The Effect of ICT Investment on the Relative Compensation of High-, Medium-, and Low-Skilled Workers: Industry versus Country Analysis

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Abstract

In this paper I analyze the effects of ICT on compensation shares of high-, medium- and low-skilled workers. Using the large EU KLEMS dataset with 14 countries and 14 separate industries I investigate the effect of ICT in a large set of industrialized countries. The results show that, when this kind of analysis is done, the Skill-Biased Technological Change hypothesis has to be rejected if single countries are analyzed with an industry panel. On the other hand, there is evidence that technological change is a strong cause of changes in the relative compensation shares in single industries, when industries are analyzed with country panels for each industry and no linearity between skill and technology is assumed.

Key words:
ICT, Skill, Income Inequality, Labor Demand

1 Introduction

Over the last two decades a discussion about the causes of the increasing demand for high-skilled workers has led to a large literature on the rising income inequality of the different skill groups. While some authors argue that labor market institutions are the reason of the observed trends, other claim that outsourcing and increased international trade are the leading force. A widely accepted third argument sees technological progress which favors higher skilled workers as the main driving force behind the increasing relative wages of high skilled workers. In this study the hypothesis of skill-biased technological

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change is analyzed by estimating the effect of information and communication technology (ICT) investments on the relative compensation shares of high-, medium- and low-skilled workers within and across industries and countries. [1]

In this paper I use the EU KLEMS dataset and apply a standard share equation as the econometric procedure. The large EU KLEMS dataset allows me to asses this hypothesis and the commonly used economic approach for 14 industrialized countries and 14 industries for up to 30 years. Furthermore the data enables analyses for three different skill groups: high-, medium-, and low-skilled workers. A classical claim for the proof of skill-biased technological change is that technological change has to have similar effects on industrialized countries. Due to the coverage of the dataset this can now be analyzed for a large set of countries. Furthermore it allows estimating industries with a large country panel.

One broad finding of this paper is that the impact of technological change on relative compensation shares is more clearly visible if one estimates a share equation across the same industry in different countries as opposed to the standard approach of estimating a share equation within one country across many industries. Thus the same industries in different countries are more equal than all industries within one country if the countries are similar enough. Due to the different production and task structures this can explain the polarization of incomes which is observable in many advanced countries.

As this is a first draft of the study, some specifications are still not yet analyzed. The next step will be to include indicators for labor market institutions and offshoring in order to analyze the competing theories and complementary effects of outsourcing and ICT. Furthermore the same analysis will be done for employment shares of the separate skill groups. From some trial estimations it can be expected that the results will be similar to those found when analyzing compensation shares.

2 The Data

The data source of this study is the EU KLEMS dataset in its newest version of March 2008 [2]. Its purpose is 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 and age and gender groups. The data

[1] See Lemieux (2008) and Machin and Van Reenen (2007) for reviews of this discussion.

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

is available for most European countries and other advanced countries such as the US, Japan, Australia and South Korea. Furthermore the data is industry based, containing a large set of industries on several aggregation levels. 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 5. The set industries and countries used in this study are listed in table 5. The 14 industries included in this study make up the whole economy.[3] Thus, the country analysis covers the whole economy.

The dataset contains several capital stock variables. As a proxy for technological development ICT investments is applied.[4] This should be the closest proxy for the technological change described by the skill-biased technological change literature. Data for $R\&D$, which is also commonly used in the literature (Machin and Van Reenen, 1998), is also available, but only on a more aggregate level for all industries other than manufacturing. Especially for the service sectors ICT investments will mirror more closely the technological process compared to $R\&D$.

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.[5]

3 Estimation Methods

A standard approach to estimate demand shift for skill groups due to technological progress is to use a relative share equation derived from a translog cost function. (See Chennells and Van Reenen (1999) or Sanders and ter Weel (2000)) In these models the wage bill share of the skill group is a function of the log of capital and output and of a proxy for technological progress. The relative wages, which are part of the theoretical model, are usually dropped

[3] The industry 'Private Households With Employed Persons' is dropped in the analysis as all capital accounts are set to zero for this industry.

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

[5] 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.

Countries	Industries
Australia	Agriculture, Hunging, Forestry and Fishing
Austria	Mining and Quarrying
CZ	Total Manufacturing
Finland	Electricity, Gas and Water Supply
Germany	Construction
Italy	Wholesale and Retail Trade
Japan	Hotels and Restaurants
Korea	Transport and Storage and Communication
Netherlands	Financial Intermediation
Portugal	Real Estate, Renting and Business Activities
Slovenia	Public Admin and Defence; Social Security
Sweden	Education
UK	Health and Social Work
USA	Other Community, Social a. Personal Services

Table 1
Set of industries and countries analyzed in this study.

Variable	Abbriviation	Desciption
Real Value Added	Y	$\frac{va}{va\_p} * 100$
Real Gross Fixed Capital Stock	K	k_gfcf
ICT Investments	ICT	iq_ict
Relative Sompensation Share	Share	labhs

Table 2
Discription of Relevant Variables.

and proxied by time dummies due their endogeneity in the econometric specification.[6] These time dummies are supposed to capture the relative wages and macroeconomic shocks, but they might also capture some of the variation from the technological progress which is otherwise measured by the technology proxy.

A highly cited study which analyses the effect of $R\&D$ as a proxy for technology on the wage and employment shares of high skilled workers was done by Machin and Van Reenen (1998). They estimate a share equation across 16 manufacturing industries for seven OECD countries. A more current paper by O'Mahony et al. (2008) does a similar analysis as Machin and Van Reenen (1998). They also do an industry panel analysis for three different countries in the fashion of the models described before. Their panels consist of 27 to 31 non-agricultural industries, including service industries. In contrast to Machin and Van Reenen (1998) they also analyze different skill levels and use $\frac{K^{IT}}{K}$, the share of ICT capital in total capital, as the technology indicator. Another difference is the estimation procedure. O'Mahony et al. (2008) do not use a first difference estimation to cope with the panel structure of the data, but use a fixed effects estimation.

In this study I apply the estimation method of O'Mahony et al. (2008). Only I do not use ICT capital in stocks, but ICT investments. This leads to estimation equation 1.

$$share_{it} = \alpha ln\left(\frac{K_{it}}{Y_{it}}\right) + \gamma ln\left(\frac{ICT_{it}}{K_{it}}\right) + \eta D_t + \epsilon_{it} \tag{1}$$

$share_{sit}$ is the wage bill share of the skill group s in industry i at time t of the respective country. K stands for quasi fixed capital and Y is value added. ICT are the ICT investments and D_t are the time dummies. ϵ_{it} is the random error term. In an alternative estimation where same industries in different countries are analyzed $share_{sit}$ is the wage bill share of the skill group s in country i at time t of the respective industry.

4 Estimation Results

Following the hypothesis of skill-biased technological change the ICT coefficient γ should be positive and significant when high-skilled workers' compensation share analyzed. The expectations of γ are less clear when medium- and low-skilled worker compensations shares are analyzed. The traditional idea

[6] For a discussion about problems of relative wages in estimation of share equation see Chennells and Van Reenen (1999) and Machin and Van Reenen (1998).

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 γ 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. [7] 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. Here 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 no effect of ICT on the low-skilled workers compensation shares and a negative and significant effect on the medium-skilled compensation shares.

4.1 Estimation Results for Compensation Shares of High-Skilled Workers

Table A.1 shows the results which are comparable to the estimation results of Machin and Van Reenen (1998) and O'Mahony et al. (2008). These are the results of regression equation 1 using fixed effect. Using this equation on the panel data by comparing countries assumes that the technology is similar across industries within a country. The estimations coefficients are very different across countries. Only for Australia, Italy, and Japan the ICT coefficient γ is the way it was expected, namely positive and highly significant. In Australia, Finland, Netherlands, Portugal, Sweden, and the UK the coefficient is negative and significant at least at the 10 percent level. The Czech Republic, Germany, Korea, Slovenia and the United States have coefficients which are not significant and close around zero.

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 have a negative sign or no effect 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) and O'Mahony et al. (2008))

Concerning the coefficient for the capital output ratio, the results show in almost all cases a significant and negative effect and suggest a capital-skill substitution in these countries. The long standing argument, that findings

[7] 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.

of skill-biased technological change must be persistent across industrialized countries, would bring the conclusion that the data cannot show a true technological change.

A more convincing way to analyze the impact of technological change on relative compensation is to look at single industries. In Table A.2 the results of a regression for panels with single industries in 14 different countries are listed. These results suggest that ICT has a positive and highly significant effect on the relative compensation share of high skilled workers in agricultural industries, manufacturing, electricity, gas and water supply as well as in transport and communication. A significant negative effect can be found for mining and quarrying and education. In the other industries the coefficient for technology is not significant and around zero. The coefficients for the capital-output ratio are again negative and significant, except for agriculture, hotels and restaurants, and mining and quarrying.

In Table A.3 the dataset is reduced to the following nine countries: Australia, Austria, Finland, Italy, Japan, Korea, Netherlands, UK and USA. The Czech Republic, Germany, Portugal, Slovenia and Sweden are dropped because of the short time coverage. Thus for the remaining nine countries all data is available for the time span from 1982 to 2005. In contrast the analysis in Table A.2 is only possible for the time span of 1995 to 2005. Because of the longer coverage the number of observations does not drop much. As the new EU member countries are dropped, it can be assumed that the remaining countries are somewhat more similar. Thus the R^2 increase slightly. The estimation results remain almost the same. Thus results hold for longer and shorter time series and are robust to dropping the countries mentioned above.

4.2 Estimation Results for Compensation Shares of Medium- and Low-Skilled Workers

Table B.1 shows the results for the estimation where the impact of ICT investment on medium-skilled workers in single countries is measured. With respect to the non-persistent estimated parameters across countries the results are similar to the ones for high-skilled workers. For Finland and the UK the results suggest a strong positive effect while a negative effect is found for Australia, Germany, Italy and Korea. The effect is found to be insignificant and close to zero for the remaining countries. Again this does not fit the expectation that technological change is supposed to affect all industrialized countries similarly.

In contrast Table B.2 shows the results for the individual industries across nine countries. Here ICT has a highly significant effect on the relative wage share of medium-skilled workers for almost all industries. In agriculture and construction the effect is positive and highly significant. Only for public administration and defense as well as other community and social and personal services the effect is insignificant an around zero.

The results for the same analyses for low-skilled workers' wage shares are mixed. Significant and positive coefficients are found in mining and quarrying, trade, hotels and restaurants, financial intermediation, real estate and health and social work. Only in construction medium skilled workers relative compensation shares are affected negatively by ICT investments. For the remaining half of the industries analyzed there seems to be no effect.

4.3 Comparison of Effects Across Industries

With respect to the hypotheses mentioned at the beginning of this section there is clearly no proof of linear skill-biased technological change. Only in agriculture, hunting, forestry and fishing a positive significant technology effect is found for high- and medium-skilled workers and an insignificant effect for low-skilled workers. Polarization can be observed in manufacturing, electricity, gas and water supply, transport and communication and to a lesser extend in wholesale and retail trade, hotels and restaurants and health and social work.

The line of reasoning of the task approach of Autor et al. (2003) suggest that the tasks of worker determine how largely he is affected by technological change. In aggregate the results of this study may be the result of the task structure within the industries. In the industries where polarization is observable it can that high-skilled workers have tasks that are complemented by ICT while medium-skilled workers are substitutes to ICT. Low-skilled worker either also gain in these industries or are not affected by the implementation of ICT. In the other community and social and personal services ICT seemingly plays no role for relative compensation shares. In construction high-skilled workers' relative compensation shares are not affected by ICT investments. Medium skilled workers seem to gain from ICT investments while low-skilled workers' compensation shares decrease due to ICT. This might imply that the task structure is very different in construction in comparison with service sectors or manufacturing.

5 Conclusion

This paper analyzed the effect ICT investments on relative compensation shares of high-, medium- and low-skilled workers in 14 industries of 14 industrialized countries. The analysis thus included a much larger number of countries than studies before. It was found that there is no persistent effect of ICT investments on the relative wage shares across countries. Nevertheless there seem to be strong effects of ICT investments in single industries across countries on the relative shares. Thus I argue that the effect of technology changes should be measured on the industry level as opposed to the country level.

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 almost all industries medium-skilled workers are negatively affected by ICT, while there are mixed results for high- and low-skilled workers. In order to understand the differences across industries it will be necessary to analyze the tasks of the different skill groups within each industry on the micro level. A further analysis should include measures for outsourcing as this may be another reason for differences in the effect of ICT. In some industries outsourcing may be more crucial than in others and may therefore drive the relative compensation shares to a larger degree than ICT. Furthermore ICT may enable higher degrees of outsourcing which should also be analyzed in depth.

A Estimation Results - Fixed Effects Estimations

Dependent variable: high-skilled compensation share of industry i

Country	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
Australia	9.525^{***}	-8.228^{***}	14	336	0.694
	(0.741)	(2.451)			
Austria	-0.769^{*}	8.442^{***}	14	364	0.470
	(0.412)	(1.425)			
CZ	-0.194	-0.870	14	154	0.736
	(0.144)	(0.748)			
Finland	-1.058^{***}	-5.132^{***}	14	490	0.884
	(0.274)	(0.592)			
Germany	0.09	3.521^{***}	14	210	0.484
	(0.405)	(1.098)			
Italy	1.373^{***}	-3.412^{***}	14	504	0.319
	(0.406)	(1.248)			
Japan	1.195^{***}	-4.344^{***}	14	462	0.833
	(0.292)	(0.575)			
Korea	0.359	-2.219^{***}	14	406	0.746
	(0.409)	(0.669)			
Netherlands	-1.678^{***}	2.213^{**}	14	378	0.693
	(0.295)	(0.943)			
Portugal	-0.92^{**}	-7.727^{***}	14	153	0.647
	(0.427)	(1.324)			

Slovenia	-0.408	2.771	14	154	0.435
	(0.612)	(2.034)			
Sweden	-1.712^{**}	3.235^{***}	14	181	0.662
	(0.818)	(1.534)			
UK	-3.503^{***}	-3.382^{***}	14	504	0.803
	(0.543)	(1.039)			
USA	-0.488	-2.264^{***}	14	504	0.835
	(0.302)	(0.599)			

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

Table A.1: Estimation results for Equation 1 by country and high-skilled workers compensation shares.

Dependent variable: high-skilled compensation share of country i

Industry	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
All Industries	0.100	-2.241^{***}	196	4801	0.608
	(0.084)	(0.296)			
Agriculture, Hunting, Forestry and Fishing	1.524^{***}	6.157^{***}	14	339	0.571
	(0.335)	(1.002)			
Mining and Quarrying	-0.504^{**}	2.636^{***}	14	338	0.669
	(0.235)	(0.883)			
Total Manufacturing	1.645^{***}	-8.625^{***}	14	344	0.852
	(0.221)	(1.139)			
Electricity, Gas and Water Supply	0.906^{***}	-4.405^{***}	14	344	0.741
	(0.247)	(1.077)			
Construction	0.083	-1.893^{***}	14	342	0.586
	(0.172)	(0.632)			
Wholesale and Retail Trade	0.071	-4.610^{***}	14	344	0.635
	(0.331)	(1.469)			
Hotels and Restaurants	0.347	6.835^{***}	14	342	0.624
	(0.280)	(1.410)			
Transport and Storage and Communication	1.652^{***}	-5.641^{**}	14	344	0.776
	(0.182)	(1.398)			
Financial Intermediation	-0.054	-1.312	14	344	0.807
	(0.481)	(1.113)			
Real Estate, Renting and Business Activities	-0.257	-0.319	14	344	0.762
	(0.401)	(1.684)			

Public Admin and Defense; Social Security	0.220	−3.100**	14	344	0.726
	(0.323)	(1.299)			
Education	−3.218***	−14.128***	14	344	0.693
	(0.379)	(1.556)			
Health and Social Work	0.048	−7.447***	14	344	0.647
	(0.349)	(1.192)			
Other Community, Social a. Personal Services	0.254	−8.029***	14	344	0.628
	(0.447)	(1.661)			

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

Table A.2: Estimation results for Equation 1 by industry with 14 countries and high-skilled workers compensation shares.

Dependent variable: high-skilled compensation share of country i

Industry	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
All Industries	0.127	-2.287^{***}	126	3948	0.620
	(0.092)	(0.238)			
Agriculture, Hunting, Forestry and Fishing	1.908^{***}	7.489^{***}	9	278	0.594
	(0.405)	(1.235)			
Mining and Quarrying	-0.501^{*}	2.972^{***}	9	278	0.681
	(0.255)	(0.965)			
Total Manufacturing	1.781^{***}	-8.308^{***}	9	283	0.862
	(0.243)	(1.269)			
Electricity, Gas and Water Supply	1.085^{***}	-5.189^{***}	9	283	0.759
	(0.275)	(1.177)			
Construction	0.120	-2.215^{***}	9	281	0.600
	(0.193)	(0.706)			
Wholesale and Retail Trade	0.138	-3.301^{***}	9	281	0.656
	(0.370)	(1.729)			
Hotels and Restaurants	0.424	8.620^{***}	9	281	0.658
	(0.312)	(1.622)			
Transport and Storage and Communication	1.669^{***}	-7.228^{**}	9	283	0.805
	(0.191)	(1.557)			
Financial Intermediation	-0.046	-1.040	9	283	0.819
	(0.522)	(1.198)			
Real Estate, Renting and Business Activities	-0.118	0.777	9	283	0.760
	(0.437)	(1.871)			

Public Admin and Defense; Social Security	0.218	−3.646***	9	283	0.739
	(0.351)	(1.408)			
Education	−3.075***	−17.546***	9	283	0.713
	(0.418)	(1.918)			
Health and Social Work	0.011	−8.484***	9	283	0.685
	(0.367)	(1.326)			
Other Community, Social a. Personal Services	0.119	−8.226***	9	283	0.648
	(0.477)	(1.800)			

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

Table A.3: Estimation results for Equation 1 by industry with 9 countries and high-skilled workers compensation shares.

B Estimation Results - Fixed Effects Estimations, Medium- and Low-Skilled Compensation Shares

Dependent variable: medium-skilled compensation share of country i

Country	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
Australia	-1.244^{***}	-5.010^{***}	14	336	0.623
	(0.245)	(0.811)			
Austria	-0.975	-14.565^{***}	14	364	0.299
	(0.638)	(2.208)			
CZ	0.188	0.454	14	154	0.383
	(0.264)	(0.818)			
Finland	3.956^{***}	-1.004	14	490	0.720
	(0.376)	(0.811)			
Germany	-1.204^{*}	4.977^{***}	14	210	0.417
	(0.680)	(1.843)			
Italy	-0.977^{*}	0.883	14	504	0.077
	(0.571)	(1.757)			
Japan	-0.350	10.262^{***}	14	462	0.421
	(0.626)	(1.231)			
Korea	-2.436^{***}	1.869^{***}	14	406	0.204
	(0.439)	(0.719)			
Netherlands	0.076	-3.294^{**}	14	378	0.215
	(0.472)	(1.509)			
Portugal	-0.045	-0.900	14	153	0.260
	(0.280)	(0.867)			

Slovenia	-0.120	2.410	14	154	0.158
	(0.671)	(2.230)			
Sweden	1.239	−8.716***	14	181	0.220
	(0.949)	(1.781)			
UK	4.242***	5.194**	14	504	0.353
	(1.124)	(2.148)			
USA	0.581	−3.147***	14	504	0.163
	(0.446)	(0.885)			

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

Table B.1: Estimation results for Equation 1 by countries and medium-skilled workers compensation shares.

Dependent variable: medium-skilled compensation share of country i

Industry	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
All Industries	−1.109***	0.566	126	3948	0.179
	(0.125)	(0.445)			
Agriculture, Hunging, Forestry and Fishing	1.675***	−3.034*	9	278	0.761
	(0.535)	(1.629)			
Mining and Quarrying	−0.688**	6.609***	9	278	0.699
	(0.321)	(1.214)			
Total Manufacturing	−2.059***	-1.813	9	283	0.637
	(0.504)	(2.626)			
Electricity, Gas and Water Supply	−1.423***	−6.758***	9	283	0.470
	(0.344)	(1.473)			
Construction	0.769***	4.442***	9	281	0.738
	(0.288)	(1.055)			
Wholesale and Retail Trade	−2.422***	11.045***	9	283	0.516
	(0.532)	(2.489)			
Hotels and Restaurants	−1.653***	−4.726***	9	281	0.697
	(0.435)	(2.263)			
Transport and Storage and Communication	−2.082***	−10.867***	9	283	0.635
	(0.332)	(2.703)			
Financial Intermediation	−1.473***	−4.048***	9	283	0.712
	(0.409)	(0.937)			
Real Estate, Renting and Business Activities	−1.223***	8.062***	9	283	0.489
	(0.356)	(1.653)			

Public Admin and Defense; Social Security	-0.245	0.746	9	283	0.315
	(0.214)	(0.860)			
Education	2.747***	10.663***	9	283	0.545
	(0.355)	(1.362)			
Health and Social Work	−0.934***	8.349***	9	283	0.354
	(0.316)	(1.141)			
Other Community, Social a. Personal Services	-0.452	5.437***	9	283	0.467
	(0.380)	(1.432)			

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

Table B.2: Estimation results for Equation 1 by industry with 9 countries and medium-skilled workers compensation shares.

Dependent variable: low-skilled compensation share of country i

Industry	$ln\frac{ICT}{K}$	$ln\frac{K}{Y}$	groups	N	R^2
All Industries	0.983***	1.721	126	3948	0.655
	(0.119)	(0.422)			
Agriculture, Hunting, Forestry and Fishing	-0.233	−4.455***	9	278	0.897
	(0.474)	(1.444)			
Mining and Quarrying	1.189**	−9.581***	9	278	0.795
	(0.430)	(1.628)			
Total Manufacturing	0.277	10.122	9	283	0.790
	(0.624)	(3.255)			
Electricity, Gas and Water Supply	0.338	11.946***	9	283	0.731
	(0.437)	(1.871)			
Construction	−0.889***	−2.227**	9	281	0.846
	(0.301)	(1.102)			
Wholesale and Retail Trade	2.284***	−7.744***	9	283	0.694
	(0.618)	(2.891)			
Hotels and Restaurants	1.229**	-3.895	9	281	0.747
	(0.601)	(3.131)			
Transport and Storage and Communication	0.413	18.095***	9	283	0.783
	(0.401)	(3.264)			
Financial Intermediation	1.519***	5.088***	9	283	0.653
	(0.356)	(0.908)			
Real Estate, Renting and Business Activities	1.341***	−8.839***	9	283	0.763
	(0.287)	(1.230)			

Public Admin and Defense; Social Security	0.027	2.900**	9	283	0.675
	(0.355)	(1.427)			
Education	0.327	6.882***	9	283	0.560
	(0.258)	(1.185)			
Health and Social Work	0.922***	0.135	9	283	0.608
	(0.340)	(1.230)			
Other Community, Social a. Personal Services	0.332	3.788	9	283	0.664
	(0.649)	(2.447)			

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

Table B.3: Estimation results for Equation 1 by industry with 9 countries and low-skilled workers compensation shares.

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