$\frac{K^{ICT}}{Y}$	1.978**	-0.824	0.501	0.422	-2.479	0.403
	(0.642)	(1.165)	(1.408)	(0.749)	(1.997)	(1.245)
$\frac{K}{Y}$	-3.858	-2.267	5.914	9.501***	-2.056	-7.233**
	(3.485)	(2.463)	(6.962)	(1.857)	(9.994)	(3.166)
N	196	110	196	110	196	110
R^2	0.555	0.618	0.719	0.472	0.726	0.747
Electricity, Gas and Water Supply						
$\frac{K^{ICT}}{Y}$	1.323**	-0.187	-0.252	0.717	-1.071	-0.530
	(0.530)	(1.227)	(1.050)	(1.610)	(0.967)	(1.053)
$\frac{K}{Y}$	-6.634	4.804	-11.25*	-0.673	17.89*	-4.131
	(4.455)	(3.799)	(5.365)	(4.013)	(8.717)	(2.796)
N	199	110	199	110	199	110
R^2	0.765	0.589	0.582	0.134	0.767	0.515
Construction						
$\frac{K^{ICT}}{Y}$	0.884	-3.610	1.573	2.973	-2.456*	0.636
	(0.502)	(2.014)	(1.018)	(2.526)	(1.312)	(1.073)
$\frac{K}{Y}$	0.247	0.987	4.486	-5.222*	-4.733	4.235**
	(2.290)	(2.474)	(3.394)	(2.534)	(4.768)	(1.871)
N	197	110	197	110	197	110
R^2	0.680	0.505	0.771	0.258	0.862	0.740

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 43: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Transport Equipment*, *Manufacturing Nec.; Recycling*, and *Electricity, Gas and Water Supply*, *Construction.*

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry Variable	High-Skilled until 1994	 1995-2005	Medium-Skilled until 1994	 1995-2005	Low-Skilled until 1994	 1995-2005
Wholesale and Retail Trade						
$\frac{K^{ICT}}{Y}$	2.079**	-3.177*	-1.588	2.038	-0.491	1.139
	(0.732)	(1.613)	(1.237)	(2.065)	(1.631)	(1.043)
$\frac{K}{Y}$	0.861	-0.689	15.89	-2.716	-16.75	3.406
	(6.508)	(8.290)	(9.781)	(9.601)	(9.651)	(4.129)
N	199	110	199	110	199	110
R^2	0.596	0.451	0.617	0.190	0.691	0.620
Hotels and Restaurants						
$\frac{K^{ICT}}{Y}$	1.372**	-1.608	0.0415	-0.843	-1.414	2.452**
	(0.473)	(1.027)	(1.459)	(0.701)	(1.770)	(0.866)
$\frac{K}{Y}$	0.738	6.047	-3.851	2.509	3.114	-8.556
	(2.678)	(12.02)	(11.26)	(4.133)	(12.42)	(10.01)
N	197	110	197	110	197	110
R^2	0.585	0.462	0.708	0.106	0.734	0.587
Transport and Storage						
$\frac{K^{ICT}}{Y}$	1.680***	-0.839	-0.288	-1.405	-1.393	2.244*
	(0.332)	(0.928)	(2.227)	(1.080)	(2.404)	(1.159)
$\frac{K}{Y}$	-8.497***	4.968	-1.516	-2.485	10.01	-2.483
	(1.464)	(6.682)	(9.286)	(6.617)	(9.353)	(6.257)
N	199	110	199	110	199	110
R^2	0.785	0.385	0.744	0.172	0.800	0.552
Post and Telecommunications						
$\frac{K^{ICT}}{Y}$	3.187***	-0.792	-5.441**	2.405	2.253	-1.613
	(0.534)	(0.933)	(2.153)	(1.785)	(2.199)	(1.191)
$\frac{K}{Y}$	-2.386	-3.810	-8.267	-9.646**	10.65	13.46***
	(3.133)	(4.081)	(11.92)	(3.789)	(14.10)	(3.004)
N	199	110	199	110	199	110
R^2	0.727	0.762	0.527	0.426	0.605	0.665

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 44: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Wholesale and Retail Trade*, and *Hotels and Restaurants*, *Transport and Storage*, and *Post and Telecommunications*.

Regression by time period: 1970 to 1994 and before and 1995 to 2005

Industry	High-Skilled		Medium-Skilled		Low-Skilled	
Variable	until 1994	1995-2005	until 1994	1995-2005	until 1994	1995-2005
Financial Intermediation						
$\frac{K^{ICT}}{Y}$	-0.200	-1.118	-1.849*	1.529	2.049**	-0.411
	(1.612)	(0.790)	(0.923)	(1.147)	(0.843)	(0.569)
$\frac{K}{Y}$	2.520	-1.124	-2.122	0.790	-0.397	0.333
	(3.949)	(6.956)	(2.875)	(5.998)	(2.396)	(2.647)
N	199	110	199	110	199	110
R^2	0.753	0.762	0.601	0.650	0.703	0.434
Real Estate, Renting and Business Activities						
$\frac{K^{ICT}}{Y}$	0.799	-2.813	-1.965**	0.346	1.166	2.466**
	(1.980)	(2.844)	(0.803)	(2.282)	(1.205)	(0.983)
$\frac{K}{Y}$	9.791	-13.06	1.644	12.57	-11.43**	0.485
	(6.756)	(50.08)	(2.720)	(50.52)	(4.504)	(5.289)
N	199	110	199	110	199	110
R^2	0.719	0.296	0.426	0.152	0.797	0.538
Other Community, Social and Personal Services						
$\frac{K^{ICT}}{Y}$	0.111	0.959	0.754	-1.080	-0.865	0.121
	(1.248)	(2.632)	(1.233)	(1.278)	(1.927)	(2.031)
$\frac{K}{Y}$	-9.120**	-0.768	7.955	0.631	1.165	0.137
	(4.014)	(8.161)	(5.446)	(4.635)	(5.174)	(7.141)
N	199	110	199	110	199	110
R^2	0.623	0.409	0.627	0.0643	0.780	0.440

***,** ,*: statistically significant at 1, 5, and 10 % level, respectively;
robust standard errors in parentheses;

Table 45: Results for the assumption of a structural break between 1994 and 1995 estimated with two serperate regressions for *Financial Intermediation*, **Real Estate, Renting and Business Activities**, and **Other Community, Social and Personal Services**.

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