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Offshoring to different destination regions and working conditions in Europe

Sandra M. Leitner and Roman Stöllinger



The Vienna Institute for International Economic Studies
Wiener Institut für Internationale Wirtschaftsvergleiche

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SANDRA M. LEITNER

ROMAN STÖLLINGER

Sandra M. Leitner is Economist at The Vienna Institute for International Economy Studies (wiiw). Roman Stöllinger is Assistant Professor at Economics of Technology and Innovation (ETI) section of Delft University of Technology (TU Delft), The Netherlands and Senior Research Associate at wiiw.

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Abstract

This paper analyses the impact of offshoring in the EU – both in total and differentiated by destination region (advanced Europe, developing Europe, developed non-Europe, developing non-Europe) – on six different non-wage working conditions: physical environment, work intensity, worktime quality, social environment, skills and discretion, and prospects. Results from instrumental variable (IV) estimations show that offshoring has substantial causal effects, improving the physical environment and career prospects, but also worsening the social environment, particularly in old EU member states. Moreover, the effects vary by destination: offshoring to advanced Europe improves skills and discretion but can increase work intensity, whereas offshoring to developing Europe enhances the physical environment and career prospects. Effects for non-European destinations are more heterogeneous and sometimes opposite to those observed in Europe.

Keywords: Offshoring, destination region, non-wage working conditions, instrumental variable estimation

JEL classification: F14, F16, J81

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1. Introduction

Over the past 30 years, global offshoring has grown substantially. For instance, Baumgarten et al. (2013) show that the offshoring intensity in manufacturing increased from 6.6% in 1991 to 10.3% in 2006, while Palugod and Palugod (2011) estimate that the value of the global offshoring market almost tripled from just below USD 40bn in 2004 to almost USD 100bn in 2009.

A large literature has studied the labour market effects of offshoring on employment and wages – for which, respectively, see the meta-analyses by Carneiro et al. (2024) and Cardoso et al. (2021) – with mixed results.¹ However, little is known about working conditions in this regard. This is surprising, as the environment and conditions in which employees work are critical to their job performance, health and well-being. Inadequate or poor working conditions have far-reaching consequences and are associated with non-negligible economic costs for workers and employers in terms of higher worker turnover (Cottini et al. 2011), lower worker productivity (Abrey and Smallwood 2014), poorer mental and physical health outcomes (Barnay 2016; Belloni et al. 2022; Cottini and Ghinetti 2017), higher presenteeism and absenteeism (Leigh 1991; Brunner et al. 2019), and lower firm productivity and profitability (Arends et al. 2017). Consequently, poor working conditions also have costs for society. For instance, the total cost of mental health problems across the EU is estimated to exceed 4% of GDP (OECD/EU 2018), and the cost of annual absenteeism can run into billions – estimated for Denmark at around EUR 1.17bn, or 0.3% of GDP, in 2022 (Pedersen et al. 2024). Hence, job quality – and therefore also working conditions – has become a key policy objective at the EU level, embedded in initiatives such as the European Employment Strategy (1997), the Lisbon Strategy (2000), the European Mental Health Action Plan (2013-2020) and the European Pillar of Social Rights (adopted in 2017).

Against this background, this paper analyses the effects of offshoring on working conditions in Europe, focusing on EU countries as offshoring economies. European labour markets have undergone profound transformations, leading to significant changes in working conditions, in addition to changes in the characteristics and job content of different occupations. Specifically, over the past two decades, the degree of routinisation (in terms of repetitiveness and standardisation) has increased for most occupations (Fernández-Macías et al. 2023), while work discretion, physical demands and social interactions have decreased, and work intensity has increased (Akçomak et al. 2016; Bisello et al. 2019; Fernández-Macías et al. 2023; Menon et al. 2020). Similar trends are observed in the US, although social interactions have increased, rather than decreased, over the past two decades (Freeman et al. 2020).

Our study builds on the literature on the social consequences of global value chain (GVC) integration, which examines the link between economic upgrading – i.e. moving to higher value-added activities in production (Gereffi 2005) – and social upgrading, defined as improvements in workers' benefits and working conditions (Barrientos et al. 2011). However, rather than focusing on GVC participation in general, we specifically examine offshoring – the reliance of the domestic economy on foreign tasks and inputs – as a particular aspect of international production fragmentation that provides a tangible

¹ For a systematic literature review on theories explaining the impact of global value chains (GVCs) on labour market outcomes, see Szymczak (2024).

mechanism through which GVC involvement can influence working conditions. Existing studies on GVC integration mainly focus on developing countries and rely predominantly on case studies, yielding narrow, country- and/or industry-specific perspectives that make it difficult to draw general conclusions. The few systematic analyses of large worker-level datasets suggest that higher GVC integration is associated with lower wages, but better non-wage working conditions (Nikulin et al. 2022; Nikulin and Wolszczak-Derlacz 2023). However, they do not examine differences across offshoring destinations, fail to account for endogeneity – which may lead to biased estimates – and cannot establish causal effects.

This paper contributes to the literature in two important ways. First, it provides one of the first systematic analyses of the relationship between offshoring and European workers' non-wage working conditions. Existing research on offshoring has focused primarily on wages and employment, and much less is known about how offshoring affects the conditions under which workers perform their jobs. We address this gap by linking worker-level information from the European Working Conditions Survey (EWCS) for 2010 and 2015 to industry-level measures of offshoring. This allows us to examine six distinct dimensions of non-wage working conditions: physical environment, work intensity, worktime quality, social environment, skills and discretion, and prospects. Building on Nikulin et al. (2022) and Nikulin and Wolszczak-Derlacz (2023), we employ Bartik-style instruments to address endogeneity concerns and to move beyond correlational evidence. In addition to the full EU sample, we conduct separate analyses for the old member states (OMS) and the new member states (NMS) to account for structural differences in economic development, industrial stability and integration into GVCs.

Second, the paper differentiates offshoring by destination region: advanced Europe, developing Europe, developed non-Europe, and developing non-Europe. This distinction is important because offshoring destinations differ in task composition and skill requirements: high-skill-intensive tasks are typically offshored to other advanced countries, whereas lower-skill-intensive tasks are relocated to developing economies (Becker et al. 2013; Eliasson et al. 2022). Further differentiating developing Europe – which includes all NMS and most EU candidate countries – from developing non-Europe is important because better skill endowments in developing Europe make it a relatively attractive destination for higher-skill tasks (Astrov et al. 2021). By doing so, the paper provides new evidence on whether the effects of offshoring on working conditions differ by destination region, an issue that has received limited attention in the existing literature (Geishecker et al. 2012; Böckerman and Maliranta 2013).

Our results are generally in line with the 'social upgrading through economic upgrading' hypothesis (Barrientos et al. 2011; Gereffi 2005) and show that offshoring has substantial causal effects, improving the physical environment and career prospects, but worsening the social environment, especially in the OMS, highlighting an important trade-off in advanced economies. These effects indicate a stronger causal impact than previously reported in correlational GVC studies (Nikulin et al. 2022; Nikulin and Wolszczak-Derlacz 2023). Moreover, distinct patterns of horizontal and vertical specialisation are observable within Europe: offshoring to advanced Europe (a case of horizontal specialisation) enhances skills and discretion but can increase work intensity, whereas offshoring to developing Europe (a case of vertical specialisation) improves the physical environment and prospects. Effects for non-European destinations are more heterogeneous and, in some cases, differ markedly from those observed for European destinations. These findings highlight that the social consequences of offshoring are context-specific.

The rest of the paper is structured as follows. Section 2 discusses the related literature, while Section 3 presents the methodological approach, variable definitions and the data sources used in the analysis. Section 4 provides a brief overview of changes in the various working condition concepts and offshoring patterns – both in total and by destination – between 2010 and 2015. Section 5 reports the main empirical results from the analysis. Section 6 sets out our conclusions.

2. Theoretical considerations and related literature

From a theoretical perspective, offshoring can affect working conditions through multiple channels, often producing heterogeneous and sometimes opposing effects. For offshoring firms, two broad mechanisms are particularly relevant: a competition channel and a productivity/technology channel, which operate in opposite directions.

Regarding the competition channel, offshoring deepens the international division of labour. As production processes become fragmented across borders, competition increasingly takes place at the level of tasks and workers, rather than in final goods alone (Baldwin 2016; Stöllinger et al. 2023). Firms therefore face stronger cost pressures, which may translate into greater flexibility demands, faster responses to market changes, and higher work intensity, thereby worsening working conditions (Coupaud 2020). Competitive pressures may also weaken workers' bargaining power (Geishecker et al. 2012; Abraham et al. 2009) and induce firms to adopt new technologies that accelerate the pace of production, automate tasks or substitute machines for workers, thereby increasing job insecurity and work intensity (Beaudreau 2020; Hammerling 2022).

By contrast, offshoring may improve working conditions through productivity-enhancing technological upgrading (Bustos 2011). Investments in new machinery and equipment can create safer and cleaner work environments (Satyro et al. 2023), foster skills upgrading through training requirements (Pedota et al. 2023), and improve promotion prospects (Böckerman and Maliranta 2013). These effects typically reflect capital-skill complementarities, whereby productivity gains disproportionately benefit skilled tasks. Offshoring may also generate composition effects: if primarily physically demanding or hazardous jobs are relocated abroad, the remaining domestic jobs become, on average, cleaner and less strenuous.

The literature on the social consequences of trade and GVC integration has produced mixed results (e.g. Rossi 2013; Plank et al. 2014; Barrientos et al. 2016; Lee et al. 2016; Kabeer and Mahmud 2004; Teipen et al. 2022). Given the focus of our analysis, we discuss only studies on Europe and other developed countries. Notably, Bernhardt and Pollak (2016) show across four manufacturing GVCs that the relationship between economic and social upgrading varies by industry.

Several industry-specific case studies document negative effects on working conditions, particularly higher work intensity. Flecker et al. (2013) show that close monitoring of subcontracted workers increased work intensity in Austria's parcel delivery industry, while Quinlan et al. (2016) find that offshoring heavy aircraft maintenance in Australia intensified work and reduced autonomy in safety-related decisions among onshore employees. Using Danish linked employer-employee data, Hummels et al. (2016) report longer hours and higher injury and sickness rates in export-oriented firms, especially for women. Similarly, Lloyd and James (2008) link cost pressures and volatile delivery requirements in the UK food processing industry to longer working hours and faster production lines, despite declining injury rates.

Other studies highlight positive effects on some working conditions, often related to the retention of skilled labour. Pawlicki (2013) finds that engineers in Romania's electronics industry enjoy considerable autonomy, while Smith and Pickles (2015) document gains in real wages and non-wage benefits for workers in Slovakia's export-oriented garment firms.

Systematic analyses of large worker-level datasets provide further insights. Nikulin et al. (2022) show for 24 European countries that higher GVC integration is associated with lower wages, but a reduced probability of overtime, while Nikulin and Wolszczak-Derlacz (2023) find that stronger GVC integration in Poland is linked to lower wages and poorer skills and discretion (cognitive demands, decision latitude, organisational participation) alongside better physical and social environments, lower work intensity, improved worktime quality, and improved employment and career prospects. Overall, however, the economic significance of these effects remains limited.

The impact of offshoring on working conditions depends critically on the destination. Beyond cost considerations, particularly wages, offshoring decisions are shaped by relative factor endowments, especially skill endowments and access to high-quality or technologically advanced inputs unavailable domestically. In the framework of trade in tasks (Grossman and Rossi-Hansberg 2008, 2012), this leads to distinct patterns of task specialisation: skill-abundant countries in the 'North' tend to offshore low-skill-intensive tasks to relatively unskilled regions in the 'South' (vertical specialisation), while high-skill-intensive tasks are more often relocated to other high-skill-abundant countries (horizontal specialisation) (Becker et al. 2013; Koerner and Le Moigne 2023). Our analysis adopts the perspective of the 'North', in particular the OMS, as offshoring economies. Accordingly, these patterns mainly refer to the expected consequences for workers in these countries.

These specialisation patterns imply different effects on domestic working conditions. Vertical specialisation may improve physical work environments by relocating physically demanding, dirty or hazardous tasks abroad, but may also lead to rationalisation concerns, particularly for low-skilled workers. Horizontal specialisation may increase time-related pressure and the need for flexibility as a consequence of cross-border co-ordination and just-in-time production, while allowing workers to focus on complex core competencies, potentially enhancing skills, discretion, career prospects, social interactions and the accumulation of internationally tradable human capital.

Empirical evidence supports these differentiated effects. Using German data, Geishecker et al. (2012) show that fears of job loss are higher when offshoring targets the 'South' (low-wage countries) and lower when it targets the 'North', consistent with employment effects reported in other studies (Bernard et al. 2006; Ebenstein et al. 2014; Falk and Wolfmayr 2005; Harrison and McMillan 2011). Finnish linked employer-employee data show that offshoring to EU15 countries has negligible effects on working conditions; offshoring to the European 'South' increases work intensity; offshoring to non-European high-wage countries improves promotion prospects; and offshoring to developing countries reduces work intensity and related sickness absence (Böckerman and Maliranta 2013).

3. Methodological approach, data sources and working condition measures

3.1. METHODOLOGICAL APPROACH

To analyse the effect of offshoring, we estimate the following specification:

$$WC_{ijct}^m = \alpha_0 + \beta_1 \ln OFF_{jct-1} + \beta_2 \ln OTH_{jct-1} + X'_{ijct} \gamma + Y'_{jct} \delta + \vartheta_{jc} + \mu_t + \varepsilon_{ijct} \quad (1)$$

where WC_{ijct}^m refers to one of six ($m = 1, \dots, 6$) different working conditions of worker i in industry j and country c at time t (with $t = 2010, 2015$). Following Eurofound (2017), we differentiate between the following six working conditions: (i) physical environment, (ii) work intensity, (iii) worktime quality, (iv) social environment, (v) skills and discretion, and (vi) prospects (discussed in detail in Section 3.3, below).

OFF_{jct-1} is the industry-level indicator of interest and refers to offshoring in industry j and country c at time $t - 1$. It is measured using information from international input-output tables, which can be used to measure purchases of intermediate inputs by each industry and country from each industry and country (Feenstra and Hanson 1999; Foster-McGregor et al. 2013). In the analysis, we distinguish between two offshoring measures. Our initial indicator for offshoring is a measure of *total offshoring*, defined as the share of imported intermediate inputs from all industries in gross output:

$$IIM_{jc}^T = \frac{\sum_{k=1}^K O_{jkc}}{GO_{jc}}, \quad (2)$$

where O_{jkc} denotes imported intermediate inputs purchased by industry j in country c from industry k located abroad, and GO_{jc} is gross output of industry j in country c .

This initial offshoring measure is broken down further *by destination region* into (i) advanced Europe (AdvancedEUR), (ii) developing Europe (DevelopingEUR), (iii) developed non-Europe (DevelopedxEUR) and (iv) developing non-Europe (DevelopingxEUR), and defined as follows:²

$$IIM_{jc}^{AdvancedEUR} = \frac{\sum_{w=1}^W O_{jwc}}{GO_{jc}}, \quad IIM_{jc}^{DevelopingEUR} = \frac{\sum_{x=1}^X O_{jxc}}{GO_{jc}}, \\ IIM_{jc}^{DevelopedxEUR} = \frac{\sum_{y=1}^Y O_{jyc}}{GO_{jc}}, \quad IIM_{jc}^{DevelopingxEUR} = \frac{\sum_{z=1}^Z O_{jzc}}{GO_{jc}} \quad (3)$$

² Advanced Europe refers to all EU15 member states (Austria, Belgium, Germany, Denmark, Spain, Finland, France, the UK, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden) plus Switzerland, Norway and Iceland. Developing Europe refers to all EU13 member states (Bulgaria, Cyprus, Czechia, Estonia, Croatia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovenia, Slovakia), the Western Balkans (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia and Kosovo), Turkey and Ukraine. Developed non-Europe refers to Australia, Canada, Japan, South Korea, Taiwan and the US. Developing non-Europe refers to Brazil, China, India, Indonesia, Mexico and Russia.

From a European perspective, the further differentiation between advanced and developing Europe is important because developing Europe – which here includes all NMS and all EU candidate countries except Georgia and Moldova (owing to missing data) – has integrated strongly with the rest of the EU. This is particularly the case for the NMS, which have become not only a major source region for intermediate inputs for advanced Europe, but also major importers of intermediate inputs from advanced Europe. Moreover, the further differentiation between developing Europe and developing non-Europe is important because of the large differences in the skill endowments between the two regions, which determine which tasks are offshored there. From a European perspective, the more similar skill endowments between advanced and developing Europe make developing Europe an important destination for offshoring of more high-skill-intensive tasks, while the generally lower skill endowments in developing non-European countries make them important destinations for offshoring of more low-skill-intensive tasks.

OTH_{jct-1} refers to other industry-level control variables, including digitalisation, captured by the log of ICT capital stock, and gross output. Digitalisation is a potentially important additional determinant of working conditions, the omission of which may lead to biased results. However, as an industry-level measure, ICT capital stock cannot capture within-industry heterogeneity in ICT adoption across firms. Gross output controls for cross-industry differences in economic activity. All three industry-level indicators are lagged by one year to mitigate simultaneity bias.

The vector X_{ijct} contains several individual worker characteristics, including: gender (equal to one if the respondent was female, with male as the reference category); migrant (equal to one if the respondent was born outside the current country of residence and zero otherwise); age, which is classified into young (aged 15-24) as the reference, middle-aged (aged 25-49) and old (aged 50 and above); the highest level of education (ISCED-11 based), classified into low (ISCED-0 to ISCED-2) as the reference, medium (ISCED-3 and ISCED-4) and high (ISCED-5 to ISCED-8); type of job in terms of part-time work (with full-time as the reference category) and temporary employment contract (equal to one if a person has a temporary/fixed-term contract, a temporary employment agency contract or no contract, and zero in the case of a contract of unlimited duration and an apprenticeship or other training scheme); tenure (as the log of the number of years in the company); and occupation, where we define three types of occupation based on the ISCO-08 one-digit classification: high (managers, ISCO-08:1, and professionals, ISCO-08:2) as the reference group; medium (technicians and associate professionals, ISCO-08:3, clerical support workers, ISCO-08:4, skilled agricultural, forestry and fishery workers, ISCO-08:6, craft and related trades workers, ISCO-08:7, and plant and machine operators and assemblers, ISCO-08:8); and low (services and sales workers, ISCO-08:5, and elementary occupations, ISCO-08:9).

The vector Y_{jct} contains firm characteristics, including: firm size, based on the number of employees at the local site where the respondent works, classified into micro and small (1-49 employees) as the reference, medium-sized (50-249 employees) and large (250 and more employees); and firm type, classified according to the respondent's sector of employment into private (private sector), public (public sector) as the reference, or other (a joint private-public company, the not-for-profit sector, an NGO or other).

Finally, ϑ_{jc} and μ_t denote country-industry and year fixed effects, respectively, while ε_{ijct} is the remaining error term. Country-industry fixed effects control for time-invariant characteristics specific to each country-industry pair, and year fixed effects capture common shocks and global trends. Any time-invariant country-level heterogeneity is therefore already absorbed by the country-industry fixed effects.

Although it is common practice to include highly saturated fixed effects – such as country-year or industry-year – this approach is not appropriate in our setting. Because our main explanatory variable, lagged offshoring, varies at the country-industry-year level, including country-year or industry-year fixed effects would eliminate nearly all identifying variation. Variance decomposition confirms this concern: approximately 18% of the total variation in offshoring occurs within country-industry units over time. Although non-negligible, this variation would be entirely eliminated by more saturated specifications (e.g. industry-year fixed effects), leaving insufficient information to identify the causal effect. To preserve this source of identification, we adopt a more parsimonious model that includes country-industry and year fixed effects, while retaining sufficient within-unit variation over time.

Because some of the offshoring indicators by offshoring destination are multicollinear, especially offshoring to advanced Europe and offshoring to developing Europe, we estimate separate regressions, each including only one regional offshoring indicator.

We construct six working condition measures, using polychoric principal component analysis (PCA) based on questions from the European Working Conditions Survey (EWCS) available in both survey waves (see Section 3.3, below, for details). The validity of the indicators is assessed using exploratory and confirmatory factor analyses, excluding items with low factor loadings or weak internal consistency. Our indicators therefore differ from those in Eurofound (2017). For each measure, we use the first principal component, which explains between 60% and 70% of the total variance. To facilitate interpretation, all indicators are standardised to a mean of zero and a standard deviation of one.

An important issue in our analysis is the comparability of the different concepts across survey waves. Because the same working condition concepts are used for 2010 and 2015, we need to ensure that they measure the same underlying constructs over time. For this purpose, we apply the methodology proposed by Raykov and Tisak (2004) and assess ‘*time-invariance*’ of the six working condition concepts, using confirmatory factor analysis (CFA) models. Given the use of survey weights, model fit is evaluated using the Standardised Root Mean Square Residual (SRMR) and the Coefficient of Determination (CD),³ while adjusted Wald tests are used to test the null hypothesis of invariance of the covariance of error terms across time. Overall, the results support time invariance for most working condition concepts, with weaker evidence for worktime quality and physical environment.⁴

There are some methodological issues in our analysis. First, because the EWCS is a repeated cross section, we cannot track workers over time or include individual fixed effects, so worker-level selection on unobservables may bias the estimates. Similarly, industry-level factors may influence individuals’ labour market participation decisions (e.g. unemployment arising from offshoring). Because the sample is restricted to employed individuals, such selection cannot be accounted for.

Another issue is the mobility of workers across industries. Workers may switch into industries that face different offshoring situations. This cross-industry mobility is well documented (see, for example, Neffke

³ The SRMR measures how well the model reproduces each correlation, on average, with a recommended value of less than 0.08; the CD is an overall summary of how well the model fits, with a maximum value of 1.0. See Hu and Bentler (1999) for a discussion of the cut-off values for the various measures, including the SRMR.

⁴ The initial CFA models yield acceptable fit statistics overall. SRMR values range from 0.015 (prospects) to 0.107 (work intensity), while CD values range from 0.275 (prospects) to 0.914 (work intensity). Adjusted Wald tests reject the null hypothesis of invariance only for worktime quality ($p = 0.020$) and weakly for physical environment ($p = 0.111$).

et al. 2017; Renski 2013; Simonen et al. 2016) and may affect our results for several reasons. Workers who switch industries may differ systematically from those who stay, may face changing offshoring intensities over time (making it difficult to attribute observed changes in their working conditions to the offshoring dynamics of a specific industry) and may respond endogenously to offshoring by leaving deteriorating jobs. Moreover, worker mobility can alter the composition of the workforce within an industry over time, potentially biasing average estimates of working conditions for the remaining workers. We address these concerns by focusing on stayers – i.e. workers who have remained with the same firm for at least five years, as measured by tenure (i.e. the number of years with the firm).

Finally, despite the lag structure, endogeneity concerns may remain if the offshoring indicators are serially correlated with the error term so that shocks to demand or productivity affect both offshoring and working conditions. To address this, we follow the literature (Hummels et al. 2014) and construct a Bartik shift-share instrument at the industry-country level. This also allows us to establish causality. Specifically, for industry j in country c at time t , the instrument is defined as follows:

$$I_lnOFF_{jc}^T = \sum_{k=1}^K s_{jk}^{2000} \Delta \ln X_{k,-c,t} \quad (4)$$

where s_{jk}^{2000} is the share of inputs from industry k used by industry j in the reference year 2000, and $\Delta \ln X_{k,-c,t}$ captures the change in global exports of intermediate inputs in industry k across all countries excluding country c . This ‘leave-one-out’ approach ensures that country-specific shocks do not bias the instrument. The identifying assumption is that offshoring trends in other countries are exogenous to labour market conditions in country c , conditional on the initial input structure. We also construct separate Bartik instruments for offshoring by destination region. The share component is the share of inputs from industry k from source region r used by industry j in the reference year 2000, while the shift component captures changes in global exports of intermediate inputs from industry k in region r across all countries in region r excluding country c to ensure exogeneity. Reference shares in 2000 are constructed from data from the 2016 release of the World Input-Output Database (WIOD).

We estimate equation (1) using pooled ordinary least squares (OLS) with high-dimensional fixed effects, applying the survey probability weights and clustering standard errors at the industry level. For the instrumental variable analysis, we employ extended IV regressions with multiple fixed effects using Bartik-style instruments, maintaining the same set of country-industry and year fixed effects to ensure consistency across models, again applying probability weights and clustering at the industry level.

3.2. DATA SOURCES

We construct our database from three different data sources. First, we use the *European Working Conditions Survey (EWCS)*, which is a worker-level survey that includes rich information on working conditions that can be used to construct different working condition concepts, in addition to detailed information on worker – employed and self-employed – and firm characteristics (see Section 3.1, above). The EWCS was launched in 1990 and has since been conducted every five years in a growing number of European countries (EU member states, EU candidate countries and EFTA countries). The analysis uses two editions of the EWCS, namely, the 2010 EWCS (5th edition) and the 2015 EWCS (6th edition). The survey is conducted by means of face-to-face interviews with a sample size that varies between a required minimum of 1,000 and over 3,000 persons per country, using a multi-stage, stratified

clustered sampling design in each country, with stratification based on geographic regions (NUTS 2 level or below) and degree of urbanisation. The sample used in the EWCS is representative of individuals aged 15 and over,⁵ living in private households and in employment (i.e. who did at least one hour of work for pay or profit during the week before the interview took place). Detailed information about workers' industry affiliation (according to the one- and two-digit NACE Rev. 2 classification) is used to match the EWCS with other industry-level data, in particular the various measures of offshoring and digitalisation. Our analysis focuses on employees only, as several questions required to construct the working condition measures are unavailable for the self-employed. Sampling weights provided by the EWCS are applied throughout the analysis.

Second, trade-related data is taken from the 2020 release of the *World Input-Output Database (WIOD)*,⁶ which provides information on international linkages of production processes and structures of trade in final goods across 38 industries (NACE Rev. 2, A38) and 50 countries, covering all 27 EU member states (as of 2020), the United Kingdom, the six Western Balkan countries, Ukraine and 15 other major countries in the world,⁷ plus an estimate for the rest of the world for the period 2005-2018. We use information for both domestic and imported inputs at the one- and two-digit industry level to construct the different offshoring measures described above.

Third, information on the real net capital stock (in 2015 prices) of information and communication technology (ICT) is taken from the 2021 edition of the *EU-KLEMS Growth and Productivity Accounts*. It is available for all 27 EU member states (as of 2020) plus Norway, Japan, the United States and the United Kingdom for the 1995-2019 period and for 40 detailed industries (plus 23 industry aggregates), according to the NACE Rev. 2 industry classification. For some EU member states, net capital stocks are only available for the total economy (i.e. all NACE activities) or are incomplete at the more detailed NACE level. Hence, we imputed the missing data using information on the ICT capital stock for the total economy of the country for which the imputation was performed and the shares at the more detailed NACE level of one or two reference EU countries.⁸ This allowed us to determine the real net capital stock for ICT for all EU member states (as of 2020) plus the United Kingdom, with the exceptions of Croatia, Cyprus and Malta, for which we had no information on the total net capital stock.

Owing to missing data, the final sample covers 24 EU member states (the EU27, minus Croatia, Cyprus and Malta) and the United Kingdom and industries from A to R-S (as there is no information on industries T and U) (for the list of industries, see Appendix Table A.1). The summary statistics of all variables used in the analysis are reported in Appendix Table A.2.

⁵ 16 and over in Bulgaria, Norway, Spain and the UK.

⁶ As constructed by The Vienna Institute for International Economic Studies (wiiw).

⁷ The 15 major countries refer to Australia, Brazil, Canada, China, India, Indonesia, Iceland, Japan, South Korea, Mexico, Russia, Switzerland, Turkey, Taiwan and the United States.

⁸ We used the following reference countries: EL and SK for BG, UK for DK, FI and LV for EE, CZ and AT for HU, UK and NL for IE, FI for LT, NL for LU, CZ and SK for PL, ES and FR for PT, EL and SK for RO, FI for SE and SK, and AT for SI.

3.3. MEASURES

We closely follow Eurofound's definition of the six working conditions (Eurofound, 2017), but our measures differ in three respects: we only use survey questions that are included in both surveys; we have removed from each measure those questions with low internal consistency with the other items in a group (as measured by Cronbach's alpha); and we have removed items which violate time invariance of each measure. Therefore, the concepts in our model were measured using three to 12 indicators. The full list, including Cronbach's alpha values for both periods, is available in Appendix Table A.3.

Physical environment captures a person's physical health risk in terms of exposure to vibrations, noise, high or low temperatures, smoke, vapours, chemical products and infectious materials, as well as a person's physical demands in terms of tiring or painful positions, carrying or moving heavy loads, or repetitive hand or arm movements.

Work intensity captures quantitative demands, including working at high speed or to tight deadlines, time pressure, and the frequency of interruptions due to unforeseen tasks, as well as pace determinants and interdependency, reflected in a worker's reliance on colleagues' work, numerical production or performance targets, or the automatic speed of machines or the movement of products.

Worktime quality captures specific working time arrangements, such as working more than 47 hours per week; how many times per month a respondent usually works more than 10 hours a day; works at night (for at least two hours between 10pm and 5am); works on Saturdays or Sundays; and whether the respondent works shifts and, if so, the type of shift (i.e. daily split shifts, permanent shifts, alternating or rotating shifts, or other shifts).

Social environment captures exposure to adverse social behaviour, such as verbal abuse, unwanted sexual attention, physical violence, and bullying or harassment.

Skills and discretion captures three aspects of a job. First, the cognitive dimension, including solving unforeseen problems independently, performing complex tasks, learning new things, working with computers, laptops or smartphones, and applying one's own ideas at work. Second, decision latitude, in terms of a person's ability to choose or change the order of tasks, methods of work, the speed or rate of work, and the choice of work colleagues. Third, organisational participation, in terms of whether a person is consulted before objectives are set, is involved in improving work organisation or work processes, and can influence decisions that are important for their work.

Prospects captures career prospects, job security, and the ease with which a new job could be found in the event of job loss.

Higher values indicate more favourable working conditions for all concepts except work intensity, where higher values reflect higher work demands. Most Cronbach's alpha values (see Appendix Table A.3) are above or close to the commonly applied threshold of $\alpha = 0.70$ (Nunnally, 1978), except for social environment and prospects, suggesting relatively low internal consistency for these concepts. Results for these dimensions should therefore be interpreted with caution.⁹

⁹ We made several attempts to improve this construct's internal consistency, but neither the exclusion of items currently considered nor the inclusion of alternative items proved successful.

4. Descriptive analysis

Figures 1 to 3 below provide an overview of working conditions and offshoring patterns across industries in the EU27 and the UK (excluding Croatia, Cyprus and Malta, owing to missing ICT data). To ease interpretation, all working condition concepts have been standardised to lie between 0 and 1.

Figure 1 shows substantial cross-industry variation in working conditions in 2010, particularly between manufacturing and service industries. Manufacturing industries tended to exhibit poorer physical environments, higher work intensity, lower skills and discretion, and weaker prospects, while experiencing somewhat better worktime quality and social environments. Among service industries, IT and other information services (62-63) generally reported comparatively favourable working conditions.

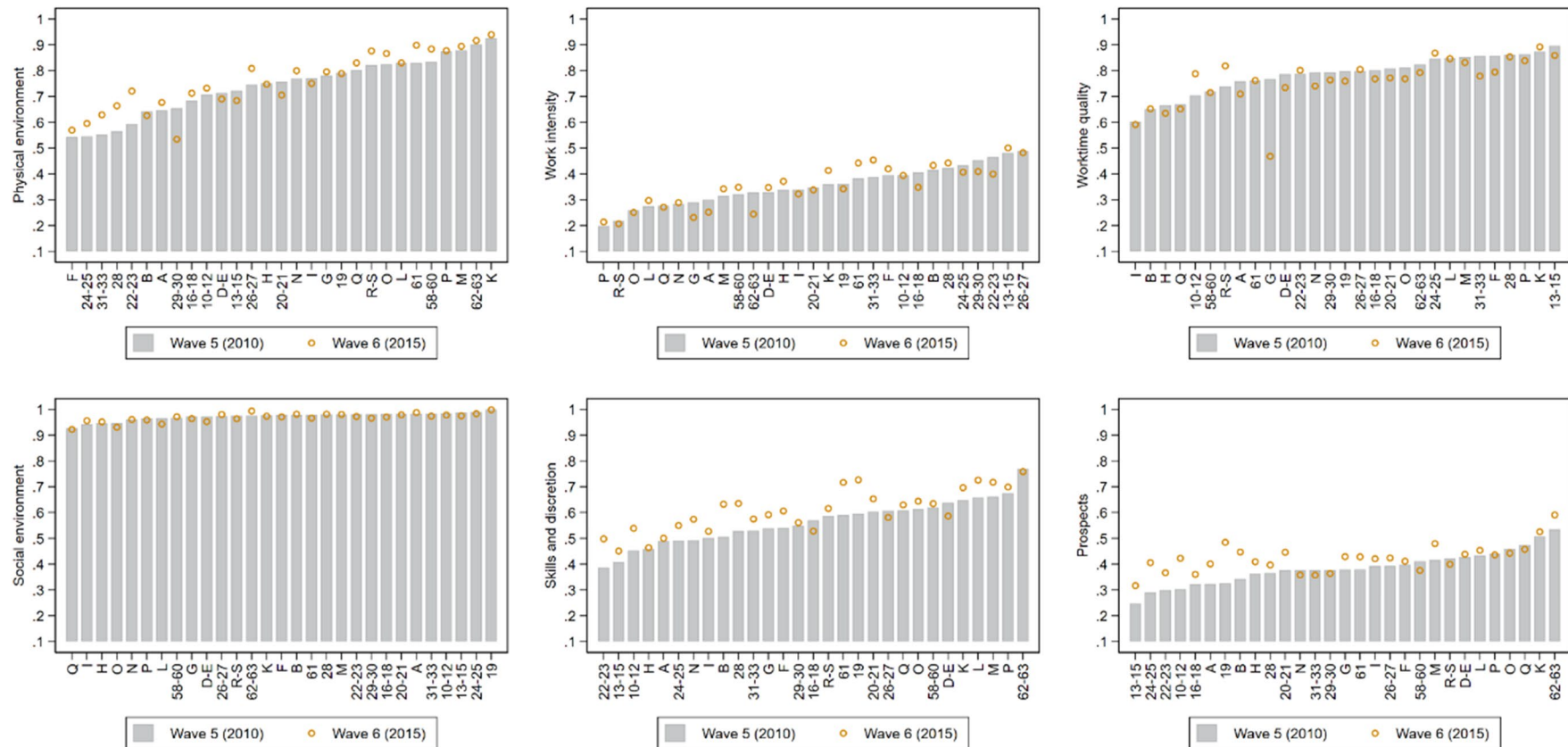
Between 2010 and 2015, developments in working conditions were mixed across industries. Skills and discretion and prospects generally improved, whereas worktime quality deteriorated and work intensity increased in many sectors. Changes in the social environment were comparatively limited, reflecting already high initial levels.

Figure 2 and Figure 3 below summarise offshoring patterns. Given the period covered in our analysis and the lagged nature of the offshoring indicator we use, we concentrate on 2009 and 2014. While Figure 2 focuses on total offshoring, Figure 3 differentiates by offshoring destination. As the 'rest of the world' cannot be allocated to any of the four regions, the shares of the four regions do not add up to total offshoring.

Offshoring intensity was substantially higher in manufacturing than in service industries in both 2009 and 2014, with especially high levels in coke and refined petroleum products (19), computer and electronic products (26-27), and transport equipment (29-30) industries. Across destination regions, offshoring to advanced Europe accounted for the largest share, particularly in manufacturing industries, where it typically ranged between 10% and 20%, followed by offshoring to developing Europe.

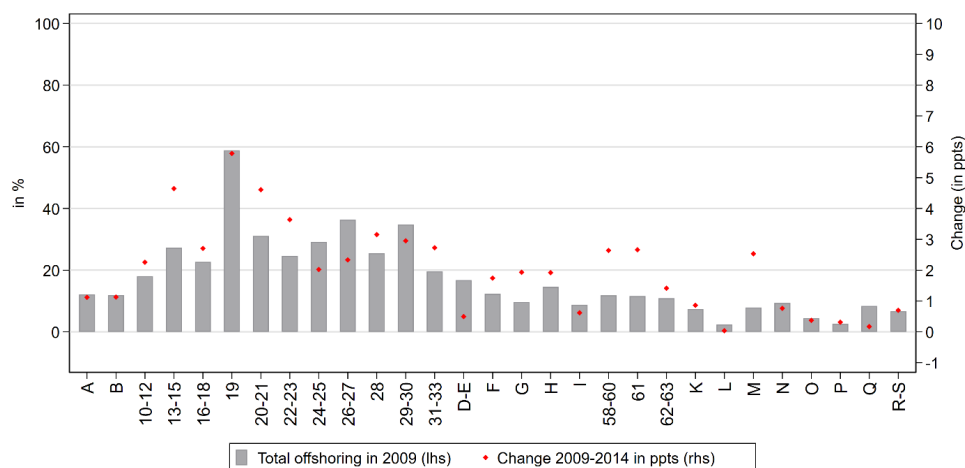
Between 2009 and 2014, offshoring increased in most industries and across most destination regions, particularly in manufacturing industries. Increases were especially pronounced for offshoring to developing Europe, whereas offshoring to developed non-European economies remained comparatively stable.

Figure 1 / The six working conditions across industries and survey waves



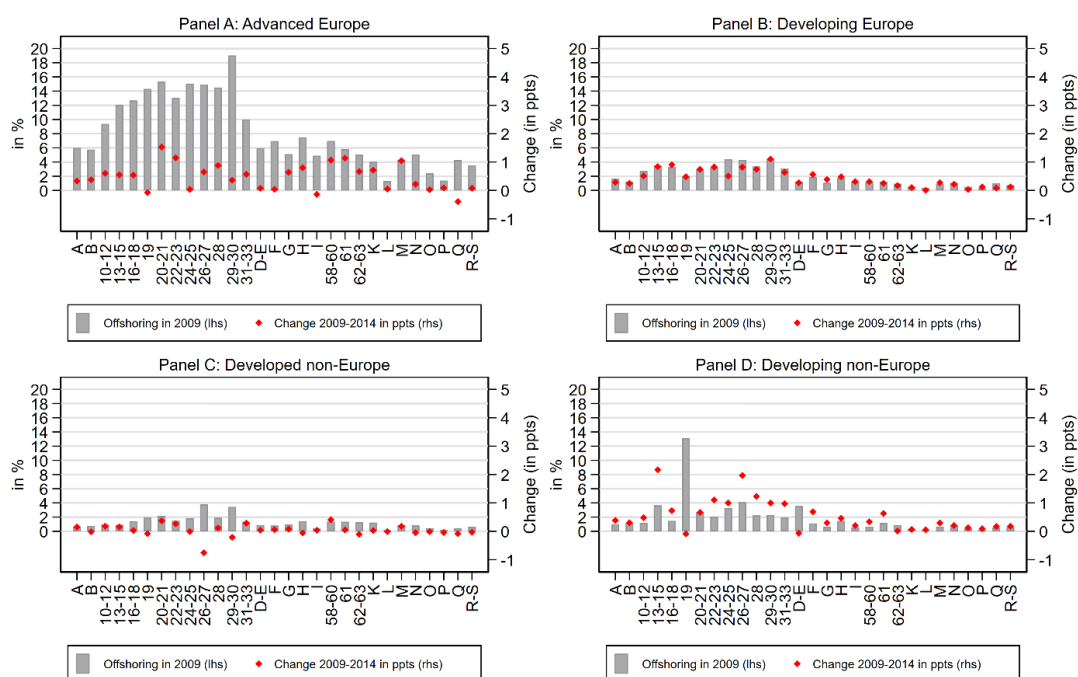
Note: The weighted means of the six working condition concepts – standardised to lie between 0 and 1 – are shown for the final samples used in the analysis. Wave 5 was conducted in 2010 and wave 6 in 2015. Wave 5 indices – represented by the grey bar – are in ascending order.

Source: 5th and 6th European Working Conditions Survey; own calculations.

Figure 2 / Total offshoring by industry across time: 2009 and 2014

Note: The share of imports of intermediate inputs in gross industry output is shown as an average of all countries in the sample (i.e. EU28, excluding Croatia, Cyprus and Malta).

Source: WIOD (2020 release); own calculations.

Figure 3 / Offshoring by destination region and industry across time: 2009 and 2014

Note: The share of imports of intermediate inputs in gross industry output from four source regions is shown as an average of all countries in the sample (i.e. EU28, excluding Croatia, Cyprus and Malta). Advanced Europe refers to all EU15 member states (Austria, Belgium, Germany, Denmark, Spain, Finland, France, the UK, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden) plus Switzerland, Norway and Iceland. Developing Europe refers to all EU13 member states (Bulgaria, Cyprus, Czechia, Estonia, Croatia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovenia, Slovakia), the Western Balkans (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, and Kosovo) and Ukraine. Developed non-Europe refers to Australia, Canada, Japan, South Korea, Taiwan and the US. Developing non-Europe refers to Brazil, China, India, Indonesia, Mexico and Russia.

Source: WIOD (2020 release); own calculations.

5. Econometric analysis

Here, we discuss the results of our estimations. Specifically, Section 5.1 reports the results on the impact of total offshoring on the six working conditions. In Section 5.2, we further differentiate total offshoring by source region. In both sections, we present OLS and IV estimations – employing a Bartik-style shift-share instrument – for the total sample, as well as for the subsamples of old EU member states (OMS) and new EU member states (NMS). This differentiation accounts for the role of OMS as the primary originators of offshoring in the EU. Throughout the discussion, we focus on the key variables of interest; full estimation tables are provided in the Appendix.

5.1. TOTAL OFFSHORING AND WORKING CONDITIONS IN THE EU

Table 1 presents the results on the relationship between total offshoring and working conditions. Panel A refers to the total EU sample, Panel B to the group of OMS, and Panel C to the group of NMS. In each panel, OLS estimates are reported in the top rows and IV estimates in the bottom rows. Columns (1) to (6) correspond to the six working conditions. The full results are reported in Appendix Tables A.4-A.9.

The diagnostic tests confirm that the instruments are highly relevant, with the Kleibergen-Paap rk LM underidentification tests significant at the 1% level for the total sample (Panel A) and the 5% level for the OMS sample (Panel B). Furthermore, the Kleibergen-Paap rk Wald F statistic indicates that the instruments are strong for both samples, surpassing the relevant Stock-Yogo critical values. Moreover, results from the first-stage regression show that, in line with expectations, the instrument has a positive and highly significant impact on offshoring in both samples (see Appendix Table A.10). The validity of the instrument rests on the assumption that foreign export shifts affect domestic working conditions only through their effect on domestic offshoring, conditional on the included fixed effects and controls. The leave-one-country-out construction reduces the risk that the instrument captures domestic reforms or country-specific shocks. This assumption is particularly plausible for the OMS, where industrial structures and sourcing patterns were relatively stable over the period considered, and where the diagnostic tests indicate a strong first stage.

A different picture emerges for the NMS (Panel C and Appendix Table A.10), where the instruments show low relevance, are weak, and are negatively related to offshoring at a low level of statistical significance. This lack of instrument strength in the NMS is likely to stem from the fact that the shares are based on the year 2000. For these transition economies, the industrial structures in 2000 were still undergoing rapid systemic changes prior to their respective EU accessions in 2004 – the largest expansion – and 2007 (Bulgaria and Romania). Consequently, these baseline sourcing patterns are less representative of their later integration into GVCs, causing the instrument to lose its predictive power. Consequently, the IV results for the NMS should be interpreted with caution, as weak instrument performance is likely to have led to unstable coefficients and inflated standard errors.

Overall, the instrument diagnostics support the IV strategy for the total sample and the OMS, but point to weak instrument performance for the NMS.

In line with the offshoring literature (e.g. Autor et al. 2013; Hummels et al. 2014), the IV coefficients are substantially larger than the OLS estimates in most specifications, suggesting that the latter are downward biased, owing to measurement error in the offshoring measure or negative selection, where offshoring occurs predominantly in industries already facing deteriorating working conditions.

For the total sample, the OLS estimates show no significant relationship across any of the working conditions. However, once endogeneity is accounted for, a more nuanced picture emerges: offshoring has a positive and significant effect on the physical environment and a remarkably strong positive effect on prospects. Specifically, the IV estimate suggests that a one-unit increase in the log of offshoring is associated with a 0.47 standard deviation increase in the physical environment and a 1.87 standard deviation increase in prospects. These results suggest that although offshoring displaces certain tasks, it may be associated with safer and physically less demanding remaining jobs and better prospects, particularly in the OMS, where the instrument performs more strongly (see the discussion below), thereby supporting the ‘social upgrading’ hypothesis. Hence, while qualitatively consistent with the positive trends reported by Nikulin et al. (2022) and Nikulin and Wolszczak-Derlacz (2023) regarding GVC integration, our estimates are substantially larger and identify a causal link. This is likely to reflect our focus on the specific mechanism of offshoring combined with a Bartik instrument to account for endogeneity, revealing a more pronounced impact than broader, correlational GVC designs.

However, a closer look at the OMS – the primary originators of offshoring in the EU – reveals a more complex trade-off. While workers in the OMS also benefit from better prospects and a safer and physically less demanding environment (marginally significant), they simultaneously experience a deterioration in the social environment. This combination is not necessarily contradictory, as the two concepts capture different dimensions of working conditions. Better prospects may reflect the restructuring of employment towards more secure or higher-quality remaining jobs, while the worsening social environment may capture the social strain associated with this restructuring process. In advanced economies, offshoring may increase internal competition, uncertainty about future outsourcing and pressure on remaining workers, thereby improving career-related prospects while simultaneously worsening interpersonal workplace relations. Although the effect on the social environment is only marginally significant, its presence in the OMS – and absence in the total sample – suggests that this trade-off is particularly relevant in advanced EU economies. These results align with broader structural shifts documented in recent literature on Europe and suggest that the decline in physical demands and social interactions identified by Bisello et al. (2019) can be attributed, at least in part, to offshoring. However, our measure of the physical work environment is broader, indicating decreased exposure to adverse workplace conditions, rather than lower physical effort per se. Moreover, our finding of a deteriorating social environment in the OMS – mainly capturing adverse social behaviours – suggests that offshoring may be a driver of the ‘strained social interactions’ observed in European labour markets (Bisello et al. 2019; Fernández-Macías et al. 2023). This contrasts with the US experience, where social interactions have reportedly increased (Freeman et al. 2020), suggesting that the European restructuring process places a heavier burden on interpersonal workplace dynamics.

Taken together, the results for the OMS and NMS indicate that the full-sample IV findings are primarily informative for the OMS rather than equally generalisable across all EU member states. Positive effects on physical environment and prospects are present in the OMS, while the evidence for the NMS remains less conclusive.

The results for the NMS present a different picture. Unlike in the OMS, where offshoring leads to better prospects, the IV coefficient for prospects is negative in the NMS. This opposite sign may reflect the different position of NMS in European production networks. Although offshoring in the OMS appears to be associated with a restructuring of domestic employment towards jobs with better prospects, offshoring in the NMS may not generate the same form of upgrading for local workers and may instead be associated with more uncertain career opportunities. However, this interpretation is only suggestive. The instrument performs weakly in the NMS subsample, and the lack of statistical significance across most other dimensions further underscores that the NMS results should not be overinterpreted.

We also conduct several robustness checks, reported in Appendix Table A.11. First, we include a euro area membership dummy alongside country-industry and year fixed effects to account for broader macro-institutional differences between euro area and non-euro area countries. The results remain qualitatively unchanged for the full sample and the NMS; for the OMS, the euro area dummy is not separately identified because euro area membership almost fully overlaps with the sample definition.

Second, we assess the sensitivity of the IV estimates to alternative constructions of the Bartik instrument. To address the concern that the leave-one-country-out instrument may still capture common shocks among closely integrated economies, we construct two additional instruments: one excluding all euro area countries from the shift component, and one further excluding the US. We restrict these alternative instruments to the total offshoring analysis, as applying them to the destination-region specifications would leave very little identifying variation in the advanced Europe component, which consists largely of euro area countries. For the full sample and the OMS, excluding euro area countries weakens the instrument but yields results that are broadly consistent with the baseline estimates, particularly for prospects. Once both euro area countries and the US are excluded, however, the instrument becomes substantially weaker, as indicated by insignificant underidentification tests and very low Kleibergen-Paap rk Wald F statistics. We therefore do not interpret these estimates substantively. Interestingly, for the NMS, excluding both euro area countries and the US improves the relevance of the instrument (although instrument strength remains moderate). This suggests that the offshoring dynamics of NMS may be less informative for predicting NMS offshoring than OMS offshoring, reflecting the different position of NMS in European and global production networks. Nevertheless, the estimates remain mostly insignificant, so the evidence for the NMS remains less conclusive.

The remaining control variables also yield interesting results (see Appendix Tables A.4-A.9). For example, lagged ICT is unrelated to any of the working conditions, while lagged gross output is associated with better prospects, suggesting that expanding industries provide better prospects for career advancements and for finding a job.

Regarding individual characteristics, the results mirror well-established patterns in the labour economics literature (see, for example, Kalleberg 2011 or Eurofound 2017). In terms of demographics, we find that women work in better physical environments and have higher worktime quality, but hold jobs with lower decision latitude and organisational participation (captured by 'skills and discretion') and face worse career prospects than men. These disparities are likely to reflect traditional gender roles and the impact of career interruptions. Similarly, migrant workers face systemic disadvantages, occupying roles characterised by significantly poorer physical environments, higher work intensity, and lower skills and discretion. Age also plays a role: compared with the youngest cohort (15-24), older workers enjoy a better physical environment and lower work intensity, but worse career prospects.

Table 1 / Working conditions: Total offshoring – OLS and IV results

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
Panel A: Total sample						
OLS IIM ^T	0.058 (0.040)	0.074 (0.078)	0.052 (0.077)	-0.079 (0.047)	0.044 (0.058)	0.178 (0.115)
IV IIM ^T	0.470** (0.229)	0.232 (0.284)	-0.057 (0.313)	-0.049 (0.183)	-0.236 (0.212)	1.865*** (0.389)
Underid.	8.497***	8.441***	8.363***	8.458***	8.450***	8.458***
K-P	23.84	24.12	23.81	23.90	23.80	23.90
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
Panel B: Old EU member states						
OLS IIM ^T	0.076* (0.039)	0.094 (0.086)	0.048 (0.080)	-0.099* (0.051)	0.108 (0.070)	0.168 (0.111)
IV IIM ^T	0.318* (0.165)	0.359 (0.320)	-0.178 (0.249)	-0.368* (0.202)	0.040 (0.204)	0.767*** (0.239)
Underid.	6.614**	6.530**	6.420**	6.543**	6.550**	6.543**
K-P	16.85	16.34	16.14	16.56	16.55	16.56
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
Panel C: New EU member states						
OLS IIM ^T	0.145 (0.122)	-0.182 (0.133)	0.016 (0.050)	-0.020 (0.063)	-0.062 (0.095)	-0.153 (0.215)
IV IIM ^T	-1.824 (1.358)	0.312 (0.551)	1.032 (0.985)	-0.967 (0.791)	0.261 (0.586)	-2.074* (1.206)
Underid.	1.893	1.927	1.906	1.863	1.880	1.863
K-P	3.103	3.120	3.125	3.017	3.071	3.017
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	8,571	8,306	8,714	8,806	8,795	8,806

Note: IIM^T refers to total offshoring which is lagged by one year and expressed in log. All working conditions are standardised, with a mean of zero and a standard deviation of one. All equations also include a constant and control for gender, migrant status, age, education, occupation, tenure, firm size, firm type, gross output and ICT. The latter are lagged by one year and expressed in log. All specifications also include country-industry and year fixed effects, as indicated in the table. Underid. refers to the Kleibergen-Paap rk LM underidentification test and K-P to the Kleibergen-Paap RK Wald F statistic. The full results are reported in Appendix Tables A.4-A.9. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Socioeconomic factors further differentiate working conditions. Better-educated workers, particularly those with tertiary education, benefit from superior physical environments, higher skills and discretion, and better prospects; however, they experience lower worktime quality and a poorer social environment – a common trade-off in high-responsibility roles. This is reflected in the occupational data: medium- and low-skilled workers experience an inferior physical environment and prospects than high-skilled workers. Notably, while low-skilled workers face poorer worktime quality and social environments, they report lower work intensity.

Moreover, employment arrangements significantly shape working conditions. Part-time work is associated with better physical and social environments, lower work intensity, and higher worktime quality, although at the cost of lower skills and discretion and poorer prospects. Conversely, temporary contracts are linked to

precarious conditions, including poorer physical environments, poorer skills and discretion, and lower prospects. Tenure, however, is positively associated with both the social environment and the level of skills and discretion, reflecting the accumulation of firm-specific social and human capital.

Finally, firm characteristics matter: smaller and private-sector firms tend to offer better working conditions than larger or public-sector organisations.

5.2. OFFSHORING BY DESTINATION REGION AND WORKING CONDITIONS IN THE EU

Tables 2 and 3 below report results by destination region, for the total sample and the OMS sample, respectively. Because of the weak instrument problems for total offshoring, we do not report separate results for the NMS by destination region. Disaggregating by region also poses significant challenges for identification, as the regional instruments exhibit lower predictive power than the aggregate measure, resulting in weak identification in all IV specifications, as reflected by Kleibergen-Paap (K-P) statistics below the critical values. Although we report OLS estimates (Panel A), reduced-form estimates (Panel B), and IV estimates (Panel C), our discussion focuses on the reduced-form relationships in Panel B. These estimates capture the direct association between regional offshoring shocks and working conditions and are particularly informative when the second-stage IV estimates are unstable, as indicated by inflated standard errors (Chernozhukov and Hansen, 2008). As such, the results should be interpreted as correlations, rather than causal effects.

To isolate the marginal contribution of each regional shock and account for potential correlations between destinations, the instruments are included simultaneously in the reduced form (Panel B). The absence of critical multicollinearity allows us to identify the separate impact of each region. Moreover, all instruments are standardised by their respective standard deviations to ensure comparability of effect sizes across destinations.

The results for the total EU sample reveal striking heterogeneity (Panel B in Table 2). While total offshoring shows no significant effect on work intensity, disaggregation by destination uncovers a more nuanced pattern. Offshoring shocks from advanced Europe are associated with significantly higher work intensity, whereas shocks from developed non-Europe tend to reduce it. This divergence suggests that proximity and organisational logic matter: intra-European offshoring is likely to involve tightly coupled, 'just-in-time' production processes that increase work intensity, whereas offshoring to distant developed economies may shift more time-intensive or co-ordination-heavy tasks abroad, reducing domestic work intensity.

Offshoring shocks from developing Europe and developing non-Europe are primarily associated with improved prospects, consistent with the positive effects observed for total offshoring. The effect is stronger for developing Europe, highlighting the role of regional integration within Europe. This probably reflects structural task reallocation, with workers shifting toward more specialised, less offshorable activities, which are perceived as beneficial for career prospects and job security.

By contrast, offshoring shocks from non-Europe – both developing and developed – tend to reduce workers' skills and discretion, with the largest (albeit only marginally significant) effect for developed non-Europe. Aggregating across all destinations in the total EU sample largely obscures these heterogeneous regional patterns.

Table 2 / Working conditions: Offshoring by destination for the total EU sample – OLS, reduced form and IV results

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
Panel A: OLS (separate regressions)						
IIM ^{Advanced} EUR	0.041 (0.045)	0.049 (0.084)	0.104 (0.069)	-0.080** (0.037)	0.027 (0.061)	0.132 (0.104)
IIM ^{Developing} EUR	-0.005 (0.035)	0.136** (0.053)	-0.041 (0.066)	-0.018 (0.047)	0.003 (0.037)	0.110 (0.099)
IIM ^{Developedx} EUR	0.061 (0.038)	0.052 (0.055)	0.041 (0.048)	-0.054 (0.036)	0.055 (0.041)	0.113* (0.066)
IIM ^{Developingx} EUR	-0.034 (0.038)	0.014 (0.057)	-0.014 (0.053)	-0.024 (0.038)	-0.041 (0.033)	0.123 (0.086)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
Panel B: Reduced form (simultaneous regressions)						
I_IIM ^{Advanced} EUR	-0.056 (0.195)	0.676*** (0.204)	-0.224 (0.191)	0.016 (0.177)	0.226 (0.209)	0.092 (0.227)
I_IIM ^{Developing} EUR	0.136 (0.143)	-0.023 (0.104)	-0.021 (0.123)	0.030 (0.091)	-0.130 (0.078)	0.669*** (0.146)
I_IIM ^{Developedx} EUR	0.014 (0.036)	-0.271*** (0.090)	-0.040 (0.082)	-0.028 (0.042)	-0.075* (0.041)	-0.025 (0.069)
I_IIM ^{Developingx} EUR	0.049 (0.042)	-0.034 (0.027)	0.023 (0.035)	0.008 (0.016)	-0.042** (0.016)	0.080*** (0.026)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
Panel C: IV (separate regressions)						
IIM ^{Advanced} EUR	0.635 (0.619)	0.994 (1.013)	-0.974 (1.005)	0.088 (0.530)	-0.189 (0.726)	3.083* (1.598)
IIM ^{Developing} EUR	-0.162 (0.285)	1.448 (0.941)	0.555 (0.701)	0.187 (0.361)	0.443 (0.385)	-0.278 (0.525)
IIM ^{Developedx} EUR	0.820 (0.662)	0.259 (0.509)	-0.215 (0.604)	0.175 (0.382)	-0.596 (0.457)	3.456* (1.937)
IIM ^{Developingx} EUR	10.288 (64.952)	-1.021 (7.368)	1.060 (11.463)	1.825 (10.851)	-7.894 (47.522)	27.163 (155.614)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
K-P range	0.03-3.65	0.06-3.86	0.03-3.60	0.03-3.67	0.03-3.68	0.03-3.67
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078

Note: IIM^{Advanced}EUR, IIM^{Developing}EUR, IIM^{Developedx}EUR and IIM^{Developingx}EUR refers to offshoring to advanced Europe, European developing countries, non-European developed countries and non-European developing countries, respectively.

I_IIM^{Advanced}EUR, I_IIM^{Developing}EUR, I_IIM^{Developedx}EUR and I_IIM^{Developingx}EUR to the respective instruments. All offshoring measures are lagged by one year and expressed in logs. All equations also include a constant and control for gender, migrant status, age, education, occupation, tenure, firm size, firm type, gross output and ICT. The latter two are lagged by one year and expressed in log. The K-P range in Panel C displays the minimum and maximum Kleibergen-Paap rk Wald F statistic across the four regional instruments in each column; all values are significantly below the Stock-Yogo critical value. The full results, including the full diagnostic tests, are reported in Appendix Tables A.12-A.14. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

The reduced-form results for the OMS reveal substantial heterogeneity, depending on destination (Panel B in Table 3). Importantly, the patterns do not align neatly with a simple North-North versus

North-South dichotomy, but depend more on the specific form of specialisation and the institutional proximity between origin and destination.

Table 3 / Working conditions: Offshoring by destination for the OMS – OLS, reduced form and IV results

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
Panel A: OLS (separate regressions)						
IIM ^{Advanced} EUR	0.078 (0.050)	0.042 (0.100)	0.113 (0.074)	-0.094** (0.044)	0.092 (0.080)	0.086 (0.096)
IIM ^{Developing} EUR	-0.041 (0.032)	0.185*** (0.063)	-0.027 (0.070)	-0.028 (0.056)	0.043 (0.041)	0.144 (0.101)
IIM ^{Developed} xEUR	0.071* (0.036)	0.061 (0.061)	0.041 (0.054)	-0.056 (0.041)	0.078* (0.043)	0.110 (0.077)
IIM ^{Developing} xEUR	-0.069 (0.049)	0.076 (0.076)	0.004 (0.057)	-0.035 (0.058)	0.000 (0.040)	0.211*** (0.076)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
Panel B: Reduced form (simultaneous regressions)						
I_IIM ^{Advanced} EUR	-0.314 (0.249)	0.957*** (0.311)	-0.011 (0.202)	0.012 (0.256)	0.455* (0.241)	0.562 (0.339)
I_IIM ^{Developing} EUR	0.852** (0.397)	0.048 (0.357)	-0.230 (0.333)	-0.042 (0.232)	-0.130 (0.241)	0.524* (0.256)
I_IIM ^{Developed} xEUR	-0.022 (0.035)	-0.286*** (0.088)	-0.047 (0.081)	-0.032 (0.044)	-0.102*** (0.036)	-0.028 (0.069)
I_IIM ^{Developing} xEUR	-0.030 (0.160)	-0.129 (0.104)	0.035 (0.107)	-0.039 (0.093)	-0.203 (0.128)	-0.072 (0.131)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
Panel C: IV (separate regressions)						
IIM ^{Advanced} EUR	0.152 (0.457)	1.187 (0.938)	-0.400 (0.555)	-0.231 (0.479)	0.149 (0.432)	1.866* (0.981)
IIM ^{Developing} EUR	0.182 (0.398)	1.955 (1.423)	0.657 (0.880)	0.423 (0.499)	0.819 (0.555)	-0.801 (0.976)
IIM ^{Developed} xEUR	1.184* (0.591)	0.365 (0.654)	-0.400 (0.601)	-0.147 (0.282)	-0.255 (0.371)	1.208* (0.695)
IIM ^{Developing} xEUR	0.419 (0.592)	0.202 (0.637)	-0.163 (0.510)	-0.259 (0.341)	-0.707 (0.662)	0.871 (0.644)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
K-P range	2.02-4.63	2.00-4.72	2.17-4.52	2.11-4.62	2.06-4.63	2.11-4.62
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272

Note: IIM^{Advanced}EUR, IIM^{Developing}EUR, IIM^{Developed}xEUR and IIM^{Developing}xEUR refers to offshoring to advanced Europe, European developing countries, non-European developed countries and non-European developing countries, respectively. I_IIM^{Advanced}EUR, I_IIM^{Developing}EUR, I_IIM^{Developed}xEUR and I_IIM^{Developing}xEUR to the respective instruments. All offshoring measures are lagged by one year and expressed in logs. All equations also include a constant and control for gender, migrant status, age, education, occupation, tenure, firm size, firm type, gross output and ICT. The latter two are lagged by one year and expressed in log. The K-P range in Panel C displays the minimum and maximum Kleibergen-Paap rk Wald F statistics across the four regional instruments in each column; all values are significantly below the Stock-Yogo critical value. The full results, including the full diagnostic tests, are reported in Appendix Tables A.15-A.17. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Offshoring shocks from advanced Europe are associated with significantly higher work intensity and greater autonomy and cognitive demands (as captured by the concept of skills and discretion). This pattern is consistent with knowledge-intensive reorganisation within closely integrated production networks. Rather than reflecting cost-driven substitution, EU-internal North-North offshoring appears to induce task upgrading and increased co-ordination demands, resulting in intensified but more autonomous and cognitively demanding work. By contrast, offshoring shocks from developed non-Europe are associated with lower work intensity and reduced skills and discretion. This suggests a different form of specialisation, potentially involving the relocation of more complex or knowledge-intensive tasks outside Europe, leaving relatively standardised activities domestically. Such patterns indicate that North-North offshoring does not generate uniform effects; its consequences depend on the structure of specialisation and the type of tasks being relocated.

For developing Europe, offshoring shocks are associated with a significant improvement in the physical environment, alongside better prospects. This pattern is consistent with vertical fragmentation within integrated EU value chains, where more physically demanding or hazardous tasks are relocated abroad, leaving comparatively less strenuous tasks in the OMS. At the same time, the absence of significant effects on skills and discretion suggests that such cost-driven task relocation does not necessarily translate into greater job autonomy or more cognitively demanding work. Finally, offshoring shocks from developing non-Europe show no robust associations, suggesting either limited exposure or offsetting mechanisms.

As an additional robustness check, we include a euro area membership dummy in the full-sample reduced-form specifications. The main patterns remain qualitatively unchanged (see Appendix Table A.18). For the OMS subsample, the euro area dummy is not separately identified because euro area membership almost fully overlaps with the sample definition.

6. Summary and conclusions

This paper has analysed the impact of offshoring on six non-wage working conditions – physical environment, work intensity, worktime quality, social environment, skills and discretion, and prospects – across three samples: the total EU, the old member states (OMS) and the new member states (NMS). We further differentiate offshoring by source region (advanced Europe, developing Europe, developed non-Europe, and developing non-Europe) to capture heterogeneous effects depending on the destination of relocated tasks.

Our results show a clear distinction between OLS and IV estimates. OLS coefficients are generally smaller and largely insignificant, suggesting that naive correlations underestimate the true impact of offshoring, as a consequence of measurement error or negative selection. In contrast, our preferred IV estimates reveal substantial and significant effects: offshoring improves the physical environment and prospects in the EU overall, while in the OMS it also decreases the social environment, highlighting a trade-off in advanced economies. Overall, the analysis suggests that these effects are primarily informative for the OMS, whereas results for the NMS are less conclusive owing to weaker instrument performance. These findings support the ‘social upgrading’ hypothesis (Barrientos et al. 2011; Gereffi 2005), particularly for the OMS, and reveal a causal impact considerably larger than previously reported in correlational GVC studies (Nikulin et al. 2022; Nikulin and Wolszczak-Derlacz 2023). They also align with broader structural shifts in Europe, suggesting that the observed decline in physical demands and social interactions can be attributed, at least in part, to offshoring (Bisello et al. 2019).

Focusing on the OMS, reduced-form estimates indicate that the North-North and North-South patterns associated with horizontal and vertical specialisation are most clearly observable within Europe’s deeply integrated production networks. For non-European destinations, these mechanisms appear to be moderated by greater institutional and geographical distance, resulting in more heterogeneous effects. Consistent with horizontal specialisation, offshoring to advanced Europe is associated with greater skills and discretion, but also increased work intensity. In line with vertical specialisation, offshoring to developing Europe is associated with a better physical environment and prospects. By contrast, offshoring to developed non-Europe is associated with lower work intensity and reduced skills and discretion, whereas effects for developing non-Europe remain inconclusive.

These findings imply that policy responses should be targeted and context-specific. For offshoring with advanced Europe, interventions such as improved task design, workload management and flexible scheduling can help to mitigate temporal pressure while preserving autonomy and skill development. For offshoring to developing Europe, supporting safer working conditions and career prospects remains important. In contrast, offshoring to developed non-European destinations calls for targeted training, upskilling and professional development programmes to maintain workers’ human capital and long-term employability. Across all contexts, strengthening workplace participation and social cohesion can mitigate potential social strain caused by restructuring and task relocation.

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Appendix

Table A.1 / Industry classification – NACE Rev. 2

Code	Industry
A	Agriculture, forestry and fishing
B	Mining and quarrying
10-12	Food products, beverages and tobacco
13-15	Textiles, wearing apparel, leather and related products
16-18	Wood and paper products; printing and reproduction of recorded media
19	Coke and refined petroleum products
20-21	Chemicals and chemical products
22-23	Rubber and plastics products, and other non-metallic mineral products
24-25	Basic metals and fabricated metal products, except machinery and equipment
26-27	Computer, electronic and optical products; electrical equipment
28	Machinery and equipment n.e.c.
29-30	Transport equipment
31-33	Other manufacturing; repair and installation of machinery and equipment
D-E	Electricity, gas, steam and air conditioning supply; water supply, sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
58-60	Publishing, audio-visual and broadcasting activities
61	Telecommunications
62-63	IT and other information services
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R-S	Arts, entertainment and recreation; other service activities

Table A.2 / Summary statistics – total EU sample, OMS and NMS

	Total EU sample		OMS		NMS	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Physical environment	-0.01	1.02	0.01	1.00	-0.10	1.10
Work intensity	0.00	0.99	0.01	0.99	-0.08	1.00
Worktime quality	0.07	0.95	0.10	0.93	-0.06	1.05
Social environment	0.01	0.96	-0.01	0.99	0.13	0.75
Skills and discretion	0.08	0.97	0.11	0.97	-0.03	1.00
Prospects	0.04	0.95	0.06	0.95	-0.09	0.97
Log ICT	7.42	1.74	7.94	1.32	5.00	1.32
Log gross output	11.53	1.35	11.94	1.00	9.65	1.14
Log total offshoring	1.85	0.85	1.77	0.84	2.20	0.79
Log offshoring advanced Europe	1.13	0.83	1.06	0.83	1.44	0.78
Log offshoring developing Europe	-0.68	1.17	-0.92	1.06	0.46	0.96
Log offshoring developed non-Europe	-0.64	0.85	-0.60	0.87	-0.84	0.77
Log offshoring developing non-Europe	-0.55	0.99	-0.64	0.98	-0.13	0.91
Instrument: total offshoring	1.27	0.62	1.18	0.55	1.68	0.76
Instrument: total offshoring (excluding euro area)	1.36	0.74	1.26	0.62	1.85	1.01
Instrument: total offshoring (excluding euro area & US)	0.48	0.57	0.41	0.45	0.80	0.87
Instrument: offshoring to advanced Europe	0.32	0.35	0.30	0.35	0.44	0.34
Instrument: offshoring to developing Europe	0.26	0.37	0.17	0.21	0.66	0.61
Instrument: offshoring to developed non-Europe	0.21	0.41	0.22	0.44	0.17	0.19
Instrument: offshoring to developing non-Europe	0.27	0.67	0.17	0.26	0.74	1.41
ISCO-Low (ref.)	0.24	0.42	0.24	0.43	0.22	0.41
ISCO-Medium	0.52	0.50	0.52	0.50	0.53	0.50
ISCO-High	0.24	0.43	0.24	0.42	0.25	0.43
ISCO-Missing	0.00	0.04	0.00	0.03	0.00	0.06
Male (ref.)	0.52	0.50	0.52	0.50	0.49	0.50
Female	0.48	0.50	0.48	0.50	0.51	0.50
Non-migrant (ref.)	0.90	0.30	0.89	0.32	0.97	0.18
Migrant	0.10	0.30	0.11	0.32	0.03	0.18
15-24 years old (ref.)	0.02	0.12	0.02	0.13	0.00	0.06
25-49 years old	0.61	0.49	0.60	0.49	0.64	0.48
50 years and older	0.37	0.48	0.38	0.48	0.34	0.47
Age-Missing	0.00	0.07	0.00	0.05	0.01	0.12
ISCED-Low (ref.)	0.16	0.37	0.18	0.38	0.07	0.26
ISCED-Medium	0.46	0.50	0.43	0.49	0.64	0.48
ISCED-High	0.28	0.45	0.28	0.45	0.29	0.45
ISCED-Missing	0.10	0.30	0.12	0.32	0.00	0.07
Full-time (ref.)	0.78	0.41	0.76	0.43	0.87	0.34
Part-time	0.21	0.40	0.23	0.42	0.10	0.30
Part-time-Missing	0.01	0.12	0.01	0.10	0.03	0.18
Permanent contract (ref.)	0.93	0.25	0.93	0.25	0.92	0.27
Temporary contract	0.07	0.25	0.07	0.25	0.08	0.27
Temporary-Missing	0.00	0.04	0.00	0.04	0.00	0.04
Tenure: 5 to 10 years (ref.)	0.35	0.48	0.34	0.47	0.40	0.49
Tenure: 10 years and more	0.63	0.48	0.64	0.48	0.58	0.49
Tenure: missing	0.02	0.14	0.02	0.13	0.03	0.16
Firm size: micro/small (ref.)	0.17	0.38	0.16	0.37	0.20	0.40
Firm size: medium	0.35	0.48	0.34	0.47	0.39	0.49
Firm size: large	0.44	0.50	0.46	0.50	0.35	0.48
Firm size: missing	0.04	0.19	0.04	0.19	0.05	0.23
Firm type: public (ref.)	0.28	0.45	0.27	0.44	0.34	0.47
Firm type: private	0.65	0.48	0.65	0.48	0.61	0.49
Firm type: other	0.07	0.25	0.07	0.26	0.05	0.21
Firm type: missing	0.00	0.05	0.00	0.05	0.00	0.06
5th wave	0.38	0.48	0.38	0.49	0.35	0.48
6th wave	0.62	0.48	0.62	0.49	0.65	0.48
Euro area	0.70	0.46	0.82	0.38	0.14	0.34

Note: Variables ending with 'missing' refer to dummies included for missing categories (which are not shown in the result tables above). Weighted results are reported.

Source: 5th and 6th European Working Conditions Survey, EU KLEMS (2021 edition) and WIOD (2020 release); own calculations.

Table A.3 / Working condition indices (according to EWCS, 2010 and 2015)

Working condition	Main indicator	Detailed indicator	Cronbach's alpha
Physical environment	Physical risks: › Posture-related › Ambient › Biological and chemical Physical demands: › Posture-related	Vibrations from hand tools, machinery, etc. Noise so loud that you would have to raise your voice to talk to people High temperatures which make you perspire even when not working Low temperatures, whether indoors or outdoors Breathing in smoke, fumes, powder or dust Breathing in vapours such as solvents and thinners Handling or being in skin contact with chemical products or substances Tobacco smoke from other people Handling or being in direct contact with materials which can be infectious, such as waste, bodily fluids, laboratory materials, etc. Tiring or painful positions Carrying or moving heavy loads Repetitive hand or arm movements	2010: 0.831 2015: 0.805
Work intensity	› Quantitative demands › Pace determinants and interdependency	Working at high speed Working to tight deadlines Enough time to get the job done Having to interrupt a task you are doing in order to take on an unforeseen task Nature of interruptions (disruptive, without consequences, positive) Pace of work dependent on the work done by colleagues Pace of work dependent on numerical production targets or performance targets Pace of work dependent on automatic speed of a machine or movement of a product	2010: 0.691 2015: 0.700
Worktime quality	› Duration › Atypical working time › Working time arrangements	Long working hours (more than 47 hours a week) Long working days (more than 10 hours a day) Work at night, for at least two hours between 10pm and 5am Work on Saturday Work on Sunday Shift: daily split shifts (with a break of at least four hours in between) Shift: permanent shift (morning, afternoon or night) Shift: alternating/rotating shifts Shift: other	2010: 0.717 2015: 0.720
Social environment	› Adverse social behaviour	Exposure to verbal abuse Exposure to unwanted sexual attention Subject to physical violence Subject to sexual harassment Subject to bullying/harassment	2010: 0.538 2015: 0.559
Skills and discretion	› Cognitive dimension › Decision latitude › Organisational participation	Solving unforeseen problems on your own Carrying out complex tasks Learning new things Working with computers, laptops, smartphones, etc. Able to apply own ideas to work Choose/change order of tasks Choose/change method of work Choose/change speed or rate of work Have a say in the choice of work colleagues Consulted before objectives are set for work Involved in improving the work organisation or work processes of department or organisation Influence decisions that are important for work	2010: 0.788 2015: 0.787
Prospects	› Career prospects › Job security	Job offers good prospects for career advancement Might lose job in the next six months If were to lose job, it would be easy to find a job of similar salary	2010: 0.295 2015: 0.224

Source: Own elaboration, based on Eurofound (2017).

Table A.4 / Working conditions: Total EU sample and total offshoring – main results (OLS)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	0.058 (0.040)	0.074 (0.078)	0.052 (0.077)	-0.079 (0.047)	0.044 (0.058)	0.178 (0.115)
ICT	-0.032 (0.061)	0.085 (0.086)	-0.025 (0.091)	-0.063 (0.057)	0.119 (0.076)	-0.089 (0.102)
GO	-0.075 (0.069)	-0.288 (0.175)	0.003 (0.100)	0.180* (0.095)	-0.177 (0.116)	0.416*** (0.116)
Female	0.332*** (0.081)	-0.027 (0.035)	0.312*** (0.065)	0.015 (0.027)	-0.062* (0.030)	-0.078** (0.033)
Migrant	-0.152*** (0.027)	0.079** (0.036)	-0.055* (0.030)	-0.024 (0.033)	-0.075*** (0.027)	0.060* (0.030)
25-49 years old	0.167 (0.107)	-0.200** (0.095)	-0.016 (0.081)	0.018 (0.081)	0.096 (0.078)	-0.290** (0.117)
50 years and older	0.251** (0.106)	-0.324*** (0.107)	0.089 (0.087)	0.097 (0.081)	0.062 (0.089)	-0.533*** (0.116)
ISCED-Medium	0.173*** (0.051)	0.019 (0.034)	-0.075** (0.029)	-0.060 (0.036)	0.275*** (0.028)	0.090*** (0.030)
ISCED-High	0.438*** (0.095)	0.036 (0.044)	-0.084* (0.048)	-0.103*** (0.036)	0.513*** (0.029)	0.267*** (0.041)
ISCO-Medium	-0.194*** (0.060)	0.026 (0.029)	0.134*** (0.043)	0.020 (0.038)	-0.352*** (0.052)	-0.129*** (0.027)
ISCO-Low	-0.257*** (0.086)	-0.094** (0.039)	-0.206** (0.096)	-0.129 (0.077)	-0.621*** (0.078)	-0.177*** (0.048)
Part-time	0.115*** (0.022)	-0.155*** (0.025)	0.281*** (0.034)	0.096*** (0.022)	-0.087** (0.035)	-0.075** (0.034)
Temporary contract	-0.083** (0.033)	0.043 (0.043)	-0.062 (0.037)	-0.012 (0.030)	-0.188*** (0.025)	-0.237*** (0.042)
Tenure: 10 years and more	-0.027 (0.021)	0.019 (0.024)	0.009 (0.019)	0.055*** (0.015)	0.064** (0.024)	-0.025 (0.018)
Firm size: medium	-0.058 (0.038)	0.243*** (0.024)	-0.067 (0.046)	-0.094*** (0.032)	-0.073** (0.031)	0.060* (0.032)
Firm size: large	-0.064 (0.052)	0.351*** (0.038)	-0.190*** (0.065)	-0.179*** (0.038)	-0.107*** (0.028)	0.052** (0.022)
Firm type: private firm	0.051* (0.025)	0.050 (0.045)	0.079 (0.073)	0.131*** (0.039)	-0.021 (0.038)	-0.023 (0.032)
Firm type: other	0.069 (0.048)	-0.041 (0.055)	-0.069** (0.030)	0.028 (0.053)	0.031 (0.026)	-0.037 (0.040)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.633 (1.162)	2.510 (1.818)	0.027 (0.887)	-1.416 (0.843)	1.245 (1.468)	-4.004*** (1.296)
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
R ²	0.290	0.166	0.225	0.093	0.245	0.128
Adj. R ²	0.270	0.142	0.203	0.0682	0.224	0.104

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table A.5 / Working conditions: OMS and total offshoring – main results (OLS)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	0.076* (0.039)	0.094 (0.086)	0.048 (0.080)	-0.099* (0.051)	0.108 (0.070)	0.168 (0.111)
ICT	-0.020 (0.102)	0.118 (0.106)	0.141 (0.120)	-0.089 (0.110)	0.218* (0.116)	0.081 (0.124)
GO	0.077 (0.086)	-0.456** (0.170)	-0.163 (0.106)	0.233* (0.126)	-0.172 (0.149)	0.195 (0.152)
Female	0.311*** (0.082)	-0.014 (0.038)	0.295*** (0.057)	0.025 (0.029)	-0.061** (0.029)	-0.056 (0.038)
Migrant	-0.154*** (0.030)	0.077** (0.036)	-0.051 (0.030)	-0.007 (0.034)	-0.075** (0.030)	0.070** (0.033)
25-49 years old	0.168 (0.116)	-0.217** (0.095)	-0.036 (0.096)	0.016 (0.076)	0.101 (0.086)	-0.308** (0.125)
50 years and older	0.249** (0.113)	-0.348*** (0.108)	0.075 (0.105)	0.107 (0.078)	0.077 (0.096)	-0.557*** (0.119)
ISCED-Medium	0.183*** (0.058)	0.019 (0.035)	-0.065* (0.032)	-0.061* (0.036)	0.283*** (0.031)	0.090*** (0.027)
ISCED-High	0.413*** (0.103)	0.046 (0.046)	-0.114** (0.052)	-0.123*** (0.037)	0.469*** (0.031)	0.233*** (0.045)
ISCO-Medium	-0.169*** (0.059)	0.012 (0.039)	0.170*** (0.040)	0.017 (0.039)	-0.351*** (0.057)	-0.102*** (0.031)
ISCO-Low	-0.252** (0.092)	-0.106** (0.039)	-0.164 (0.105)	-0.145* (0.082)	-0.619*** (0.081)	-0.146*** (0.051)
Part-time	0.129*** (0.026)	-0.159*** (0.027)	0.277*** (0.035)	0.100*** (0.024)	-0.104*** (0.036)	-0.093** (0.038)
Temporary contract	-0.081** (0.038)	0.042 (0.037)	-0.084** (0.040)	-0.024 (0.033)	-0.189*** (0.029)	-0.255*** (0.044)
Tenure: 10 years and more	-0.026 (0.024)	0.031 (0.028)	-0.004 (0.021)	0.061*** (0.019)	0.069** (0.028)	-0.028 (0.021)
Firm size: medium	-0.069* (0.039)	0.253*** (0.034)	-0.062 (0.050)	-0.107** (0.040)	-0.060* (0.030)	0.069* (0.038)
Firm size: large	-0.072 (0.055)	0.364*** (0.042)	-0.161** (0.068)	-0.196*** (0.045)	-0.094*** (0.028)	0.076*** (0.024)
Firm type: private firm	0.062** (0.027)	0.020 (0.049)	0.082 (0.073)	0.143*** (0.045)	-0.016 (0.045)	-0.054 (0.034)
Firm type: other	0.085* (0.048)	-0.066 (0.062)	-0.080*** (0.023)	0.034 (0.065)	0.045* (0.023)	-0.040 (0.042)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.244 (1.220)	4.333** (1.915)	0.739 (1.140)	-1.883* (1.025)	0.312 (1.880)	-2.759* (1.461)
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
R ²	0.278	0.147	0.224	0.093	0.242	0.127
Adj. R ²	0.260	0.125	0.205	0.0708	0.223	0.106

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table A.6 / Working conditions: NMS and total offshoring – main results (OLS)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	0.145 (0.122)	-0.182 (0.133)	0.016 (0.050)	-0.020 (0.063)	-0.062 (0.095)	-0.153 (0.215)
ICT	-0.029 (0.087)	0.075 (0.112)	-0.193** (0.087)	-0.033 (0.082)	0.023 (0.072)	-0.168* (0.090)
GO	-0.405* (0.206)	0.176 (0.236)	0.092 (0.165)	-0.062 (0.162)	0.019 (0.192)	0.250 (0.263)
Female	0.410*** (0.071)	-0.073 (0.049)	0.384*** (0.109)	-0.041 (0.039)	-0.051 (0.052)	-0.167*** (0.045)
Migrant	-0.127** (0.058)	0.132 (0.087)	-0.100 (0.076)	-0.212** (0.097)	-0.046 (0.054)	-0.043 (0.055)
25-49 years old	0.194 (0.234)	-0.056 (0.224)	0.338 (0.257)	0.024 (0.154)	-0.024 (0.235)	0.026 (0.268)
50 years and older	0.299 (0.232)	-0.150 (0.226)	0.427 (0.260)	0.055 (0.134)	-0.093 (0.242)	-0.170 (0.300)
ISCED-Medium	0.186** (0.069)	-0.014 (0.070)	-0.017 (0.065)	0.011 (0.067)	0.341*** (0.061)	0.197*** (0.049)
ISCED-High	0.603*** (0.095)	-0.038 (0.095)	0.133 (0.110)	0.058 (0.067)	0.808*** (0.081)	0.517*** (0.092)
ISCO-Medium	-0.304*** (0.071)	0.087* (0.043)	0.015 (0.096)	0.024 (0.053)	-0.334*** (0.061)	-0.217*** (0.066)
ISCO-Low	-0.259*** (0.087)	-0.060 (0.097)	-0.360** (0.137)	-0.047 (0.076)	-0.594*** (0.072)	-0.270*** (0.072)
Part-time	0.043 (0.059)	-0.137** (0.058)	0.326*** (0.114)	0.030 (0.035)	0.040 (0.071)	0.001 (0.044)
Temporary contract	-0.097* (0.056)	0.067 (0.082)	0.029 (0.064)	0.033 (0.042)	-0.169*** (0.035)	-0.167*** (0.059)
Tenure: 10 years and more	-0.031 (0.032)	-0.026 (0.030)	0.049 (0.040)	0.028 (0.024)	0.037 (0.047)	-0.008 (0.033)
Firm size: medium	-0.024 (0.056)	0.223*** (0.049)	-0.098** (0.043)	-0.062* (0.032)	-0.124** (0.046)	0.009 (0.044)
Firm size: large	-0.065 (0.052)	0.310*** (0.053)	-0.332*** (0.087)	-0.118* (0.063)	-0.182*** (0.051)	-0.007 (0.031)
Firm type: private firm	0.016 (0.056)	0.160*** (0.044)	0.060 (0.076)	0.083* (0.042)	-0.046 (0.054)	0.076 (0.050)
Firm type: other	-0.003 (0.075)	0.063 (0.079)	0.029 (0.123)	0.015 (0.052)	-0.034 (0.080)	-0.032 (0.068)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	3.178 (1.978)	-1.924 (1.990)	-0.447 (1.242)	0.905 (1.443)	-0.099 (1.660)	-1.328 (2.697)
No. of obs.	8,571	8,306	8,714	8,806	8,795	8,806
R ²	0.341	0.258	0.232	0.091	0.263	0.147
Adj. R ²	0.317	0.231	0.205	0.0597	0.238	0.117

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table A.7 / Working conditions: Total EU sample and total offshoring – main results (IV)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	0.470** (0.229)	0.232 (0.284)	-0.057 (0.313)	-0.049 (0.183)	-0.236 (0.212)	1.865*** (0.389)
ICT	0.011 (0.062)	0.103 (0.098)	-0.037 (0.087)	-0.060 (0.054)	0.089 (0.101)	0.088 (0.195)
GO	0.092 (0.124)	-0.222 (0.210)	-0.041 (0.202)	0.192 (0.132)	-0.291*** (0.088)	1.106*** (0.317)
Female	0.331*** (0.081)	-0.027 (0.035)	0.313*** (0.066)	0.015 (0.027)	-0.061* (0.030)	-0.083** (0.032)
Migrant	-0.150*** (0.027)	0.080** (0.037)	-0.056* (0.030)	-0.024 (0.033)	-0.077*** (0.027)	0.072** (0.032)
25-49 years old	0.174 (0.109)	-0.197** (0.093)	-0.017 (0.082)	0.018 (0.082)	0.092 (0.077)	-0.264* (0.129)
50 years and older	0.256** (0.107)	-0.322*** (0.106)	0.088 (0.087)	0.097 (0.082)	0.059 (0.088)	-0.513*** (0.125)
ISCED-Medium	0.183*** (0.051)	0.023 (0.035)	-0.078** (0.030)	-0.059 (0.038)	0.268*** (0.029)	0.133*** (0.034)
ISCED-High	0.453*** (0.094)	0.042 (0.045)	-0.088* (0.048)	-0.101** (0.037)	0.502*** (0.032)	0.332*** (0.052)
ISCO-Medium	-0.191*** (0.060)	0.027 (0.030)	0.134*** (0.044)	0.020 (0.038)	-0.354*** (0.051)	-0.119*** (0.031)
ISCO-Low	-0.254*** (0.086)	-0.093** (0.039)	-0.207** (0.096)	-0.129 (0.078)	-0.623*** (0.077)	-0.166*** (0.052)
Part-time	0.109*** (0.024)	-0.157*** (0.026)	0.283*** (0.034)	0.095*** (0.022)	-0.083** (0.036)	-0.098** (0.036)
Temporary contract	-0.095*** (0.034)	0.039 (0.043)	-0.059 (0.037)	-0.013 (0.030)	-0.181*** (0.026)	-0.282*** (0.039)
Tenure: 10 years and more	-0.026 (0.021)	0.020 (0.025)	0.008 (0.019)	0.055*** (0.015)	0.064** (0.025)	-0.021 (0.020)
Firm size: medium	-0.062 (0.039)	0.241*** (0.025)	-0.066 (0.046)	-0.095*** (0.032)	-0.070** (0.031)	0.042 (0.029)
Firm size: large	-0.064 (0.051)	0.351*** (0.039)	-0.190*** (0.065)	-0.179*** (0.037)	-0.106*** (0.028)	0.051** (0.023)
Firm type: private firm	0.050* (0.026)	0.049 (0.044)	0.079 (0.073)	0.131*** (0.040)	-0.020 (0.038)	-0.029 (0.036)
Firm type: other	0.062 (0.049)	-0.043 (0.053)	-0.068** (0.031)	0.028 (0.054)	0.035 (0.028)	-0.064 (0.042)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
R ²	0.073	0.034	0.088	0.021	0.116	-0.021
Adj. R ²	0.0719	0.0326	0.0873	0.0199	0.115	-0.0222
Underid.	8.497	8.441	8.363	8.458	8.450	8.458
p-value	0.00356	0.00367	0.00383	0.00363	0.00365	0.00363
K-P	23.84	24.12	23.81	23.90	23.80	23.90

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.8 / Working conditions: OMS and total offshoring – main results (IV)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	0.318* (0.165)	0.359 (0.320)	-0.178 (0.249)	-0.368* (0.202)	0.040 (0.204)	0.767*** (0.239)
ICT	0.059 (0.118)	0.206 (0.159)	0.067 (0.122)	-0.177* (0.093)	0.196 (0.141)	0.278** (0.119)
GO	0.199* (0.113)	-0.317 (0.229)	-0.278 (0.199)	0.096 (0.199)	-0.206 (0.145)	0.498** (0.215)
Female	0.311*** (0.082)	-0.014 (0.038)	0.296*** (0.057)	0.026 (0.029)	-0.061** (0.029)	-0.057 (0.037)
Migrant	-0.154*** (0.030)	0.078** (0.036)	-0.051 (0.031)	-0.008 (0.034)	-0.075** (0.030)	0.071** (0.033)
25-49 years old	0.172 (0.117)	-0.213** (0.093)	-0.039 (0.097)	0.013 (0.076)	0.100 (0.085)	-0.299** (0.128)
50 years and older	0.252** (0.114)	-0.345*** (0.106)	0.072 (0.105)	0.105 (0.078)	0.077 (0.095)	-0.551*** (0.121)
ISCED-Medium	0.188*** (0.060)	0.025 (0.036)	-0.070** (0.032)	-0.067* (0.037)	0.282*** (0.031)	0.103*** (0.028)
ISCED-High	0.422*** (0.104)	0.055 (0.048)	-0.122** (0.050)	-0.133*** (0.036)	0.467*** (0.033)	0.254*** (0.048)
ISCO-Medium	-0.167*** (0.059)	0.014 (0.039)	0.168*** (0.040)	0.015 (0.040)	-0.352*** (0.056)	-0.099*** (0.032)
ISCO-Low	-0.251** (0.092)	-0.105** (0.038)	-0.165 (0.104)	-0.146* (0.084)	-0.619*** (0.081)	-0.143*** (0.052)
Part-time	0.126*** (0.026)	-0.163*** (0.028)	0.280*** (0.033)	0.103*** (0.025)	-0.103** (0.037)	-0.101** (0.038)
Temporary contract	-0.088** (0.039)	0.035 (0.037)	-0.077* (0.040)	-0.016 (0.035)	-0.188*** (0.031)	-0.273*** (0.041)
Tenure: 10 years and more	-0.026 (0.024)	0.031 (0.029)	-0.004 (0.021)	0.061*** (0.019)	0.069** (0.029)	-0.027 (0.022)
Firm size: medium	-0.071* (0.039)	0.250*** (0.034)	-0.060 (0.051)	-0.104** (0.040)	-0.060* (0.030)	0.063 (0.038)
Firm size: large	-0.074 (0.055)	0.361*** (0.043)	-0.158** (0.068)	-0.193*** (0.045)	-0.094*** (0.029)	0.068*** (0.024)
Firm type: private firm	0.061** (0.028)	0.019 (0.048)	0.082 (0.072)	0.144*** (0.043)	-0.015 (0.045)	-0.056 (0.035)
Firm type: other	0.081 (0.050)	-0.070 (0.060)	-0.077*** (0.024)	0.038 (0.065)	0.046* (0.023)	-0.049 (0.043)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
R ²	0.073	0.036	0.091	0.023	0.114	0.043
Adj. R ²	0.0718	0.0344	0.0891	0.0210	0.113	0.0419
Underid.	6.614	6.530	6.420	6.543	6.550	6.543
p-value	0.0101	0.0106	0.0113	0.0105	0.0105	0.0105
K-P	16.85	16.34	16.14	16.56	16.55	16.56

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.9 / Working conditions: NMS and total offshoring – main results (IV)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
IIM ^T	-1.824 (1.358)	0.312 (0.551)	1.032 (0.985)	-0.967 (0.791)	0.261 (0.586)	-2.074* (1.206)
ICT	0.258 (0.171)	0.004 (0.105)	-0.342** (0.156)	0.108 (0.132)	-0.024 (0.104)	0.117 (0.228)
GO	-1.007*** (0.321)	0.333 (0.251)	0.419 (0.330)	-0.365 (0.220)	0.122 (0.318)	-0.364 (0.450)
Female	0.427*** (0.073)	-0.078 (0.050)	0.376*** (0.107)	-0.033 (0.040)	-0.054 (0.052)	-0.151*** (0.043)
Migrant	-0.137* (0.067)	0.138 (0.090)	-0.095 (0.071)	-0.215** (0.098)	-0.045 (0.054)	-0.050 (0.070)
25-49 years old	0.171 (0.227)	-0.044 (0.224)	0.334 (0.256)	0.010 (0.155)	-0.020 (0.233)	-0.002 (0.260)
50 years and older	0.288 (0.225)	-0.139 (0.226)	0.417 (0.260)	0.046 (0.134)	-0.090 (0.240)	-0.188 (0.292)
ISCED-Medium	0.175** (0.070)	-0.012 (0.070)	-0.009 (0.067)	0.005 (0.071)	0.343*** (0.061)	0.184*** (0.048)
ISCED-High	0.584*** (0.096)	-0.033 (0.097)	0.147 (0.113)	0.046 (0.073)	0.812*** (0.080)	0.494*** (0.091)
ISCO-Medium	-0.290*** (0.075)	0.084* (0.044)	0.006 (0.098)	0.030 (0.050)	-0.336*** (0.060)	-0.203*** (0.069)
ISCO-Low	-0.260*** (0.090)	-0.060 (0.097)	-0.361** (0.141)	-0.047 (0.072)	-0.594*** (0.072)	-0.271*** (0.074)
Part-time	0.042 (0.064)	-0.137** (0.060)	0.328*** (0.112)	0.029 (0.035)	0.041 (0.072)	-0.001 (0.049)
Temporary contract	-0.087 (0.057)	0.065 (0.082)	0.028 (0.062)	0.034 (0.043)	-0.170*** (0.035)	-0.164** (0.066)
Tenure: 10 years and more	-0.032 (0.032)	-0.026 (0.031)	0.050 (0.038)	0.028 (0.025)	0.037 (0.047)	-0.007 (0.034)
Firm size: medium	0.006 (0.058)	0.216*** (0.049)	-0.115** (0.047)	-0.046 (0.036)	-0.130** (0.049)	0.040 (0.047)
Firm size: large	-0.057 (0.056)	0.309*** (0.054)	-0.335*** (0.086)	-0.113* (0.064)	-0.184*** (0.052)	0.003 (0.033)
Firm type: private firm	0.022 (0.058)	0.157*** (0.044)	0.056 (0.078)	0.088* (0.043)	-0.047 (0.055)	0.086* (0.049)
Firm type: other	-0.000 (0.072)	0.062 (0.078)	0.027 (0.122)	0.016 (0.050)	-0.035 (0.080)	-0.028 (0.065)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	8,571	8,306	8,714	8,806	8,795	8,806
R ²	0.043	0.030	0.083	0.000	0.149	0.019
Adj. R ²	0.0393	0.0269	0.0800	-0.00306	0.147	0.0158
Underid.	1.893	1.927	1.906	1.863	1.880	1.863
p-value	0.169	0.165	0.167	0.172	0.170	0.172
K-P	3.103	3.120	3.125	3.017	3.071	3.017

Note: IIM^T refers to total offshoring, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.10 / Working conditions: First-stage estimation results – total EU sample, OMS and NMS

	(1) Total sample	(2) OMS	(3) NMS
I_IIM ^T	0.215*** (0.044)	0.317*** (0.077)	-0.162* (0.092)
Individual and industry controls	Yes	Yes	Yes
Country-industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
No. of obs.	25,601	17,030	8,571
R ²	0.971	0.973	0.978
K-P	23.84	16.85	3.10

Note: The first-stage results for the specification using 'physical environment' as the baseline outcome are reported. Results for other outcomes are almost identical and available upon request. All specifications include all individual controls, country-industry fixed effects, and year fixed effects. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.11 / Robustness checks: Total offshoring – OLS and IV results

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
Panel A: Total sample						
OLS IIM ^T	0.053 (0.041)	0.073 (0.079)	0.048 (0.080)	-0.081 (0.050)	0.051 (0.059)	0.154 (0.119)
Euro area	0.077* (0.040)	0.018 (0.052)	0.066 (0.070)	0.034 (0.070)	-0.114** (0.045)	0.371*** (0.048)
IV IIM ^T (without euro area)	0.825 (0.504)	0.607 (0.572)	-0.718 (0.760)	-0.135 (0.293)	-0.287 (0.397)	2.450** (0.932)
Underid.	5.314**	5.336**	5.127**	5.231**	5.216**	5.231**
K-P	7.609	7.759	7.354	7.477	7.441	7.477
IV IIM ^T (without euro area & US)	2.841 (3.449)	0.874 (2.081)	-3.020 (3.806)	-0.036 (0.789)	-1.486 (2.738)	6.687 (7.199)
Underid.	0.906	0.896	0.776	0.819	0.822	0.819
K-P	0.953	0.944	0.815	0.857	0.858	0.857
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
Panel B: Old EU member states						
OLS IIM ^T	N/A	N/A	N/A	N/A	N/A	N/A
Euro area	N/A	N/A	N/A	N/A	N/A	N/A
IV IIM ^T (without euro area)	0.621 (0.460)	1.037 (0.826)	-1.191 (0.978)	-0.696 (0.446)	0.178 (0.418)	1.016* (0.590)
Underid.	4.771**	4.833**	4.522**	4.676**	4.669**	4.676**
K-P	1.868	1.907	-3.790	-1.158	-0.989	3.576
IV IIM ^T (without euro area & US)	4.073 (2.913)	4.085 (3.615)	3.862 (6.199)	3.983 (1.974)	3.981 (2.465)	3.983 (4.575)
Underid.	0.609	0.629	0.487	0.549	0.552	0.549
K-P	0.619	0.644	0.494	0.555	0.558	0.555
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
Panel C: New EU member states						
OLS IIM ^T	0.093 (0.123)	-0.210 (0.138)	0.013 (0.053)	-0.020 (0.079)	-0.062 (0.098)	-0.267 (0.234)
Euro area	0.152** (0.061)	0.081 (0.052)	0.008 (0.070)	0.001 (0.085)	0.000 (0.055)	0.332*** (0.099)
IV IIM ^T (without euro area)	-2.553 (1.959)	0.887 (1.002)	1.084 (1.144)	-1.364 (1.168)	0.501 (0.875)	-2.194 (1.399)
Underid.	2.010	2.057	2.043	1.935	1.959	1.935
K-P	2.999	3.055	3.065	2.845	2.902	2.845
IV IIM ^T (without euro area & US)	-2.600* (1.512)	0.669 (0.924)	1.665 (1.188)	-0.670 (0.699)	0.042 (0.870)	-1.373 (1.068)
Underid.	4.058**	4.090**	4.017**	3.924**	3.960**	3.924**
K-P	6.094	6.193	5.968	5.832	5.908	5.832
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	8,571	8,306	8,714	8,806	8,795	8,806

Note: IIM^T refers to total offshoring which is lagged by one year and expressed in log. All working conditions are standardised, with a mean of zero and a standard deviation of one. All equations also include a constant and control for gender, migrant status, age, education, occupation, tenure, firm size, firm type, gross output and ICT. The last two of these are latter lagged by one year and expressed in log. All specifications also include country-industry and year fixed effects, as indicated in the table. The euro area dummy equals one if a country was a member of the euro area in 2010 or 2015, respectively. It is included in the full-sample and NMS specifications only; it is not separately identified in the OMS subsample, owing to the strong overlap between OMS and euro area membership. Underid. refers to the Kleibergen-Paap rk LM underidentification test and K-P to the Kleibergen-Paap RK Wald F statistic. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.12 / Working conditions: Offshoring by destination region – total EU sample (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Advanced Europe	Physical environment Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Work intensity Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Worktime quality Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	0.041 (0.045)	-0.005 (0.035)	0.061 (0.038)	-0.034 (0.038)	0.049 (0.084)	0.136** (0.053)	0.052 (0.055)	0.014 (0.057)	0.104 (0.069)	-0.041 (0.066)	0.041 (0.048)	-0.014 (0.053)
ICT	-0.033 (0.061)	-0.039 (0.065)	-0.031 (0.059)	-0.039 (0.066)	0.084 (0.086)	0.086 (0.085)	0.083 (0.083)	0.077 (0.086)	-0.016 (0.092)	-0.033 (0.088)	-0.026 (0.093)	-0.031 (0.090)
GO	-0.085 (0.070)	-0.101 (0.066)	-0.073 (0.071)	-0.118 (0.071)	-0.302* (0.170)	-0.255 (0.169)	-0.296 (0.175)	-0.311* (0.183)	0.018 (0.099)	-0.037 (0.104)	-0.001 (0.096)	-0.026 (0.105)
Female	0.332*** (0.081)	0.332*** (0.081)	0.332*** (0.081)	0.332*** (0.081)	-0.027 (0.035)	-0.027 (0.035)	-0.027 (0.035)	-0.027 (0.035)	0.312*** (0.065)	0.313*** (0.065)	0.312*** (0.065)	0.313*** (0.065)
Migrant	-0.152*** (0.027)	-0.152*** (0.026)	-0.152*** (0.027)	-0.152*** (0.027)	0.079** (0.036)	0.079** (0.036)	0.079** (0.036)	0.079** (0.036)	-0.054* (0.029)	-0.055* (0.030)	-0.055* (0.030)	-0.055* (0.030)
25-49 years old	0.167 (0.107)	0.166 (0.107)	0.167 (0.107)	0.165 (0.107)	-0.200** (0.095)	-0.199** (0.094)	-0.200** (0.094)	-0.201** (0.095)	-0.015 (0.081)	-0.017 (0.081)	-0.016 (0.081)	-0.017 (0.082)
50 years and older	0.251** (0.106)	0.250** (0.106)	0.251** (0.106)	0.249** (0.106)	-0.324*** (0.107)	-0.324*** (0.107)	-0.324*** (0.107)	-0.325*** (0.108)	0.089 (0.087)	0.088 (0.087)	0.088 (0.087)	0.088 (0.088)
ISCED-Medium	0.173*** (0.051)	0.172*** (0.051)	0.174*** (0.051)	0.171*** (0.051)	0.019 (0.034)	0.020 (0.035)	0.019 (0.034)	0.018 (0.034)	-0.074** (0.029)	-0.077** (0.029)	-0.075** (0.029)	-0.077** (0.028)
ISCED-High	0.437*** (0.095)	0.436*** (0.095)	0.439*** (0.096)	0.435*** (0.095)	0.035 (0.044)	0.038 (0.045)	0.036 (0.044)	0.034 (0.044)	-0.082* (0.048)	-0.087* (0.048)	-0.083* (0.048)	-0.086* (0.047)
ISCO-Medium	-0.194*** (0.060)	-0.194*** (0.060)	-0.194*** (0.059)	-0.195*** (0.060)	0.026 (0.029)	0.025 (0.029)	0.026 (0.029)	0.025 (0.029)	0.135*** (0.043)	0.134*** (0.043)	0.134*** (0.043)	0.134*** (0.043)
ISCO-Low	-0.257*** (0.086)	-0.257*** (0.086)	-0.257*** (0.086)	-0.258*** (0.086)	-0.094** (0.039)	-0.095** (0.039)	-0.094** (0.039)	-0.094** (0.039)	-0.206** (0.096)	-0.206** (0.096)	-0.206** (0.096)	-0.206** (0.096)
Part-time	0.116*** (0.022)	0.116*** (0.022)	0.115*** (0.022)	0.117*** (0.022)	-0.154*** (0.025)	-0.155*** (0.025)	-0.155*** (0.025)	-0.154*** (0.025)	0.281*** (0.034)	0.283*** (0.034)	0.281*** (0.034)	0.282*** (0.034)
Temporary contract	-0.083** (0.033)	-0.082** (0.033)	-0.084** (0.033)	-0.081** (0.033)	0.044 (0.043)	0.041 (0.043)	0.043 (0.043)	0.044 (0.043)	-0.063* (0.037)	-0.059 (0.037)	-0.062 (0.037)	-0.060 (0.037)
Tenure: 10 years and more	-0.027 (0.021)	-0.027 (0.021)	-0.026 (0.021)	-0.027 (0.021)	0.019 (0.024)	0.019 (0.024)	0.019 (0.024)	0.019 (0.024)	0.009 (0.019)	0.008 (0.019)	0.009 (0.019)	0.009 (0.019)
Firm size: medium	-0.057 (0.038)	-0.057 (0.038)	-0.058 (0.038)	-0.057 (0.038)	0.244*** (0.024)	0.242*** (0.025)	0.243*** (0.024)	0.244*** (0.024)	-0.067 (0.047)	-0.066 (0.046)	-0.067 (0.047)	-0.066 (0.047)
Firm size: large	-0.064 (0.052)	-0.064 (0.052)	-0.064 (0.051)	-0.064 (0.052)	0.352*** (0.038)	0.351*** (0.039)	0.351*** (0.039)	0.352*** (0.038)	-0.190*** (0.065)	-0.190*** (0.065)	-0.190*** (0.065)	-0.190*** (0.065)
Firm type: private firm	0.051* (0.025)	0.051* (0.025)	0.051* (0.025)	0.051* (0.025)	0.050 (0.045)	0.050 (0.045)	0.050 (0.045)	0.050 (0.045)	0.079 (0.073)	0.079 (0.073)	0.079 (0.073)	0.079 (0.073)
Firm type: other	0.070 (0.048)	0.070 (0.048)	0.069 (0.048)	0.070 (0.048)	-0.040 (0.055)	-0.042 (0.055)	-0.041 (0.055)	-0.040 (0.055)	-0.070** (0.030)	-0.068** (0.030)	-0.069** (0.030)	-0.068** (0.030)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.807 (1.162)	1.086 (1.155)	0.744 (1.157)	1.266 (1.232)	2.760 (1.724)	2.347 (1.656)	2.787 (1.722)	2.983* (1.751)	-0.225 (0.850)	0.627 (0.889)	0.202 (0.828)	0.499 (0.879)
No. of obs.	25,601	25,601	25,601	25,601	24,731	24,731	24,731	24,731	25,857	25,857	25,857	25,857
R ²	0.290	0.290	0.290	0.290	0.166	0.167	0.166	0.166	0.225	0.225	0.225	0.225
Adj. R ²	0.270	0.270	0.270	0.270	0.142	0.143	0.142	0.142	0.204	0.203	0.203	0.203

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.12 / Continued

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	Social environment				Skills and discretion				Prospects			
	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	-0.080** (0.037)	-0.018 (0.047)	-0.054 (0.036)	-0.024 (0.038)	0.027 (0.061)	0.003 (0.037)	0.055 (0.041)	-0.041 (0.033)	0.132 (0.104)	0.110 (0.099)	0.113* (0.066)	0.123 (0.086)
ICT	-0.066 (0.058)	-0.056 (0.061)	-0.062 (0.059)	-0.055 (0.063)	0.118 (0.076)	0.114 (0.077)	0.121 (0.075)	0.114 (0.077)	-0.089 (0.105)	-0.101 (0.104)	-0.094 (0.099)	-0.106 (0.103)
GO	0.184** (0.088)	0.204* (0.101)	0.189* (0.095)	0.199* (0.098)	-0.185 (0.115)	-0.193* (0.108)	-0.171 (0.112)	-0.218** (0.106)	0.388*** (0.123)	0.394*** (0.117)	0.391*** (0.125)	0.413*** (0.109)
Female	0.015 (0.027)	0.015 (0.027)	0.015 (0.027)	0.015 (0.027)	-0.062* (0.030)	-0.062* (0.030)	-0.062** (0.030)	-0.061* (0.030)	-0.078** (0.033)	-0.078** (0.033)	-0.078** (0.033)	-0.078** (0.033)
Migrant	-0.024 (0.033)	-0.024 (0.033)	-0.024 (0.033)	-0.024 (0.033)	-0.075*** (0.027)	-0.075*** (0.027)	-0.075*** (0.027)	-0.076*** (0.027)	0.060* (0.030)	0.059* (0.029)	0.060* (0.030)	0.059* (0.030)
25-49 years old	0.018 (0.081)	0.019 (0.081)	0.018 (0.081)	0.019 (0.080)	0.096 (0.078)	0.095 (0.078)	0.096 (0.078)	0.095 (0.078)	-0.291** (0.117)	-0.292** (0.116)	-0.291** (0.117)	-0.291** (0.116)
50 years and older	0.097 (0.081)	0.098 (0.081)	0.097 (0.081)	0.097 (0.081)	0.062 (0.089)	0.061 (0.089)	0.062 (0.089)	0.061 (0.089)	-0.533*** (0.116)	-0.534*** (0.115)	-0.533*** (0.116)	-0.532*** (0.115)
ISCED-Medium	-0.060 (0.036)	-0.058 (0.036)	-0.060 (0.036)	-0.058 (0.036)	0.275*** (0.027)	0.274*** (0.028)	0.276*** (0.027)	0.273*** (0.028)	0.088*** (0.030)	0.087*** (0.030)	0.089*** (0.030)	0.087*** (0.030)
ISCED-High	-0.102*** (0.036)	-0.100*** (0.035)	-0.102*** (0.036)	-0.100*** (0.035)	0.512*** (0.029)	0.511*** (0.029)	0.514*** (0.029)	0.510*** (0.029)	0.265*** (0.040)	0.265*** (0.041)	0.267*** (0.041)	0.265*** (0.041)
ISCO-Medium	0.019 (0.038)	0.020 (0.038)	0.020 (0.038)	0.020 (0.038)	-0.352*** (0.052)	-0.353*** (0.052)	-0.352*** (0.052)	-0.353*** (0.052)	-0.129*** (0.027)	-0.130*** (0.027)	-0.130*** (0.027)	-0.130*** (0.027)
ISCO-Low	-0.130 (0.077)	-0.129 (0.077)	-0.129 (0.077)	-0.129 (0.077)	-0.621*** (0.078)	-0.621*** (0.078)	-0.621*** (0.078)	-0.622*** (0.078)	-0.177*** (0.048)	-0.178*** (0.048)	-0.177*** (0.048)	-0.177*** (0.048)
Part-time	0.096*** (0.021)	0.095*** (0.021)	0.096*** (0.021)	0.095*** (0.021)	-0.086** (0.035)	-0.086** (0.035)	-0.087** (0.035)	-0.086** (0.035)	-0.074** (0.034)	-0.074** (0.034)	-0.075** (0.034)	-0.074** (0.034)
Temporary contract	-0.012 (0.030)	-0.014 (0.030)	-0.013 (0.030)	-0.014 (0.030)	-0.188*** (0.025)	-0.187*** (0.025)	-0.189*** (0.025)	-0.186*** (0.025)	-0.235*** (0.042)	-0.235*** (0.042)	-0.235*** (0.043)	-0.235*** (0.042)
Tenure: 10 years and more	0.054*** (0.015)	0.055*** (0.015)	0.054*** (0.015)	0.055*** (0.015)	0.064** (0.024)	0.064** (0.024)	0.064** (0.024)	0.064** (0.024)	-0.025 (0.018)	-0.025 (0.018)	-0.025 (0.018)	-0.025 (0.018)
Firm size: medium	-0.095*** (0.032)	-0.095*** (0.032)	-0.095*** (0.032)	-0.095*** (0.032)	-0.073** (0.031)	-0.073** (0.031)	-0.073** (0.031)	-0.072** (0.031)	0.061* (0.032)	0.060* (0.032)	0.061* (0.032)	0.060* (0.032)
Firm size: large	-0.180*** (0.038)	-0.179*** (0.037)	-0.179*** (0.038)	-0.179*** (0.037)	-0.106*** (0.028)	-0.107*** (0.028)	-0.107*** (0.028)	-0.107*** (0.028)	0.052** (0.021)	0.051** (0.022)	0.052** (0.022)	0.052** (0.021)
Firm type: private firm	0.131*** (0.039)	0.131*** (0.040)	0.131*** (0.039)	0.131*** (0.039)	-0.021 (0.038)	-0.021 (0.038)	-0.021 (0.038)	-0.021 (0.038)	-0.023 (0.032)	-0.023 (0.032)	-0.023 (0.032)	-0.023 (0.032)
Firm type: other	0.028 (0.053)	0.027 (0.053)	0.028 (0.053)	0.027 (0.052)	0.031 (0.026)	0.032 (0.027)	0.030 (0.026)	0.032 (0.026)	-0.036 (0.040)	-0.036 (0.040)	-0.037 (0.040)	-0.035 (0.040)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.506** (0.712)	-1.909** (0.808)	-1.719** (0.788)	-1.855** (0.779)	1.397 (1.442)	1.549 (1.269)	1.282 (1.353)	1.816 (1.247)	-3.499** (1.376)	-3.257** (1.330)	-3.275** (1.379)	-3.440** (1.265)
No. of obs.	26,078	26,078	26,078	26,078	26,052	26,052	26,052	26,052	26,078	26,078	26,078	26,078
R ²	0.093	0.093	0.093	0.093	0.245	0.245	0.245	0.245	0.128	0.128	0.128	0.128
Adj. R ²	0.0682	0.0680	0.0682	0.0681	0.224	0.224	0.224	0.224	0.104	0.104	0.104	0.104

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.13 / Working conditions: Offshoring by destination region – total EU sample (reduced form)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
I_IIM ^{Advanced} EUR	-0.056 (0.195)	0.676*** (0.204)	-0.224 (0.191)	0.016 (0.177)	0.226 (0.209)	0.092 (0.227)
I_IIM ^{Developing} EUR	0.136 (0.143)	-0.023 (0.104)	-0.021 (0.123)	0.030 (0.091)	-0.130 (0.078)	0.669*** (0.146)
I_IIM ^{Developed} xEUR	0.014 (0.036)	-0.271*** (0.090)	-0.040 (0.082)	-0.028 (0.042)	-0.075* (0.041)	-0.025 (0.069)
I_IIM ^{Developing} xEUR	0.049 (0.042)	-0.034 (0.027)	0.023 (0.035)	0.008 (0.016)	-0.042** (0.016)	0.080*** (0.026)
ICT	-0.027 (0.065)	0.093 (0.086)	-0.029 (0.093)	-0.050 (0.063)	0.106 (0.076)	-0.041 (0.109)
GO	-0.129 (0.076)	-0.326** (0.157)	-0.017 (0.094)	0.205** (0.092)	-0.171 (0.112)	0.217* (0.108)
Female	0.332*** (0.081)	-0.027 (0.035)	0.313*** (0.066)	0.015 (0.027)	-0.062* (0.030)	-0.078** (0.033)
Migrant	-0.151*** (0.027)	0.080** (0.036)	-0.056* (0.030)	-0.023 (0.033)	-0.076*** (0.027)	0.064** (0.029)
25-49 years old	0.168 (0.107)	-0.200** (0.094)	-0.017 (0.081)	0.019 (0.081)	0.094 (0.078)	-0.284** (0.115)
50 years and older	0.252** (0.106)	-0.323*** (0.107)	0.087 (0.087)	0.098 (0.081)	0.060 (0.089)	-0.525*** (0.114)
ISCED-Medium	0.173*** (0.051)	0.019 (0.035)	-0.077** (0.028)	-0.058 (0.036)	0.274*** (0.028)	0.088*** (0.029)
ISCED-High	0.437*** (0.095)	0.036 (0.045)	-0.086* (0.047)	-0.099*** (0.036)	0.511*** (0.030)	0.265*** (0.040)
ISCO-Medium	-0.194*** (0.059)	0.026 (0.030)	0.134*** (0.043)	0.020 (0.038)	-0.353*** (0.052)	-0.129*** (0.027)
ISCO-Low	-0.257*** (0.086)	-0.094** (0.039)	-0.206** (0.096)	-0.129 (0.077)	-0.621*** (0.078)	-0.176*** (0.048)
Part-time	0.116*** (0.022)	-0.154*** (0.025)	0.282*** (0.033)	0.095*** (0.021)	-0.086** (0.035)	-0.074** (0.034)
Temporary contract	-0.082** (0.033)	0.042 (0.043)	-0.061 (0.037)	-0.014 (0.030)	-0.188*** (0.025)	-0.232*** (0.044)
Tenure: 10 years and more	-0.027 (0.021)	0.019 (0.024)	0.009 (0.019)	0.055*** (0.015)	0.064** (0.024)	-0.026 (0.018)
Firm size: medium	-0.058 (0.038)	0.244*** (0.025)	-0.066 (0.047)	-0.095*** (0.033)	-0.072** (0.031)	0.058* (0.032)
Firm size: large	-0.064 (0.052)	0.353*** (0.039)	-0.190*** (0.065)	-0.179*** (0.038)	-0.107*** (0.028)	0.055** (0.021)
Firm type: private firm	0.050* (0.025)	0.051 (0.045)	0.079 (0.073)	0.131*** (0.040)	-0.020 (0.039)	-0.027 (0.031)
Firm type: other	0.069 (0.048)	-0.040 (0.055)	-0.068** (0.030)	0.027 (0.053)	0.032 (0.027)	-0.037 (0.039)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	1.286 (1.255)	2.874* (1.495)	0.466 (0.826)	-1.963** (0.737)	1.336 (1.312)	-1.951 (1.189)
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078
R ²	0.290	0.167	0.225	0.093	0.245	0.131
Adj. R ²	0.270	0.143	0.203	0.0679	0.224	0.107

Note: I_IIM^{Advanced}EUR, I_IIM^{Developing}EUR, I_IIM^{Developed}xEUR and I_IIM^{Developing}xEUR refer to the instruments for offshoring to advanced Europe, European developing countries, non-European developed countries and non-European developing countries, respectively. ICT refers to information and communications technology and GO to gross output. All offshoring instruments, ICT and GO are lagged by one year and expressed in logs. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.14 / Working conditions: Offshoring by destination region – total EU sample (IV)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Advanced Europe	Physical environment Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Work intensity Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Worktime quality Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	0.635 (0.619)	-0.162 (0.285)	0.820 (0.662)	10.288 (64.952)	0.994 (1.013)	1.448 (0.941)	0.259 (0.509)	-1.021 (7.368)	-0.974 (1.005)	0.555 (0.701)	-0.215 (0.604)	1.060 (11.463)
ICT	0.050 (0.110)	-0.049 (0.068)	0.060 (0.126)	0.094 (1.297)	0.224 (0.214)	0.171 (0.145)	0.109 (0.111)	0.064 (0.136)	-0.165 (0.170)	0.002 (0.111)	-0.056 (0.107)	-0.018 (0.178)
GO	0.119 (0.230)	-0.173 (0.133)	0.248 (0.256)	5.669 (36.334)	0.029 (0.394)	0.368 (0.308)	-0.204 (0.297)	-0.914 (4.293)	-0.355 (0.385)	0.241 (0.309)	-0.110 (0.309)	0.583 (6.518)
Female	0.330*** (0.081)	0.333*** (0.081)	0.329*** (0.080)	0.289 (0.292)	-0.030 (0.036)	-0.033 (0.039)	-0.028 (0.035)	-0.022 (0.049)	0.316*** (0.066)	0.310*** (0.066)	0.313*** (0.067)	0.308*** (0.089)
Migrant	-0.147*** (0.029)	-0.153*** (0.027)	-0.148*** (0.029)	-0.148** (0.072)	0.089** (0.040)	0.083** (0.038)	0.080** (0.037)	0.076** (0.035)	-0.065** (0.031)	-0.054* (0.029)	-0.057* (0.030)	-0.055* (0.029)
25-49 years old	0.177 (0.108)	0.165 (0.107)	0.184 (0.115)	0.352 (1.218)	-0.186** (0.089)	-0.185** (0.089)	-0.196** (0.091)	-0.220 (0.177)	-0.029 (0.087)	-0.013 (0.082)	-0.020 (0.080)	0.001 (0.208)
50 years and older	0.258** (0.107)	0.249** (0.106)	0.262** (0.113)	0.433 (1.187)	-0.315*** (0.102)	-0.312*** (0.103)	-0.323*** (0.104)	-0.345* (0.180)	0.080 (0.090)	0.090 (0.088)	0.086 (0.086)	0.105 (0.205)
ISCED-Medium	0.188*** (0.046)	0.168*** (0.050)	0.199*** (0.055)	0.376 (1.246)	0.043 (0.046)	0.048 (0.030)	0.027 (0.038)	-0.002 (0.132)	-0.102** (0.038)	-0.064 (0.039)	-0.084** (0.033)	-0.056 (0.225)
ISCED-High	0.457*** (0.088)	0.430*** (0.093)	0.480*** (0.103)	0.798 (2.233)	0.065 (0.060)	0.081* (0.042)	0.047 (0.050)	-0.001 (0.239)	-0.119* (0.059)	-0.066 (0.062)	-0.097* (0.053)	-0.048 (0.411)
ISCO-Medium	-0.189*** (0.061)	-0.195*** (0.060)	-0.189*** (0.059)	-0.130 (0.416)	0.032 (0.031)	0.024 (0.030)	0.026 (0.030)	0.020 (0.045)	0.127*** (0.045)	0.134*** (0.043)	0.133*** (0.044)	0.140* (0.080)
ISCO-Low	-0.252*** (0.085)	-0.258*** (0.086)	-0.250*** (0.085)	-0.181 (0.497)	-0.089** (0.042)	-0.096** (0.040)	-0.093** (0.040)	-0.099* (0.053)	-0.213** (0.096)	-0.205** (0.098)	-0.208** (0.096)	-0.200 (0.132)
Part-time	0.108*** (0.026)	0.118*** (0.022)	0.099*** (0.029)	-0.004 (0.764)	-0.169*** (0.028)	-0.169*** (0.029)	-0.159*** (0.029)	-0.142 (0.090)	0.294*** (0.032)	0.276*** (0.038)	0.287*** (0.033)	0.270* (0.133)
Temporary contract	-0.098** (0.038)	-0.077** (0.035)	-0.106** (0.040)	-0.383 (1.857)	0.020 (0.049)	0.002 (0.057)	0.037 (0.046)	0.072 (0.200)	-0.036 (0.044)	-0.078* (0.039)	-0.054 (0.042)	-0.089 (0.309)
Tenure: 10 years and more	-0.025 (0.021)	-0.027 (0.021)	-0.023 (0.021)	0.001 (0.176)	0.023 (0.026)	0.022 (0.025)	0.020 (0.024)	0.016 (0.033)	0.006 (0.020)	0.010 (0.019)	0.008 (0.020)	0.012 (0.038)
Firm size: medium	-0.061 (0.039)	-0.055 (0.038)	-0.065* (0.038)	-0.177 (0.737)	0.237*** (0.027)	0.221*** (0.031)	0.241*** (0.025)	0.256** (0.094)	-0.059 (0.049)	-0.075* (0.040)	-0.064 (0.047)	-0.080 (0.145)
Firm size: large	-0.062 (0.051)	-0.063 (0.052)	-0.066 (0.050)	-0.048 (0.136)	0.355*** (0.039)	0.343*** (0.041)	0.351*** (0.039)	0.349*** (0.041)	-0.194*** (0.068)	-0.193*** (0.063)	-0.190*** (0.066)	-0.188** (0.073)
Firm type: private firm	0.049* (0.026)	0.051* (0.025)	0.047* (0.026)	0.051 (0.091)	0.048 (0.044)	0.046 (0.042)	0.049 (0.043)	0.050 (0.049)	0.080 (0.070)	0.078 (0.076)	0.080 (0.071)	0.080 (0.079)
Firm type: other	0.062 (0.050)	0.073 (0.046)	0.049 (0.053)	0.009 (0.373)	-0.051 (0.051)	-0.062 (0.047)	-0.046 (0.049)	-0.032 (0.081)	-0.058* (0.031)	-0.077** (0.035)	-0.064* (0.034)	-0.076 (0.091)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	25,601	25,601	25,601	24,731	24,731	24,731	24,731	25,857	25,857	25,857	25,857
R ²	0.068	0.077	0.049	-3.437	0.012	-0.014	0.032	0.000	0.058	0.078	0.085	0.050
Adj. R ²	0.0672	0.0757	0.0479	-3.442	0.0104	-0.0151	0.0312	-0.000779	0.0564	0.0769	0.0843	0.0485
Underid.	3.645	3.007	3.131	0.0270	3.856	2.989	3.442	0.0611	3.598	3.136	3.358	0.0303
p-value	3.398	2.946	3.410	0.0322	3.569	2.927	3.665	0.0780	3.353	3.093	3.601	0.0364
K-P	0.0653	0.0861	0.0648	0.857	0.0589	0.0871	0.0556	0.780	0.0671	0.0786	0.0577	0.849

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.14 / Continued

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	Social environment				Skills and discretion				Prospects			
	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	0.088 (0.530)	0.187 (0.361)	0.175 (0.382)	1.825 (10.851)	-0.189 (0.726)	0.443 (0.385)	-0.596 (0.457)	-7.894 (47.522)	3.083* (1.598)	-0.278 (0.525)	3.456* (1.937)	27.163 (155.614)
ICT	-0.043 (0.092)	-0.044 (0.066)	-0.034 (0.084)	-0.036 (0.218)	0.088 (0.149)	0.140* (0.076)	0.043 (0.145)	0.027 (0.916)	0.319 (0.412)	-0.124 (0.116)	0.305 (0.492)	0.182 (3.065)
GO	0.242 (0.216)	0.299 (0.187)	0.287 (0.177)	1.248 (6.137)	-0.260 (0.240)	0.011 (0.188)	-0.449** (0.174)	-4.675 (26.915)	1.404** (0.564)	0.214 (0.271)	1.818** (0.789)	15.770 (88.257)
Female	0.015 (0.028)	0.014 (0.028)	0.014 (0.028)	0.007 (0.060)	-0.061* (0.030)	-0.063** (0.029)	-0.059* (0.032)	-0.028 (0.199)	-0.087** (0.033)	-0.076** (0.034)	-0.091** (0.038)	-0.198 (0.679)
Migrant	-0.023 (0.033)	-0.023 (0.033)	-0.022 (0.034)	-0.022 (0.036)	-0.077*** (0.027)	-0.074*** (0.026)	-0.079*** (0.029)	-0.082 (0.074)	0.087*** (0.030)	0.059* (0.030)	0.081* (0.040)	0.079 (0.213)
25-49 years old	0.020 (0.083)	0.020 (0.082)	0.022 (0.084)	0.051 (0.233)	0.092 (0.077)	0.099 (0.077)	0.085 (0.078)	-0.043 (0.848)	-0.247 (0.152)	-0.295** (0.116)	-0.231 (0.156)	0.185 (2.869)
50 years and older	0.099 (0.082)	0.099 (0.082)	0.100 (0.082)	0.129 (0.227)	0.059 (0.088)	0.064 (0.088)	0.055 (0.089)	-0.074 (0.830)	-0.502*** (0.141)	-0.536*** (0.115)	-0.499*** (0.152)	-0.065 (2.797)
ISCED-Medium	-0.056 (0.037)	-0.054 (0.040)	-0.052 (0.040)	-0.022 (0.213)	0.269*** (0.036)	0.284*** (0.026)	0.253*** (0.040)	0.117 (0.931)	0.167*** (0.041)	0.079** (0.033)	0.205*** (0.065)	0.617 (2.969)
ISCED-High	-0.096** (0.038)	-0.093** (0.042)	-0.090** (0.043)	-0.035 (0.381)	0.504*** (0.044)	0.527*** (0.032)	0.478*** (0.041)	0.231 (1.660)	0.367*** (0.060)	0.251*** (0.047)	0.450*** (0.103)	1.219 (5.389)
ISCO-Medium	0.021 (0.039)	0.020 (0.038)	0.021 (0.038)	0.030 (0.077)	-0.352*** (0.051)	-0.352*** (0.052)	-0.356*** (0.050)	-0.396 (0.264)	-0.107*** (0.034)	-0.130*** (0.027)	-0.113** (0.042)	0.019 (0.860)
ISCO-Low	-0.128 (0.078)	-0.128 (0.078)	-0.127 (0.078)	-0.116 (0.120)	-0.623*** (0.076)	-0.620*** (0.077)	-0.626*** (0.079)	-0.679* (0.347)	-0.154** (0.059)	-0.179*** (0.049)	-0.149** (0.063)	0.020 (1.143)
Part-time	0.094*** (0.021)	0.093*** (0.024)	0.091*** (0.025)	0.075 (0.122)	-0.084** (0.036)	-0.090** (0.037)	-0.074** (0.034)	-0.001 (0.515)	-0.107*** (0.036)	-0.070* (0.036)	-0.140*** (0.036)	-0.365 (1.690)
Temporary contract	-0.016 (0.036)	-0.020 (0.031)	-0.019 (0.029)	-0.064 (0.289)	-0.182*** (0.032)	-0.200*** (0.028)	-0.169*** (0.027)	0.033 (1.290)	-0.311*** (0.048)	-0.224*** (0.046)	-0.335*** (0.074)	-0.978 (4.164)
Tenure: 10 years and more	0.055*** (0.015)	0.055*** (0.015)	0.055*** (0.015)	0.059* (0.031)	0.064** (0.025)	0.065** (0.024)	0.061** (0.025)	0.044 (0.127)	-0.018 (0.020)	-0.026 (0.018)	-0.010 (0.023)	0.043 (0.386)
Firm size: medium	-0.096*** (0.034)	-0.098*** (0.030)	-0.097*** (0.032)	-0.117 (0.137)	-0.071** (0.033)	-0.080** (0.034)	-0.067** (0.030)	0.025 (0.568)	0.038 (0.027)	0.066* (0.033)	0.028 (0.046)	-0.266 (1.809)
Firm size: large	-0.179*** (0.037)	-0.180*** (0.036)	-0.180*** (0.037)	-0.176*** (0.040)	-0.107*** (0.027)	-0.109*** (0.028)	-0.105*** (0.028)	-0.118 (0.103)	0.063** (0.028)	0.053** (0.022)	0.045 (0.037)	0.101 (0.360)
Firm type: private firm	0.131*** (0.040)	0.130*** (0.041)	0.130*** (0.041)	0.128** (0.050)	-0.020 (0.038)	-0.023 (0.038)	-0.018 (0.039)	-0.012 (0.083)	-0.032 (0.045)	-0.022 (0.033)	-0.041 (0.060)	-0.062 (0.292)
Firm type: other	0.026 (0.055)	0.024 (0.054)	0.022 (0.056)	0.014 (0.090)	0.034 (0.032)	0.025 (0.029)	0.047 (0.030)	0.086 (0.329)	-0.072 (0.051)	-0.030 (0.040)	-0.121* (0.068)	-0.228 (1.079)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	26,078	26,078	26,078	26,078	26,052	26,052	26,052	26,052	26,078	26,078	26,078	26,078
R ²	0.020	0.020	0.019	-0.082	0.117	0.113	0.097	-1.893	-0.168	0.048	-0.480	-23.095
Adj. R ²	0.0192	0.0186	0.0175	-0.0836	0.116	0.112	0.0965	-1.896	-0.169	0.0465	-0.482	-23.12
Underid.	3.671	3.064	3.272	0.0289	3.681	3.020	3.280	0.0272	3.671	3.064	3.272	0.0289
p-value	3.413	3.024	3.538	0.0346	3.431	2.979	3.549	0.0325	3.413	3.024	3.538	0.0346
K-P	0.0647	0.0820	0.0600	0.853	0.0640	0.0843	0.0596	0.857	0.0647	0.0820	0.0600	0.853

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.15 / Working conditions: Offshoring by destination region – OMS sample (OLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Advanced Europe	Physical environment Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Work intensity Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Worktime quality Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	0.078 (0.050)	-0.041 (0.032)	0.071* (0.036)	-0.069 (0.049)	0.042 (0.100)	0.185*** (0.063)	0.061 (0.061)	0.076 (0.076)	0.113 (0.074)	-0.027 (0.070)	0.041 (0.054)	0.004 (0.057)
ICT	-0.018 (0.102)	-0.054 (0.107)	-0.018 (0.100)	-0.059 (0.105)	0.102 (0.107)	0.131 (0.104)	0.110 (0.103)	0.103 (0.101)	0.163 (0.126)	0.119 (0.114)	0.140 (0.125)	0.126 (0.116)
GO	0.076 (0.086)	0.020 (0.088)	0.075 (0.087)	-0.001 (0.096)	-0.484*** (0.165)	-0.416** (0.163)	-0.472*** (0.169)	-0.459** (0.186)	-0.132 (0.101)	-0.200* (0.115)	-0.166 (0.104)	-0.185 (0.109)
Female	0.311*** (0.082)	0.311*** (0.083)	0.311*** (0.082)	0.311*** (0.082)	-0.014 (0.038)	-0.015 (0.038)	-0.014 (0.038)	-0.014 (0.038)	0.295*** (0.057)	0.295*** (0.057)	0.295*** (0.057)	0.295*** (0.057)
Migrant	-0.154*** (0.030)	-0.154*** (0.030)	-0.154*** (0.030)	-0.154*** (0.030)	0.077** (0.036)	0.077** (0.036)	0.077** (0.036)	0.077** (0.036)	-0.051 (0.030)	-0.051 (0.031)	-0.051 (0.031)	-0.051 (0.031)
25-49 years old	0.168 (0.116)	0.167 (0.117)	0.169 (0.116)	0.166 (0.116)	-0.218** (0.096)	-0.216** (0.094)	-0.217** (0.095)	-0.217** (0.096)	-0.036 (0.096)	-0.037 (0.096)	-0.036 (0.096)	-0.037 (0.096)
50 years and older	0.249** (0.113)	0.248** (0.113)	0.250** (0.113)	0.247** (0.113)	-0.349*** (0.108)	-0.348*** (0.108)	-0.349*** (0.108)	-0.348*** (0.109)	0.075 (0.105)	0.074 (0.104)	0.075 (0.105)	0.074 (0.105)
ISCED-Medium	0.183*** (0.058)	0.180*** (0.058)	0.183*** (0.058)	0.180*** (0.058)	0.018 (0.034)	0.021 (0.035)	0.020 (0.035)	0.018 (0.035)	-0.064* (0.032)	-0.067** (0.032)	-0.065* (0.032)	-0.066** (0.031)
ISCED-High	0.413*** (0.102)	0.409*** (0.102)	0.415*** (0.103)	0.408*** (0.103)	0.044 (0.045)	0.048 (0.046)	0.046 (0.045)	0.045 (0.046)	-0.112** (0.052)	-0.117** (0.052)	-0.113** (0.052)	-0.115** (0.051)
ISCO-Medium	-0.168*** (0.059)	-0.169*** (0.059)	-0.169*** (0.059)	-0.170*** (0.059)	0.012 (0.039)	0.012 (0.039)	0.012 (0.039)	0.012 (0.039)	0.170*** (0.040)	0.169*** (0.040)	0.170*** (0.040)	0.169*** (0.040)
ISCO-Low	-0.252*** (0.092)	-0.252*** (0.092)	-0.252*** (0.092)	-0.253*** (0.092)	-0.106** (0.039)	-0.106** (0.039)	-0.105** (0.039)	-0.106** (0.039)	-0.163 (0.105)	-0.164 (0.105)	-0.164 (0.105)	-0.164 (0.105)
Part-time	0.129*** (0.026)	0.130*** (0.026)	0.129*** (0.026)	0.131*** (0.026)	-0.158*** (0.027)	-0.160*** (0.027)	-0.159*** (0.027)	-0.159*** (0.027)	0.277*** (0.035)	0.278*** (0.035)	0.277*** (0.035)	0.278*** (0.034)
Temporary contract	-0.081** (0.038)	-0.077** (0.037)	-0.081** (0.038)	-0.076** (0.036)	0.044 (0.038)	0.038 (0.037)	0.043 (0.037)	0.043 (0.037)	-0.086** (0.040)	-0.081** (0.039)	-0.084** (0.040)	-0.083** (0.040)
Tenure: 10 years and more	-0.026 (0.024)	-0.026 (0.024)	-0.026 (0.024)	-0.027 (0.024)	0.030 (0.028)	0.031 (0.028)	0.031 (0.028)	0.031 (0.028)	-0.004 (0.021)	-0.004 (0.021)	-0.004 (0.021)	-0.004 (0.021)
Firm size: medium	-0.068* (0.039)	-0.067* (0.039)	-0.069* (0.039)	-0.067* (0.039)	0.254*** (0.034)	0.251*** (0.034)	0.253*** (0.034)	0.253*** (0.034)	-0.063 (0.051)	-0.062 (0.050)	-0.063 (0.051)	-0.062 (0.051)
Firm size: large	-0.071 (0.055)	-0.070 (0.055)	-0.072 (0.055)	-0.070 (0.055)	0.365*** (0.042)	0.363*** (0.042)	0.364*** (0.043)	0.365*** (0.042)	-0.161** (0.068)	-0.160** (0.068)	-0.161** (0.068)	-0.160** (0.068)
Firm type: private firm	0.062** (0.027)	0.063** (0.027)	0.062** (0.027)	0.062** (0.027)	0.020 (0.049)	0.019 (0.048)	0.019 (0.048)	0.020 (0.049)	0.082 (0.073)	0.082 (0.073)	0.082 (0.073)	0.082 (0.073)
Firm type: other	0.085* (0.048)	0.087* (0.048)	0.084* (0.048)	0.086* (0.048)	-0.065 (0.063)	-0.068 (0.062)	-0.066 (0.062)	-0.065 (0.063)	-0.080*** (0.023)	-0.079*** (0.023)	-0.080*** (0.023)	-0.079*** (0.023)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-1.192 (1.197)	-0.184 (1.296)	-1.055 (1.200)	0.099 (1.395)	4.921** (1.785)	4.089** (1.661)	4.793** (1.756)	4.708** (1.869)	0.157 (1.123)	1.421 (1.178)	0.895 (1.107)	1.209 (1.129)
No. of obs.	17,030	17,030	17,030	17,030	16,425	16,425	16,425	16,425	17,143	17,143	17,143	17,143
R ²	0.278	0.278	0.278	0.278	0.147	0.148	0.147	0.147	0.225	0.224	0.224	0.224
Adj. R ²	0.260	0.259	0.260	0.260	0.125	0.125	0.125	0.125	0.205	0.205	0.205	0.205

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.15 / Continued

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	Social environment				Skills and discretion				Prospects			
	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	-0.094** (0.044)	-0.028 (0.056)	-0.056 (0.041)	-0.035 (0.058)	0.092 (0.080)	0.043 (0.041)	0.078* (0.043)	0.000 (0.040)	0.086 (0.096)	0.144 (0.101)	0.110 (0.077)	0.211*** (0.076)
ICT	-0.089 (0.116)	-0.063 (0.112)	-0.078 (0.115)	-0.064 (0.114)	0.215* (0.119)	0.193 (0.123)	0.213* (0.120)	0.183 (0.123)	0.055 (0.131)	0.060 (0.132)	0.067 (0.125)	0.071 (0.133)
GO	0.237* (0.118)	0.270* (0.134)	0.254** (0.123)	0.263* (0.140)	-0.182 (0.150)	-0.206 (0.131)	-0.186 (0.139)	-0.226* (0.132)	0.151 (0.156)	0.177 (0.150)	0.167 (0.155)	0.232 (0.142)
Female	0.025 (0.029)	0.025 (0.029)	0.025 (0.029)	0.025 (0.029)	-0.061** (0.029)	-0.061** (0.029)	-0.061** (0.029)	-0.061** (0.029)	-0.056 (0.038)	-0.057 (0.038)	-0.056 (0.038)	-0.057 (0.037)
Migrant	-0.007 (0.034)	-0.007 (0.034)	-0.007 (0.033)	-0.007 (0.034)	-0.075** (0.030)	-0.076** (0.030)	-0.075** (0.030)	-0.076** (0.030)	0.070** (0.033)	0.069** (0.033)	0.070** (0.033)	0.069** (0.033)
25-49 years old	0.017 (0.076)	0.018 (0.075)	0.017 (0.076)	0.017 (0.075)	0.101 (0.086)	0.100 (0.085)	0.101 (0.086)	0.099 (0.085)	-0.309** (0.124)	-0.309** (0.124)	-0.308** (0.124)	-0.306** (0.125)
50 years and older	0.108 (0.078)	0.108 (0.078)	0.108 (0.078)	0.108 (0.078)	0.077 (0.096)	0.077 (0.096)	0.077 (0.096)	0.076 (0.095)	-0.558*** (0.119)	-0.558*** (0.119)	-0.557*** (0.119)	-0.555*** (0.120)
ISCED-Medium	-0.061* (0.035)	-0.060 (0.035)	-0.061* (0.035)	-0.060 (0.035)	0.283*** (0.030)	0.282*** (0.031)	0.284*** (0.031)	0.281*** (0.031)	0.088*** (0.026)	0.089*** (0.026)	0.090*** (0.026)	0.089*** (0.026)
ISCED-High	-0.123*** (0.037)	-0.121*** (0.037)	-0.123*** (0.037)	-0.121*** (0.036)	0.468*** (0.031)	0.467*** (0.031)	0.470*** (0.031)	0.465*** (0.031)	0.229*** (0.044)	0.231*** (0.045)	0.233*** (0.044)	0.233*** (0.044)
ISCO-Medium	0.017 (0.039)	0.017 (0.038)	0.017 (0.039)	0.017 (0.039)	-0.351*** (0.057)	-0.352*** (0.056)	-0.351*** (0.057)	-0.352*** (0.056)	-0.103*** (0.030)	-0.103*** (0.031)	-0.103*** (0.030)	-0.102*** (0.031)
ISCO-Low	-0.145* (0.082)	-0.144* (0.082)	-0.145* (0.082)	-0.145* (0.082)	-0.619*** (0.081)	-0.620*** (0.081)	-0.619*** (0.081)	-0.620*** (0.081)	-0.146*** (0.051)	-0.146*** (0.051)	-0.145*** (0.051)	-0.145*** (0.051)
Part-time	0.100*** (0.024)	0.099*** (0.024)	0.100*** (0.024)	0.099*** (0.024)	-0.103*** (0.036)	-0.103*** (0.036)	-0.104*** (0.037)	-0.103*** (0.036)	-0.092** (0.038)	-0.093** (0.038)	-0.093** (0.038)	-0.093** (0.038)
Temporary contract	-0.024 (0.033)	-0.026 (0.033)	-0.025 (0.033)	-0.026 (0.033)	-0.189*** (0.029)	-0.188*** (0.029)	-0.189*** (0.030)	-0.186*** (0.029)	-0.253*** (0.045)	-0.256*** (0.044)	-0.254*** (0.045)	-0.256*** (0.044)
Tenure: 10 years and more	0.061*** (0.019)	0.062*** (0.019)	0.061*** (0.019)	0.062*** (0.019)	0.069** (0.028)	0.069** (0.029)	0.069** (0.028)	0.069** (0.029)	-0.029 (0.021)	-0.028 (0.021)	-0.028 (0.021)	-0.028 (0.021)
Firm size: medium	-0.108** (0.040)	-0.108** (0.040)	-0.108** (0.040)	-0.108** (0.040)	-0.060* (0.030)	-0.060* (0.030)	-0.060* (0.030)	-0.059* (0.030)	0.071* (0.037)	0.069* (0.038)	0.070* (0.038)	0.068* (0.038)
Firm size: large	-0.197*** (0.045)	-0.197*** (0.045)	-0.197*** (0.045)	-0.197*** (0.045)	-0.094*** (0.028)	-0.094*** (0.028)	-0.094*** (0.028)	-0.093*** (0.028)	0.077*** (0.024)	0.076*** (0.024)	0.076*** (0.024)	0.076*** (0.024)
Firm type: private firm	0.143*** (0.045)	0.143*** (0.045)	0.143*** (0.045)	0.142*** (0.045)	-0.016 (0.045)	-0.016 (0.045)	-0.016 (0.045)	-0.015 (0.045)	-0.054 (0.034)	-0.054 (0.034)	-0.054 (0.034)	-0.054 (0.034)
Firm type: other	0.033 (0.065)	0.033 (0.065)	0.034 (0.066)	0.033 (0.065)	0.045* (0.023)	0.045* (0.023)	0.044* (0.023)	0.046* (0.023)	-0.038 (0.042)	-0.040 (0.042)	-0.040 (0.042)	-0.039 (0.043)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-2.013** (0.928)	-2.735** (1.043)	-2.437** (0.965)	-2.638** (1.158)	0.554 (1.904)	1.158 (1.431)	0.766 (1.629)	1.434 (1.374)	-1.821 (1.470)	-1.940 (1.383)	-1.946 (1.483)	-2.692* (1.334)
No. of obs.	17,272	17,272	17,272	17,272	17,257	17,257	17,257	17,257	17,272	17,272	17,272	17,272
R ²	0.093	0.093	0.093	0.093	0.242	0.242	0.242	0.242	0.127	0.127	0.127	0.128
Adj. R ²	0.0707	0.0706	0.0707	0.0706	0.223	0.223	0.223	0.223	0.105	0.105	0.105	0.106

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.16 / Working conditions: Offshoring by destination region – OMS sample (reduced form)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
I_IIM ^{Advanced} EUR	-0.314 (0.249)	0.957*** (0.311)	-0.011 (0.202)	0.012 (0.256)	0.455* (0.241)	0.562 (0.339)
I_IIM ^{Developing} EUR	0.852** (0.397)	0.048 (0.357)	-0.230 (0.333)	-0.042 (0.232)	-0.130 (0.241)	0.524* (0.256)
I_IIM ^{Developed} xEUR	-0.022 (0.035)	-0.286*** (0.088)	-0.047 (0.081)	-0.032 (0.044)	-0.102*** (0.036)	-0.028 (0.069)
I_IIM ^{Developing} xEUR	-0.030 (0.160)	-0.129 (0.104)	0.035 (0.107)	-0.039 (0.093)	-0.203 (0.128)	-0.072 (0.131)
ICT	-0.025 (0.106)	0.125 (0.103)	0.129 (0.123)	-0.051 (0.120)	0.198 (0.119)	0.031 (0.139)
GO	0.030 (0.087)	-0.495*** (0.156)	-0.187* (0.109)	0.285** (0.119)	-0.212 (0.129)	0.110 (0.154)
Female	0.311*** (0.083)	-0.015 (0.038)	0.295*** (0.057)	0.025 (0.029)	-0.061** (0.029)	-0.057 (0.037)
Migrant	-0.153*** (0.030)	0.078** (0.036)	-0.051 (0.030)	-0.007 (0.034)	-0.076** (0.030)	0.071** (0.033)
25-49 years old	0.169 (0.115)	-0.217** (0.095)	-0.037 (0.096)	0.018 (0.076)	0.099 (0.086)	-0.308** (0.123)
50 years and older	0.251** (0.112)	-0.347*** (0.108)	0.073 (0.104)	0.108 (0.078)	0.077 (0.096)	-0.556*** (0.118)
ISCED-Medium	0.180*** (0.058)	0.019 (0.035)	-0.066** (0.031)	-0.059 (0.035)	0.282*** (0.031)	0.087*** (0.026)
ISCED-High	0.412*** (0.102)	0.047 (0.046)	-0.116** (0.050)	-0.120*** (0.037)	0.466*** (0.032)	0.230*** (0.044)
ISCO-Medium	-0.168*** (0.058)	0.012 (0.040)	0.169*** (0.040)	0.018 (0.038)	-0.352*** (0.056)	-0.103*** (0.030)
ISCO-Low	-0.251** (0.092)	-0.105** (0.039)	-0.164 (0.105)	-0.144* (0.082)	-0.620*** (0.082)	-0.145*** (0.051)
Part-time	0.129*** (0.026)	-0.158*** (0.027)	0.278*** (0.034)	0.099*** (0.024)	-0.102*** (0.036)	-0.092** (0.037)
Temporary contract	-0.076** (0.037)	0.042 (0.038)	-0.083** (0.040)	-0.027 (0.034)	-0.187*** (0.030)	-0.250*** (0.046)
Tenure: 10 years and more	-0.026 (0.024)	0.030 (0.028)	-0.004 (0.021)	0.062*** (0.019)	0.069** (0.029)	-0.029 (0.021)
Firm size: medium	-0.067* (0.039)	0.255*** (0.034)	-0.062 (0.051)	-0.108** (0.040)	-0.058* (0.030)	0.070* (0.037)
Firm size: large	-0.068 (0.055)	0.366*** (0.042)	-0.160** (0.068)	-0.197*** (0.046)	-0.093*** (0.029)	0.079*** (0.023)
Firm type: private firm	0.061** (0.027)	0.021 (0.048)	0.082 (0.073)	0.143*** (0.045)	-0.014 (0.045)	-0.054 (0.033)
Firm type: other	0.086* (0.049)	-0.065 (0.063)	-0.079*** (0.023)	0.033 (0.065)	0.047** (0.023)	-0.038 (0.043)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.541 (1.343)	4.706*** (1.593)	1.255 (1.187)	-2.974*** (0.896)	1.095 (1.480)	-1.291 (1.504)
No. of obs.	17,030	16,425	17,143	17,272	17,257	17,272
R ²	0.278	0.148	0.224	0.093	0.242	0.128
Adj. R ²	0.260	0.125	0.205	0.0704	0.223	0.106

Note: I_IIM^{Advanced}EUR, I_IIM^{Developing}EUR, I_IIM^{Developed}xEUR and I_IIM^{Developing}xEUR refer to the instruments for offshoring to advanced Europe, European developing countries, non-European developed countries and non-European developing countries, respectively. ICT refers to information and communications technology and GO to gross output. All offshoring instruments, ICT and GO are lagged by one year and expressed in logs. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table A.17 / Working conditions: Offshoring by destination region – OMS sample (IV)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Advanced Europe	Physical environment Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Work intensity Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Worktime quality Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	0.152 (0.457)	0.182 (0.398)	1.184* (0.591)	0.419 (0.592)	1.187 (0.938)	1.955 (1.423)	0.365 (0.654)	0.202 (0.637)	-0.400 (0.555)	0.657 (0.880)	-0.400 (0.601)	-0.163 (0.510)
ICT	0.007 (0.187)	-0.002 (0.158)	0.399 (0.264)	0.045 (0.185)	0.498 (0.390)	0.554 (0.384)	0.225 (0.248)	0.130 (0.164)	-0.010 (0.209)	0.277 (0.224)	-0.024 (0.226)	0.090 (0.175)
GO	0.112 (0.250)	0.123 (0.191)	0.642* (0.349)	0.280 (0.342)	0.080 (0.513)	0.434 (0.536)	-0.307 (0.435)	-0.383 (0.434)	-0.383 (0.315)	0.122 (0.374)	-0.394 (0.365)	-0.282 (0.327)
Female	0.311*** (0.082)	0.310*** (0.082)	0.308*** (0.082)	0.309*** (0.083)	-0.014 (0.040)	-0.019 (0.041)	-0.015 (0.038)	-0.015 (0.038)	0.296*** (0.057)	0.293*** (0.057)	0.296*** (0.058)	0.296*** (0.058)
Migrant	-0.154*** (0.030)	-0.155*** (0.030)	-0.153*** (0.032)	-0.156*** (0.029)	0.082** (0.037)	0.076* (0.040)	0.078** (0.036)	0.077** (0.036)	-0.053* (0.030)	-0.052 (0.031)	-0.052* (0.030)	-0.050 (0.031)
25-49 years old	0.169 (0.117)	0.168 (0.116)	0.196 (0.122)	0.174 (0.120)	-0.201** (0.090)	-0.196** (0.091)	-0.210** (0.093)	-0.215** (0.095)	-0.042 (0.099)	-0.032 (0.098)	-0.045 (0.096)	-0.040 (0.098)
50 years and older	0.250** (0.113)	0.249** (0.113)	0.267** (0.119)	0.256** (0.116)	-0.338*** (0.102)	-0.332*** (0.106)	-0.345*** (0.105)	-0.345*** (0.106)	0.071 (0.106)	0.078 (0.106)	0.069 (0.104)	0.071 (0.106)
ISCED-Medium	0.184*** (0.058)	0.184*** (0.060)	0.222*** (0.061)	0.187*** (0.057)	0.044 (0.044)	0.054* (0.030)	0.031 (0.041)	0.020 (0.036)	-0.075** (0.035)	-0.054 (0.042)	-0.080** (0.036)	-0.069** (0.033)
ISCED-High	0.415*** (0.101)	0.417*** (0.106)	0.478*** (0.116)	0.425*** (0.099)	0.079 (0.056)	0.107** (0.048)	0.063 (0.055)	0.049 (0.050)	-0.128** (0.051)	-0.093 (0.070)	-0.139** (0.055)	-0.121** (0.050)
ISCO-Medium	-0.168*** (0.060)	-0.169*** (0.058)	-0.160** (0.058)	-0.167*** (0.059)	0.021 (0.039)	0.012 (0.038)	0.014 (0.039)	0.013 (0.039)	0.166*** (0.040)	0.171*** (0.040)	0.167*** (0.040)	0.169*** (0.040)
ISCO-Low	-0.251** (0.091)	-0.252** (0.092)	-0.242** (0.093)	-0.250** (0.091)	-0.100** (0.040)	-0.110*** (0.036)	-0.104** (0.038)	-0.105** (0.040)	-0.166 (0.105)	-0.164 (0.107)	-0.167 (0.103)	-0.165 (0.105)
Part-time	0.128*** (0.028)	0.128*** (0.025)	0.105*** (0.029)	0.126*** (0.027)	-0.170*** (0.030)	-0.179*** (0.035)	-0.165*** (0.032)	-0.160*** (0.028)	0.282*** (0.033)	0.271*** (0.040)	0.286*** (0.029)	0.279*** (0.034)
Temporary contract	-0.083* (0.042)	-0.085* (0.042)	-0.119** (0.049)	-0.090** (0.044)	0.012 (0.040)	-0.024 (0.073)	0.032 (0.042)	0.040 (0.039)	-0.071 (0.043)	-0.106** (0.046)	-0.068 (0.049)	-0.078* (0.042)
Tenure: 10 years and more	-0.026 (0.024)	-0.026 (0.024)	-0.021 (0.024)	-0.025 (0.024)	0.034 (0.031)	0.034 (0.029)	0.032 (0.029)	0.031 (0.028)	-0.005 (0.021)	-0.003 (0.021)	-0.006 (0.021)	-0.004 (0.020)
Firm size: medium	-0.069* (0.039)	-0.071* (0.038)	-0.083** (0.036)	-0.073* (0.041)	0.246*** (0.034)	0.219*** (0.046)	0.249*** (0.036)	0.252*** (0.037)	-0.059 (0.051)	-0.073 (0.044)	-0.056 (0.055)	-0.060 (0.051)
Firm size: large	-0.072 (0.056)	-0.073 (0.054)	-0.088 (0.054)	-0.073 (0.057)	0.355*** (0.043)	0.339*** (0.049)	0.359*** (0.047)	0.364*** (0.044)	-0.157** (0.069)	-0.168** (0.064)	-0.154** (0.073)	-0.159** (0.068)
Firm type: private firm	0.062** (0.027)	0.061** (0.027)	0.053 (0.033)	0.062** (0.028)	0.018 (0.049)	0.009 (0.044)	0.017 (0.046)	0.020 (0.049)	0.082 (0.072)	0.078 (0.078)	0.084 (0.070)	0.082 (0.073)
Firm type: other	0.084 (0.050)	0.083* (0.049)	0.052 (0.064)	0.084 (0.050)	-0.077 (0.058)	-0.097* (0.055)	-0.075 (0.053)	-0.066 (0.060)	-0.075*** (0.023)	-0.090*** (0.031)	-0.069** (0.030)	-0.078*** (0.024)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,030	17,030	17,030	17,030	16,425	16,425	16,425	16,425	17,143	17,143	17,143	17,143
R ²	0.075	0.073	0.009	0.068	0.008	-0.050	0.033	0.037	0.086	0.077	0.081	0.091
Adj. R ²	0.0732	0.0717	0.00742	0.0665	0.00635	-0.0523	0.0315	0.0356	0.0840	0.0753	0.0797	0.0896
Underid.	3.773	1.927	3.064	4.216	3.849	1.912	3.213	4.525	3.698	2.084	3.105	4.264
p-value	0.0521	0.165	0.0800	0.0400	0.0498	0.167	0.0731	0.0334	0.0545	0.149	0.0781	0.0389
K-P	4.630	2.023	2.539	3.578	4.723	2.000	2.671	3.813	4.517	2.169	2.582	3.612

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.17 / Continued

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	Social environment				Skills and discretion				Prospects			
	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe	Advanced Europe	Developing Europe	Developed non-Europe	Developing non-Europe
IIM ^{region}	-0.231 (0.479)	0.423 (0.499)	-0.147 (0.282)	-0.259 (0.341)	0.149 (0.432)	0.819 (0.555)	-0.255 (0.371)	-0.707 (0.662)	1.866* (0.981)	-0.801 (0.976)	1.208* (0.695)	0.871 (0.644)
ICT	-0.136 (0.174)	0.043 (0.135)	-0.112 (0.169)	-0.112 (0.152)	0.234 (0.191)	0.376** (0.178)	0.087 (0.169)	0.032 (0.202)	0.663 (0.402)	-0.163 (0.270)	0.482* (0.278)	0.213 (0.213)
GO	0.171 (0.294)	0.479 (0.282)	0.207 (0.191)	0.133 (0.236)	-0.154 (0.245)	0.155 (0.228)	-0.358 (0.245)	-0.634* (0.371)	1.014* (0.551)	-0.263 (0.497)	0.734 (0.437)	0.613 (0.433)
Female	0.025 (0.029)	0.024 (0.030)	0.026 (0.029)	0.026 (0.029)	-0.061** (0.029)	-0.064** (0.028)	-0.060* (0.030)	-0.059* (0.030)	-0.057 (0.038)	-0.054 (0.039)	-0.059 (0.038)	-0.059 (0.037)
Migrant	-0.008 (0.033)	-0.008 (0.034)	-0.007 (0.033)	-0.006 (0.034)	-0.075** (0.030)	-0.076** (0.029)	-0.076** (0.030)	-0.074** (0.030)	0.077** (0.034)	0.070** (0.032)	0.071** (0.034)	0.067* (0.034)
25-49 years old	0.015 (0.077)	0.021 (0.078)	0.015 (0.076)	0.013 (0.075)	0.101 (0.086)	0.106 (0.085)	0.094 (0.087)	0.088 (0.085)	-0.286* (0.144)	-0.317** (0.124)	-0.284** (0.135)	-0.295** (0.130)
50 years and older	0.106 (0.079)	0.111 (0.080)	0.106 (0.078)	0.104 (0.077)	0.078 (0.096)	0.081 (0.095)	0.073 (0.097)	0.064 (0.096)	-0.543*** (0.132)	-0.563*** (0.119)	-0.543*** (0.128)	-0.543*** (0.123)
ISCED-Medium	-0.064* (0.038)	-0.051 (0.041)	-0.064 (0.040)	-0.063* (0.035)	0.284*** (0.033)	0.297*** (0.031)	0.272*** (0.038)	0.270*** (0.035)	0.128*** (0.034)	0.070** (0.034)	0.129*** (0.029)	0.099*** (0.026)
ISCED-High	-0.127*** (0.038)	-0.105** (0.046)	-0.128*** (0.045)	-0.128*** (0.036)	0.470*** (0.039)	0.494*** (0.041)	0.450*** (0.037)	0.442*** (0.030)	0.285*** (0.056)	0.198*** (0.060)	0.297*** (0.052)	0.255*** (0.048)
ISCO-Medium	0.016 (0.040)	0.018 (0.038)	0.017 (0.039)	0.016 (0.040)	-0.351*** (0.056)	-0.350*** (0.057)	-0.354*** (0.056)	-0.356*** (0.056)	-0.089** (0.034)	-0.105*** (0.029)	-0.095*** (0.034)	-0.099*** (0.031)
ISCO-Low	-0.146* (0.084)	-0.144* (0.082)	-0.146* (0.083)	-0.146* (0.083)	-0.619*** (0.080)	-0.618*** (0.081)	-0.622*** (0.083)	-0.623*** (0.082)	-0.135** (0.055)	-0.148*** (0.051)	-0.136** (0.054)	-0.142** (0.053)
Part-time	0.101*** (0.025)	0.095*** (0.026)	0.102*** (0.026)	0.101*** (0.025)	-0.104*** (0.037)	-0.110*** (0.037)	-0.098*** (0.035)	-0.097** (0.036)	-0.110*** (0.039)	-0.084** (0.041)	-0.115*** (0.031)	-0.099** (0.038)
Temporary contract	-0.020 (0.037)	-0.042 (0.036)	-0.022 (0.033)	-0.020 (0.034)	-0.191*** (0.031)	-0.216*** (0.041)	-0.178*** (0.029)	-0.167*** (0.034)	-0.303*** (0.042)	-0.222*** (0.065)	-0.291*** (0.054)	-0.274*** (0.046)
Tenure: 10 years and more	0.061*** (0.019)	0.063*** (0.018)	0.061*** (0.019)	0.061*** (0.019)	0.069** (0.029)	0.071** (0.028)	0.068** (0.029)	0.067** (0.028)	-0.024 (0.023)	-0.030 (0.021)	-0.024 (0.022)	-0.026 (0.022)
Firm size: medium	-0.107** (0.041)	-0.116*** (0.036)	-0.107** (0.041)	-0.105** (0.041)	-0.060* (0.031)	-0.073** (0.034)	-0.056* (0.030)	-0.050 (0.030)	0.060 (0.037)	0.084** (0.040)	0.054 (0.043)	0.060 (0.039)
Firm size: large	-0.196*** (0.046)	-0.203*** (0.042)	-0.195*** (0.046)	-0.196*** (0.046)	-0.094*** (0.030)	-0.104*** (0.030)	-0.089*** (0.029)	-0.089*** (0.030)	0.063** (0.026)	0.088*** (0.029)	0.060* (0.030)	0.072*** (0.025)
Firm type: private firm	0.143*** (0.044)	0.139*** (0.049)	0.144*** (0.044)	0.143*** (0.044)	-0.016 (0.045)	-0.021 (0.043)	-0.013 (0.047)	-0.015 (0.045)	-0.059 (0.041)	-0.048 (0.036)	-0.063 (0.042)	-0.054 (0.035)
Firm type: other	0.035 (0.066)	0.025 (0.069)	0.036 (0.066)	0.034 (0.063)	0.045* (0.025)	0.032 (0.031)	0.053** (0.026)	0.051** (0.020)	-0.058 (0.047)	-0.023 (0.044)	-0.071 (0.052)	-0.043 (0.043)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	17,272	17,272	17,272	17,272	17,257	17,257	17,257	17,257	17,272	17,272	17,272	17,272
R ²	0.024	0.019	0.024	0.023	0.114	0.096	0.108	0.100	-0.021	0.026	-0.008	0.041
Adj. R ²	0.0222	0.0172	0.0222	0.0212	0.112	0.0943	0.107	0.0985	-0.0226	0.0246	-0.00990	0.0395
Underid.	3.759	2.025	3.118	4.333	3.776	1.975	3.122	4.327	3.759	2.025	3.118	4.333
p-value	0.0525	0.155	0.0774	0.0374	0.0520	0.160	0.0772	0.0375	0.0525	0.155	0.0774	0.0374
K-P	4.619	2.107	2.592	3.667	4.626	2.062	2.594	3.662	4.619	2.107	2.592	3.667

Note: IIM^{region} refers to offshoring by source region, ICT refers to information and communications technology and GO to gross output. IIM^T, ICT and GO are lagged by one year and expressed in logs. Underid. refers to the Kleibergen-Paap rk LM underidentification test, K-P to the Kleibergen-Paap rk Wald F statistic. In the first-stage regression, a Bartik-style shift-share instrument was used (see Section 3.1 for details). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A.18 / Robustness check: Offshoring by destination region – total EU sample (reduced form)

	(1) Physical environment	(2) Work intensity	(3) Worktime quality	(4) Social environment	(5) Skills and discretion	(6) Prospects
Reduced form (simultaneous regressions)						
I_IIM ^{AdvancedEUR}	-0.049 (0.194)	0.683*** (0.207)	-0.213 (0.192)	0.013 (0.174)	0.219 (0.207)	0.132 (0.224)
I_IIM ^{DevelopingEUR}	0.130 (0.144)	-0.029 (0.104)	-0.029 (0.123)	0.031 (0.092)	-0.124 (0.078)	0.638*** (0.141)
I_IIM ^{DevelopedxEUR}	0.015 (0.036)	-0.270*** (0.089)	-0.038 (0.082)	-0.028 (0.043)	-0.077* (0.041)	-0.019 (0.068)
I_IIM ^{DevelopingxEUR}	0.047 (0.043)	-0.036 (0.027)	0.020 (0.037)	0.009 (0.014)	-0.039** (0.016)	0.068** (0.029)
Euro area	0.056 (0.051)	0.053 (0.047)	0.078 (0.057)	-0.017 (0.052)	-0.055 (0.047)	0.300*** (0.052)
Country-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	25,601	24,731	25,857	26,078	26,052	26,078

Note: I_IIM^{AdvancedEUR}, I_IIM^{DevelopingEUR}, I_IIM^{DevelopedxEUR} and I_IIM^{DevelopingxEUR} refer to the respective instruments. All offshoring measures are lagged by one year and expressed in logs. The euro area dummy equals one if a country was a member of the euro area in 2010 or 2015, respectively. All equations also include a constant and control for gender, migrant status, age, education, occupation, tenure, firm size, firm type, gross output and ICT. The last two of these are lagged by one year and expressed in log. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

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Internet Homepage: www.wiiw.ac.at

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