Labor Adjustment Costs Across Sectors and Regions*

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Abstract

This paper estimates mobility costs of workers across sectors and regions in a very large sample of developing countries. We develop a new methodology that uses cross-sectional data only. This is motivated by the fact that panel data is typically not available for most developing countries. Results suggest that on average sector mobility costs are higher than regional mobility costs. The costs of moving both sector and region are higher than the costs of moving only sector or only region. In poorer countries workers face higher mobility costs. We also provide evidence suggesting that mobility costs are partially driven by information asymmetries and access to Internet can mitigate these costs.

Keywords: Labor mobility cost, Internal migration, Internet.
JEL codes: E24, F13, F16

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1 Introduction

We estimate labor mobility costs across sectors and regions for a very large number of developing countries. Given that labor surveys in developing countries rarely provide longitudinal data, the methodology we developed only requires cross-sectional data. The crucial assumption borrowed from the urban literature is that workers' intertemporal utility net of mobility cost is equalized across sectors and regions. We start by estimating for each worker in our sample their hypothetical wage in other industries and sectors given their observed characteristics. We then compare their level of intertemporal utility in each location or sector. Differences in intertemporal utility capture mobility costs, which are identified using the time horizon faced by each worker in their intertemporal maximization, i.e., the number of years until retirement. After correcting for self-selection of workers into regions and sectors, we find that sector mobility costs are larger than regional mobility costs and represent about 1.2 times the average annual wage. Yet, the cost of moving across sectors and regions simultaneously is even larger and represent almost 1.5 times the average annual wage. We also find that workers in poorer countries face higher mobility costs, and provide evidence suggesting that information costs, retraining costs, and the extent of social networks partly explain labor mobility costs.

Estimating labor mobility costs is important for at least three reasons. First, for the gains from trade to materialize, workers and capital must be able to move freely within countries into sectors in which the country has a comparative advantage. While capital can move relatively freely within a country, the same cannot be said about workers' mobility. Workers are endowed with sector-specific skills that are not easily transferable to another sector, and new skills are costly to acquire. Furthermore, if changing sector also involves changing region, workers also incur a moving cost. This cost includes the cost of physically moving to another location (finding a new house), as well as the loss of the social environment people develop over time, which typically has a strong geographic component. If workers are stuck in some sector or region because of high mobility costs, gains from trade (or other productivity shocks) are likely to be small or negative.

Second, whether the lack of observed relocation of workers is driven by the difficulty of moving across sectors or across regions is highly relevant for policymakers which have to decide whether to allocate resources to the reduction of sector or regional mobility costs. Most of the existing literature has typically focused on one of these two adjustment costs and ignore the other one. Our aim is to simultaneously identify the costs incurred by workers when they move to another region and when they are employed in a different sector. Ignore the presence of one type of cost can lead to an overestimation of the estimated costs.

Third, understanding whether the forces behind each of these costs are due to information costs, retraining costs or moving costs can further help policymakers pinpoint the strategies needed to promote more labor mobility and ultimately a more efficient and equal wage distribution.

We face several challenges to estimate region and sector mobility costs in developing countries. First, if our methodology does not require longitudinal data, it does however require cross sectional data that is comparable across countries. The World Bank has recently put together a series of labor and households surveys that is harmonized along some key dimensions, such as sector, location and other workers' characteristics. The richness of the International Income Distribution Data set (I2D2) allows us to account for worker's heterogeneity and self-selection into jobs and locations, which is an important component of our methodology.[1]

The second challenge has to do with the bias that workers self-selection into regions or sectors may introduce in our analysis (Roy, 1951). If all skilled workers select in one sector and all unskilled workers select in a different sector, the comparison of wages across sectors is not providing information on mobility costs, but on different returns to skills. To provide meaningful comparisons of predicted wages we will check the robustness of the estimated mobility costs to controlling for differences in observed heterogeneity, such as age differences, education, gender, and occupation across sector and regions. In addition, we deal with self-selection of workers into regions and sectors based on unobservables characteristics by applying a correction method suggested by Dahl (2002).

The third challenge we face is that workers base their migration decision on real wages, and not nominal wages. Information on the cost of living at the regional level in developing countries are unfortunately not available. We bypass this issue by estimating real wages, controlling for the local cost of living using average wages in each region. This has the additional advantage as will become clearer in the empirical methodology section that our estimates of adjustment costs can be interpreted in term of average wages.

The fourth challenge has to do with the fact that the methodology we propose relies on cross-sectional data only, but the question at stake is fundamentally dynamic. To account for the fact that younger workers are more "footloose"[2] than older ones, we use the difference between observed age and (expected) retirement age as a measure of workers' time horizon. This introduces worker-level variation that will prove to be important in the estimation of the mobility cost and allow us to introduce dynamic considerations when estimating mobility costs.

The literature has recently produced various estimates of mobility cost (Hollweg et al., 2014). First, Kennan and Walker (2011) develop a model of individual migration, where expected income is the main force influencing migration. They test their model using detailed US data on individual workers. They find that interstate migration is strongly influenced by the prospect of higher income in other states, and estimate an elasticity of 0.5 between wages and migration decision. One important difference with our paper is that they do not consider sector mobility costs and exclusively focus on region mobility costs.

[1]See Montenegro and Hirn (2009) for more details on the I2D2 database.

[2]Younger workers may have acquired less skills than older workers, and their social network is likely to be less dense than that of their elders. [REF]

Using the same kind of theoretical tools but in a context of trade shocks, Artuç et al. (2010) propose a structural estimation of the reallocation cost of workers across sectors. Using panel data where workers' movements can be observed over time, they estimate the structural parameters of their model on US data and find an average moving cost of about 13 times the average worker's annual wage. In their model, workers are homogenous, which may explain the large moving-cost they obtain. Dix-Carneiro (2014) develops a model where worker's heterogeneity is taken into account. Using panel data for Brazilian workers, he estimates an average moving cost of about 2 times the average annual worker's wage. Taking into account heterogeneity across workers appears to affect greatly the magnitude of the moving cost. Artuç et al. (2015) estimate sector mobility costs in a large number of countries by adapting the methodology in Artuç et al. (2010) to be implemented using repeated cross-sectional data on sectoral employment in each country. They found sector mobility costs that are on average 3 times annual wages. One important difference between all these papers and what we do is that we simultaneously allow for regional and sector mobility costs, whereas the previous papers have exclusively focus on only one of these two components. We find that simultaneously accounting for both matters. Moreover, we explore some potential channels that may explain labor mobility costs, including costs associated with information, retraining, and social network.

The rest of the paper is organized as follows. In section 2 we present the methodology to estimate sectoral and regional adjustment costs using cross-sectional data. Section 3 describes the I2D2 database and provides some descriptive statistics regarding wage dispersion across region, sectors and age groups. Section 4 presents the estimates of regional and sector mobility costs, as well as a description of their correlation with variables such as income per capita, wage inequality and the geographic and sectoral concentration of employment. Section 5 explores the extent to which the estimates of mobility costs are driven by information costs, retraining costs or costs associated with the social network of workers. Section 6 concludes.

2 Methodology

Consider worker of type l (a type being given by characteristics such as age, sex, education, etc.) working and living in industry-region k.[3] Her utility $U_{l,k}$ is given by:

$$U_{l,k} = w_{l,k} + \gamma_l, \tag{1}$$

where $\mathrm{w}_{l,k}$ is the log of the real wage received by the worker,[4]; γ_l represents worker characteristics

[3] We consider jointly the sector in which worker are employed and the place they live in. In the empirical analysis we distinguish between industry and region. Making this distinction right now would uselessly flood the text with subscript and indices.

[4] In the empirical implementation the real wage is proxy as the ratio of the nominal wage relative to the average wage in that region.

(orthogonal to wages) that are common across the different region/industries.

We assume that (i) workers are rational and maximize their intertemporal utility, and (ii) what we observe in the data is an equilibrium. Workers of type l will decide to move from region k to region k' until their intertemporal utility in region k ($\mathrm{V}_{l,k}$) is equal to the intertemporal utility in region k' ($\mathrm{V}_{l,k'}$) net of mobility costs ($\mathrm{C}_{k,k'}$). Workers maximized over different time horizons. We assume they maximize over (T_F-t_0), where T_F is the life expectancy in the country we consider, and t_0 is the age of the type of worker l. This implies that for all $\mathrm{V}_{l,k'}>\mathrm{V}_{l,k}$ we should observe in equilibrium:

$$\begin{aligned} V_{l,k} &= V_{l,k'} - C_{k,k'} \\ \sum_{t=t_0}^{T_l} \beta^t U_{l,k} &= \sum_{t=t_0}^{T_l} \beta^t U_{l,k'} - C_{k,k'}, \end{aligned} \tag{2}$$

where β is the intertemporal discount factor. Substituting (1) into (2) and solving for the difference in gross intertemporal utilities yields:

$$C_{k,k'} = V_{l,k'} - V_{l,k} = \sum_{t=t_0}^{T_l} \beta^t [(\widehat{w}_{l,k'} - w_{l,k}), \tag{3}$$

where $C_{k,k'}$ is the cost (in utility terms) of moving from industry-region k to industry-region k'. The term in squared brackets on the RHS of (3) is the difference between the expected log wage $\widehat{w}_{l,k'}$ in industry-region k' and the observed log wage in industry-region k ($w_{l,k}$). We will use this equilibrium condition (eq. 3) to estimate the moving costs. With β lower than one, we have: $\sum_{t=t_0}^{T_l} \beta^t = \frac{1-\beta^{T_l}}{1-\beta}$. Solving equation (2) for $(\widehat{w}_{l,k'} - w_{l,k})$ yields:

$$\Delta w_{l,k,k'} = C_{k,k'} \times \frac{1-\beta^{T_l}}{1-\beta}, \tag{4}$$

where $\Delta w_{l,k,k'} = (\widehat{w}_{l,k'} - w_{l,k})$.

Following Artuç et al. (2010), we assume that $C_{k,k'} = C$, and estimate the moving cost as the parameter in front of $\frac{1-\beta^{T_l}}{1-\beta}$, by adding an i.i.d. error term to equation (4). We capture this error term through a set of origin and destination dummies, as well as an i.i.d. error term $\epsilon_{l,k,k'}$. Note that β is not observed. We follow the literature, and use a discount factor equal to 0.95 and test for the robustness of results using estimates in the [0.9;0.99] range. Note that this discount factor corresponds to the usual annual discount factor. This is important because it implies that the mobility costs C we estimate can be interpreted as a share of annual wages. Indeed, recall that to capture real wages in the left-hand-side we are dividing by average wages in each region.

To control for any other unobserved heterogeneity at the k, k' region or sector, we add fixed effects to obtain our estimating equation:

$$\Delta w_{l,k,k'} \quad = \quad C \times \frac{1-\beta^{T_l}}{1-\beta} + \alpha_k + \alpha_{k'} + \epsilon_{l,k,k'} \tag{5}$$

Note that α_k and $\alpha_{k'}$ can be thought as capturing local amenities in each k and k' region or anything else that may explain average differences in wages in different regions. This is somehow analogous to the idiosyncratic shocks ξ_j that workers receive in industry j in Artuç et al. (2010), or to the unexplained part of the utility flow viewed as preference shocks or shocks to the cost of moving in Kennan and Walker (2011).

Retrieving the moving cost $C_{k,k'}$ from equation (5) could be done via simple OLS. However, recall that equation (2) is an equilibrium condition if and only if $V_{l,k'} > V_{l,k}$, which from (3) necessarily implies $w_{l,k'} > w_{l,k}$. The latter will therefore be imposed during the estimation.

Note that the methodology allows us to estimate several moving costs, depending on the dimension one includes under the k subscript. To estimate the cost of reallocation of workers across industries, we simply need to define k as a sector. The moving cost $C_{k,k'}$ would therefore represent the cost for workers to move from industry k to industry k'. If we are interested in the migration cost, i.e. the cost of moving across regions, then we define k as representing a region within a country. Finally, because we want to simultaneously estimate the sector and region mobility costs as well as their interaction we simply interact $\frac{1-\beta^{T_l}}{1-\beta}$ with dummies indicating that k and k' imply comparisons of wages across either sectors, regions or both sectors *and* regions. To differentiate the specifications we replace the subscript k by j, r, and jr, to refer to industry, region and industry-region:

$$\Delta w_{l,j,j'} = [C2_{j,j'}] \times \frac{1-\beta^{T_l}}{1-\beta} + (\alpha_{j'} - \alpha_j) + \epsilon_{l,j,j'} \tag{6a}$$

$$\Delta w_{l,r,r'} = [C2_{r,r'}] \times \frac{1-\beta^{T_l}}{1-\beta} + (\alpha_{r'} - \alpha_r) + \varepsilon_{l,r,r'} \tag{6b}$$

$$\Delta w_{l,jr,j'r'} = [C2_{j,j'} + C2_{r,r'} + C2_{jr,j'r'}] \times \frac{1-\beta^{T_l}}{1-\beta} + (\alpha_{r'} - \alpha_r) + (\alpha_{j'} - \alpha_j) + \xi_{l,jr,j'r'} \tag{6c}$$

In order to estimate equations 6a, 6b, and 6c we need an estimate of the left-hand-side $\Delta w_{l,k,k'}$. While $w_{l,k}$ is observed, $\widehat{w}_{l,k'}$ is not observed and has to be estimated. If econometricians face the challenge of do not observe relevant characteristics that determine expected wages of workers in other industry-region, workers also face the challenge to form expectations regarding their salaries if they move to another industry or region. [5] In our baseline specification we will assume that

[5] Kennan and Walker (2011) show evidence that interstate migration decisions are influenced by income prospects,

workers are homogeneous except for their age, gender, skills, and occupation.[6] We estimate mobility costs across sectors and regions using a Mincer regression. Age is key, because our identification assumption relies on age differences or time to retirement.[7] However, worker heterogeneity may matter beyond observable characteristics. Self-selection, based on other unobserved characteristics may be important determinants of wages across industries and regions, and may therefore biased our estimates of mobility costs based on wage differences across industries and regions. If the most productive workers–after controlling for their observable characteristics–are located in a given sector where they receive very high wages, we will over-estimate the mobility cost to that sector which would be partly capturing differences in worker's ability. We address this issue by applying a correction method suggested by Dahl (2002), which is described in section 4.1.

3 Data: The I2D2 Database

We use the International Income Distribution Database (I2D2) developed at the World Bank. The I2D2 is a global harmonized household survey database, covering 120 countries. Data are collected from more than 1000 surveys, and harmonized in order to be used for quantitative analysis. However, the data source vary across countries and we restrict our analysis to surveys for which some key information about workers is available. We keep surveys in which individual information about gender, age, education, occupation, industry affiliation, location of residence (ADMIN1 region and rural/urban area) is non-missing. We select individuals working as paid employees between the age of 15 and 65.

Occupations are classified into ten categories: Senior officials, professionals, technicians, clerks, service and market sales workers, skilled agricultural workers, craft workers, machine operators, elementary occupations workers, and military. We define two broad categories of occupation: a managerial-type occupation (senior officials, professionals, and technicians) and a non-managerial occupation comprised of the remaining occupations. Similarly, we define 17 age categories by grouping individuals in a three years of age interval. For instance, individuals between 15 and 17 (included) are given the age of 16; individuals between 18 and 20 (included) are given the age of 19. There are ten possible industry affiliation (agriculture, mining, manufacturing, public utilities, construction, commerce, transport and communications, financial and business services, public administration, and other services and unspecified). Because some sectors have a very small size in some surveys and (or) countries we group some industries together (agriculture and mining;

such as a response to geographic differences in mean wages.

[6]We do not necessarily need to assume workers' homogeneity. It is enough to assume that on average workers form expectations regarding their wages in other sector-regions by looking into the average wage of workers of the same age in other sector-regions.

[7]We consider two broad types of occupations. The first one includes senior officials, professionals and technicians. The second broad occupation includes clerks, service and market sales workers, skilled agricultural, craft workers, machine operators, elementary occupations, armed forces and others.

public utilities and construction; public administration and the the other services and unspecified).[8] We are then left with 227 surveys covering 44 countries, most of them developing countries, and spanning from 1981 to 2013. [9]

Our identification strategy relies on the age of workers. If older workers are less likely to move, i.e. they face higher mobility costs, then the observed wage differences across industries and/or regions for them should be larger than for younger workers. This implies that we should observe a positive correlation between the age of workers and the variance of wages within this age group. To investigate this, we estimate the following equation:

$$ln\Big(\sigma(wage_{ijrt})\Big) \quad = \quad \alpha ln(age_{ijrt}) + \gamma_j + \gamma_r + \gamma_t + \epsilon_{ijrt}, \tag{7}$$

where $ln(\sigma(wage_{ijrt}))$ and $ln(age_{ijrt})$ are respectively the log of the standard deviation of the wage distribution and the age of individuals of type i in industry j, region r at time t. γ_j, γ_r, γ_t are industry, region and time dummies, ϵ_{ijrt} is the error term. A positive correlation between wage dispersion and age would imply α to be positive. We run the regression for each country, and report the estimates of α along with a 95% confidence interval in figure 1.[10] With the exception of Albania, all the estimated coefficients are positive, meaning that the variance of wages is larger for older workers than for younger ones.[11]

Similarly, one can look at the dispersion wages across industries and regions for any given type of worker. For each survey, we computed the difference between the log standard deviation of wages across industries and the log standard deviation of wages across regions. A positive difference means a larger dispersion of wages is observed across industries than across regions. This is what we do in figure 2. Since we took a log difference, a value of 1 means that the standard deviation of wages across industries is twice as large as the variance of wages across regions. We find the difference positive (i.e. greater variance of wages across industries than across regions) 80% of the time. When positive, the median difference is about 0.57, and it is -0.2 when it is negative. On average, we find stronger wage dispersion across industries than across regions within countries, which may suggest that sector mobility costs are higher than regional mobility costs.

4 Results

First, we estimate equation (6c) using OLS for each survey in our dataset. The distribution of the estimates of each mobility cost is shown in figure 3 and the corresponding summary statistics in

[8]The existence of a mining industry for instance is conditional on having mineral resources. Another obvious explanation is misreporting by individuals when asked about their industry affiliation.

[9]See table 9 for the exhaustive list of the surveys.

[10]We only report statistically significant coefficients.

[11]Note that their magnitude is not subject to any particular interpretation.

table 1. We report both the full distribution of the point estimates, and the distribution of the significant estimates only. Because the dependent variable in equation (6c) is the log of the real wage, we also report in table 1 the exponential of the mobility costs, which allows us to interpret them in terms of the average real wage.

In panel (a) of figure 3 we plot the distribution of the industry mobility cost $\widehat{C2}_{j,j'}$. The median industry mobility cost is about 0.12, or 1.13 the average real wage (lower part of table 1). This median estimate is observed for countries such as Brazil or Chile, and 43% of the estimates are statistically different from zero. The dashed line in panel (a) reports the distribution of the estimates of the statistically significant estimates of the industry mobility costs. If we keep only the significant estimates, the distribution is shifted to the right, and the median industry mobility cost is around 0.27, or about 1.31 the average real wage, as shown in columns (4). Panel (b) displays the distribution of the estimates for the regional mobility costs. In terms of magnitude, they are lower than the industry mobility costs–about 0.76 the real average wage, and about 54% of the estimates are significantly different than zero. Finally, in panel (c) we look at the mobility costs when individuals change industry *and* move to another region. These mobility costs are more precisely estimated than the previous two; they are significant in 186 out of 227 estimations. The median mobility costs is around 1.38 the average real wage. This suggests that the cost of moving both sector and region is higher than the cost of moving only sector or only region, but smaller than the sum of these two costs.

4.1 Expected wages and selection bias

Expected wage is a key variable in our analysis. In our baseline specification, previously described, we assume that workers at the same age, skills, gender, and occupation are homogeneous (l=l') and use the expected average wage or workers l' in region k' as an estimation for $\widehat{w}_{l,k'}$. In our baseline estimations, we simply run an ordinary least square (OLS) Mincer equation to estimate the expected wage for each l type worker in sector-region k', i.e., $\widehat{w}_{l,k'}$.

$$\begin{aligned} w_{l,k} = \alpha \ + \ \beta_1 \ age_{l,k} \ + \ \beta_2 \ agesq_{l,k} \ + \ \ \beta_3 \ occup_{l,k} \ + \ \beta_4 \ skill_{l,k} \\ + \ \beta_5 \ gender_{l,k} \ + \ \gamma \ K_k \ + \epsilon_{l,k} \end{aligned} \tag{8}$$

where $w_{l,k}$ refers to real wage of worker l in region k, α is a constant, *agesq* is age square, *occup* is occupation, *skill* is occupation, *gender* is occupation, K_k is a set of fixed effects by industry-region, and ϵ is the error term.[12]

However, this procedure does not address potential self-selection issues on expected wages. Selection of workers into industry-region k based on unobservable characteristics is therefore an important concern. In addition to the heterogeneity we can observe in our data (e.g. age, gender,

[12]We estimate $\widehat{w}_{l,k'}$ based on the assumption that marginal returns to labor assets are homogeneous within countries, once we controlled for constant heterogeneity across sector-regions.

skills and occupation), there might be self-selection of more productive workers into industry-region k based on workers' qualities that are not observed in the data (e.g. motivation, creativity, economies of agglomeration, among others). In this case, the predicted wage of workers l based on parameters using observed wages of wokers l' in region k' ($w_{l',k'}$) may not be a good proxy for $\widehat{w}_{l,k'}$.

To correct for self-selection when estimating ($\widehat{w}_{l,k'}$) we adapt the methodology in Dahl (2002), following Bourguignon et al. (2007) and (Bertoli et al., 2013).[13] Note that in our cross-sectional dataset we do not have information on the share of workers that migrate across industry-regions to estimate the selection probability semi-parametrically, as in Dahl (2002) and (Bertoli et al., 2013). Instead, we adapt a Roy model of occupational choice where workers choose from many alternative of jobs across industries and regions taking into consideration the relative importance of the industry and region for employment.

Our correction for self-selection follows a two-stage procedure. First, we estimate the Dahl's correction function based on the probabilities for a worker l to move to a different industry-region k using a multinomial logit model, following 10. In the second stage, we use a first order polynomial in the first-best probability as Dahl's correction function, to estimate expected wages ($\widehat{w}_{l,k'}$) based on the specification of a Mincer regression (eq. 9):

$$\begin{aligned} w_{l,k} = \alpha \ + \ \beta_1 \ age_{l,k} \ + \ \beta_2 \ agesq_{l,k} \ + \ \ \beta_3 \ occup_{l,k} \ + \ \beta_4 \ skill_{l,k} \\ + \ \beta_5 \ gender_{l,k} \ + \ f_k(\widehat{k}) + \epsilon_{l,k} \end{aligned} \tag{9}$$

$$P(k = j|z) = exp(z_l \beta_j) / \Big[1 \ + \ \sum_{h=1}^{J} exp(z \beta_h) \Big], \ \ j = 0, ..., J \tag{10}$$

where $Z_{l,k'}$ is the location quotient, defined as the ratio between the share of workers l at age z in industry-region k and the share of workers l at age z in country y. We use as an instrument the location quotient, which provides a measure of relative importance of industry-region k in total employment of a given age. We then use a function of the predicted probability of workers l at age z to be working at industry-region k' to estimate $\widehat{w}_{l,k'}$.

Table 2 shows the mobility costs estimates once we correct for self-selection of workers in industry-region k', and figure 4 shows the distribution of these mobility costs. The dotted line shows the distribution for all estimates and the solid line the distribution for the statistically significant estimates. The latter tend to be distributed to the right of the distribution of all estimates. In table 9 in the appendix we report the individual estimates for each country and year.

The correction seem to slightly increase the mobility costs. Also, a larger share of the sector and sector-region mobility costs are now statistically different from zero. Yet, the differences between the estimates (with and without correction) are not statistically significant for most of the sample

[13]The selection bias may happen because workers can choose among several industry-region to work based on unobservable characteristics that may be associated with their mobility costs.

(see table 3). Less than 10% percent of the estimates are statistically different with 95% confidence for sector and sector-region (Figure 5).

4.2 Mobility costs and level of development

In order to provide some description of the mobility costs corrected for self-selection, we look at the correlation between the mobility costs we estimated and country-level characteristics:

$$C_{k,k',c,t} \quad = \quad \beta_0 + \beta_1 Country_{c,t} + \gamma_{c,t} + \varepsilon_{c,t}, \tag{11}$$

where $C_{k,k',c,t}$ is the estimated mobility costs of moving between industry/region k and k' and ε is the error term. $\gamma_{c,t}$ is either a set of country (i.e. $\gamma_{c,t} = \gamma_c$) or year dummies (i.e. $\gamma_{c,t} = \gamma_t$). As country characteristics we look at the occupation specialization of industries and regions within country, internal distances and infrastructure, GDP per capita, and wage inequality.

We first look at whether larger countries also have higher regional mobility costs. The intuition is simple and merely assumes that greater distances between regions increases the cost of moving. However, larger countries may also have developed denser road and railway networks, which would ease regional mobility. To capture these two effects, we use data on internal distance from CEPII.[14] and data on the length (in km) of the railway network from the World Development Indicator. Results are presented in columns (2)-(3) and (7)-(8). Results show that internal distance is not correlated with the regional mobility costs. The size of the railway network (which we interpret here as a proxy for transport infrastructure) is negatively, but not significantly correlated with lower mobility costs. [*work in progress*]

The last mobility costs we estimated, $\widehat{C2}_{jr,j'r'}$, indicates the cost of moving across both regions *and* industries. We regress it on the internal distance and on the size of the railroad network. Results are reported in columns (5) and (10). Internal distance is negatively correlated with the costs of moving across sectors and regions simultaneously. A denser railroad network is also negatively correlated with the cost of moving across industries and regions, but the coefficient is not statistically different from zero. [*work in progress*]

We also correlate the mobility costs with GDP per capita and income inequality. Results (based on estimations with correction) are presented in tables 5 to 6. In the upper part of table 5, we set $\gamma_{c,t} = \gamma_t$ and look at the correlation between mobility costs and GDP per capita across countries. We find that richer countries exhibit smaller mobility costs, both across industries, and industry and regions. The correlation with region mobility costs is not significant. In the lower panel of the table, we $\gamma_{c,t} = \gamma_c$ and look at how changes in GDP per capita correlate with mobility costs. The correlations are negative and significant at the 1% level. As a robustness check, we re-estimate

[14] see Mayer and Zignago (2011)

equation (11) using only the mobility costs which are statistically different from zero at the 10% level (table 5). Compare to the previous table, the correlations are more precisely estimated but remain very similar.

In table 6 we look at the correlation between income inequalities using the Gini coefficient of wages based on the surveys used for the estimates. Results from the upper part of table 6 show that more unequal countries have higher mobility costs. Most of the variance in the index is across countries (the standard deviation across countries in the index is .20, and only .05 within country). Results suggest that inequality is positively associated with mobility costs across industries and industry-regions, but it is negatively correlated with mobility costs across regions, when controlling for year fixed effects. This results suggest that countries with higher inequality face larger mobility costs across sectors, which can be associated with more inequality in human capitals.

4.3 Comparison with Artuç et al. (2015)

As an external test for our estimates, we can compare our estimates of sector mobility costs with the ones obtained by Artuç et al. (2015). To make our results comparable, we take for each country the average sector mobility cost estimated with correction from equation (6c). Results are shown in figure 7. The correlation between our estimates and Artuç et al. (2015)'s is positive, but there is only few observations for the sake of comparison. Yet, several reasons can easily explain the differences between our results and theirs. First, we use a very different dataset. Artuç et al. (2015) use data form UNIDO which only includes aggregate data on the manufacturing sector.[15]. In our case, data are at the worker-level and the manufacturing sector is one of ten sectors, many of which are non-tradable service sectors. We estimate mobility costs across all those sectors, not only within the manufacturing industries. Second, our methodology is very different from theirs. Artuç et al. (2015) use a structural model with homogeneous workers, while we use a reduced form relying on the age of workers to identify the mobility costs. Third, we control for the selection of workers into sectors and industries.

5 Determinants of mobility costs

For policymakers it is not only important to know whether sector or regional mobility costs are larger, but it is key to understand what is driving these mobility costs. We take a first shot at these question by putting forward three potential explanations: i) information costs; ii) retraining costs and iii) moving costs associated with social networks. We explore these three potential explanations in turn.

[15] The authors use data on national account for each country to construct a non-manufacturing sector.

5.1 Information costs and internet access

A potential driver of mobility costs are information costs associated with the costs of learning about work opportunities in other sectors and regions. We explore the importance of these channel by looking at how sector and regional mobility costs differ for workers with and without internet access. Figure 6 provides the average share of households with access to internet in each country. We use a similar correction procedure, following Dahl (2002), to take into account self-selection of workers into sectors and regions. To capture the "access to internet" effect on mobility costs, we construct a variable that measures the relative concentration of access Internet at the industry-region across different age groups (eq. 5.1).[16]

$$int_k = \Big[\frac{Share\ of\ workers\ at\ age\ (l)\ in\ industry-region\ (k)\ with\ access\ to\ internet}{Share\ of\ workers\ at\ age\ (l)\ in\ country\ (y)\ with\ access\ to\ internet}\Big],$$

We then re-estimate eq.(6c) adding the variable int_k in level and its interaction with each mobility costs (across sectors, regions, and both). More specifically, we estimate eq.(5.1) :

$$\begin{aligned}\Delta w_{l,jr,j'r'} &= [C2_{j,j'} + C2_{r,r'} + C2_{jr,j'r'}] \times \frac{1-\beta^{T_l}}{1-\beta} + int_k \\ &+ [C2_{j,j'} \times int_k + C2_{r,r'} \times int_k + C2_{jr,j'r'} \times int_k] \times \frac{1-\beta^{T_l}}{1-\beta} \\ &+ (\alpha_{r'} - \alpha_r) + (\alpha_{j'} - \alpha_j) + \xi_{l,jr,j'r'}\end{aligned}$$

Our results suggest that the mobility costs across sectors are smaller for workers with relatively more access to Internet, but they seem to be not statistically different for mobility costs across regions. Table 7 presents the median of estimations of mobility costs based on eq.(5.1). Also, having more access to internet is associated with smaller differences on wages ($int_k < 0$). We first present the coefficients for each cost and their respective interaction with int_k . Table 11 provides the country and year of surveys included in the sample and estimations at the country-year level.

Because int_k is a continuous variable, we compare the differences in the coefficients (with and without interaction with int_k) assuming different values for int_k. First we compare having now access to internet in the industry-region $int_k = 0$ versus the national average of concentration across industry-region (int˙k1.1). We call this comparison "average versus non-access to Internet." We then compare a if relative access to Internet is one standard deviation below to the national average in a given industry-region to one standard deviation above the national average. Table 8 shows the

[16] We use the location quotient at the industry-region level across age groups instead of a dummy variable identifying the access of internet at household level because we believe this is a better proxy to capture information flow provided by access to Internet. The larger the proportional number of workers in a given industry-region with access to internet at home, the more likely the workers in this industry-region will benefit from access to more information. We assume that this is valid if for workers that do not have access to internet at home.

results for these comparisons. Our results suggest that access to internet reduces mobility costs across sectors and sector-regions. These results may suggest that other factors (e.g. infra-structure, differences on amenities, or social network) might be more important as a driver of mobility costs across regions. Lack of access to information may play an important role on determining mobility costs, particularly across sectors. In addition to facilitate access to information on jobs' opportunities in other sectors (and regions) internet access can also reduce the costs of acquiring skills to perform in other sectors (e.g. online courses platform).

5.2 Retraining costs and the skill gap

Another potential driver of mobility costs are retraining costs. It is likely that the costs of moving sector of activity training are relatively higher for high skilled workers.

(Work in progress.)

5.3 Moving costs and social networks

A third potential driver of mobility costs are moving costs associated with social network. It is likely that the regional mobility costs are higher for a single person household compared to a multi-person household. We explore the importance of these channel by looking at how sector and regional mobility costs differ for workers in a single person household compared to workers in a multi-person household. We also test if the presence of children at school age (6-17) and below 5 years old affect regional mobility costs.

(Work in progress.)

6 Concluding remarks

This paper estimates mobility costs of workers across sectors and regions in a very large sample of developing countries. Our results suggest that on average sector mobility costs are larger than regional mobility costs. The median sector mobility cost is about 1.13 the average real wage and is larger than the regional mobility costs (0.76 of the real average wage). The cost of moving both sector and region (1.38 the average real wage) is larger than the costs of moving only sector or only region, but smaller than the sum of these two costs. Our results also suggest that increasing access to internet can reduce mobility costs across sectors and sector-regions. Thus, reduction of asymmetry of information might be an important policy to be considered by governments aiming to reduce mobility costs across sectors.

[To Be Completed]

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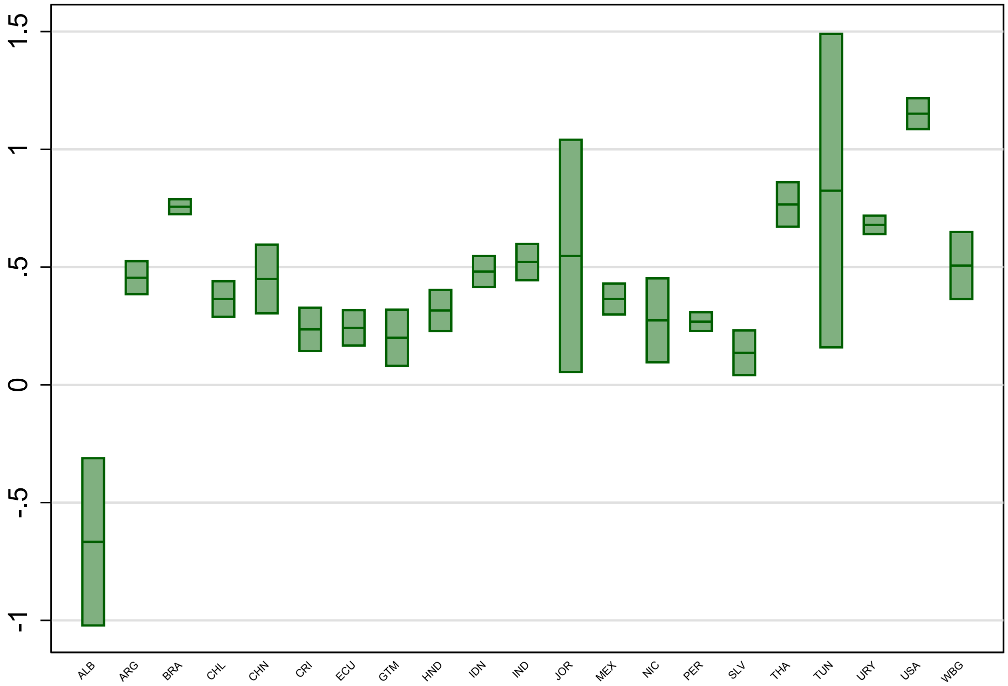
Figure 1: Correlation between worker age and wage dispersion



Only coefficients significant at the 5% confidence level are reported

Figure 2: Dispersion of wages across industries - Dispersion of wages across regions

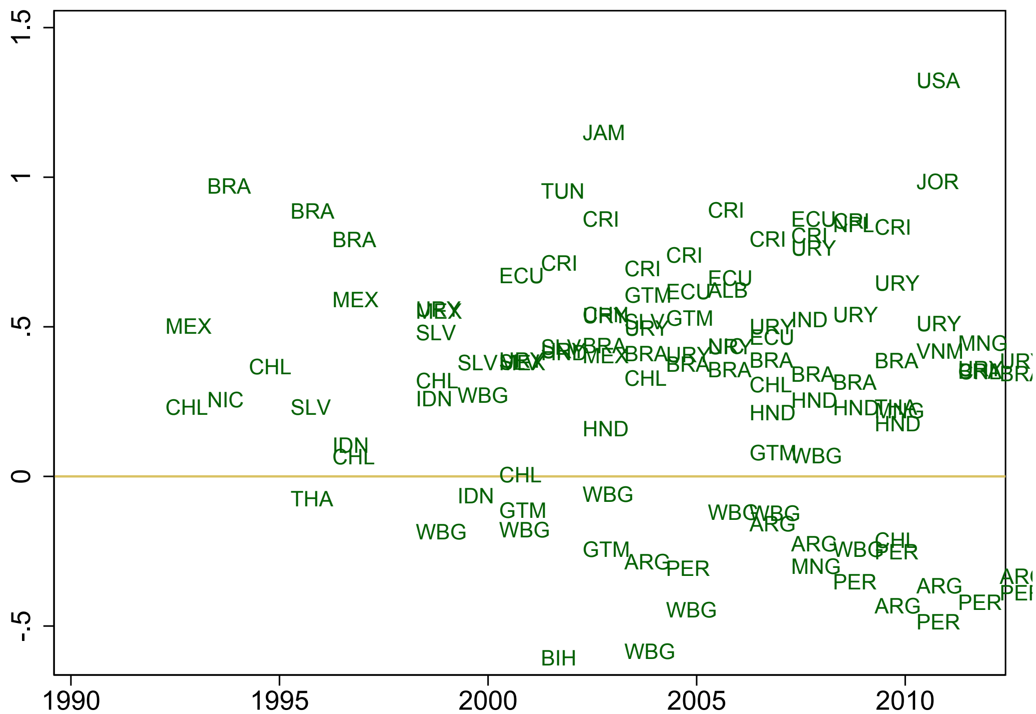
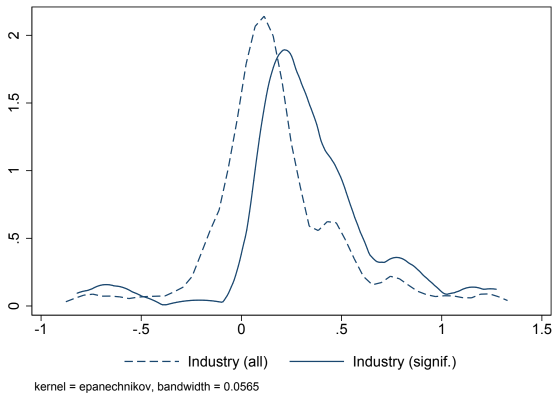
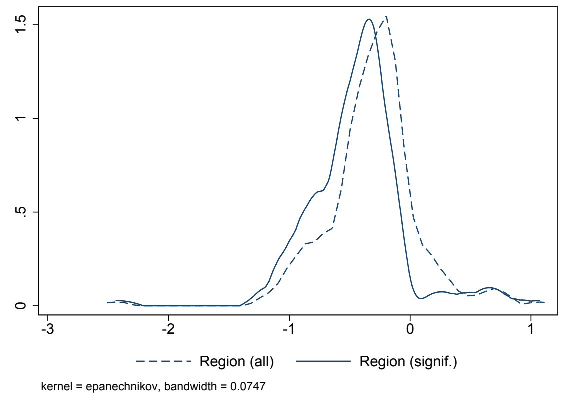


Figure 3: Distribution of the estimated mobility costs

(a) Industry cost $\widehat{C2}_{j,j'}$



(b) Regional cost $\widehat{C2}_{r,r'}$



(c) Industry×Regional cost $\widehat{C2}_{jr,j'r'}$

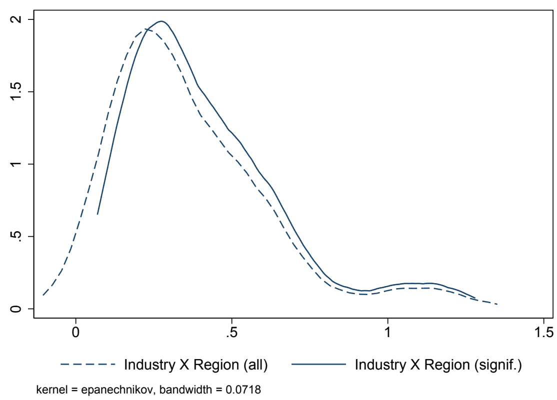
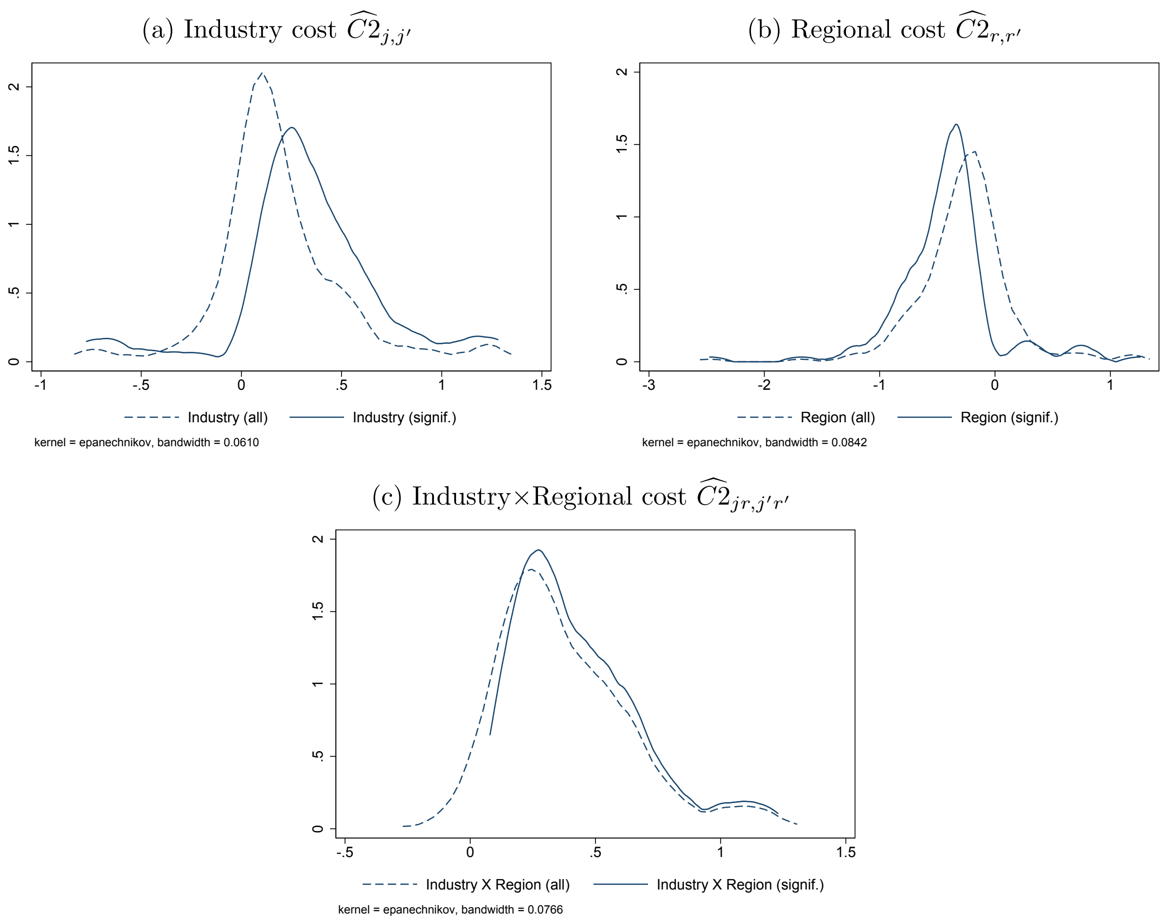


Figure 4: Distribution of the estimated mobility costs with correction



(a) Industry cost $\widehat{C2}_{j,j'}$

(b) Regional cost $\widehat{C2}_{r,r'}$

(c) Industry×Regional cost $\widehat{C2}_{jr,j'r'}$

Figure 5: Distribution of the p-values for the test of significance of the mobility costs

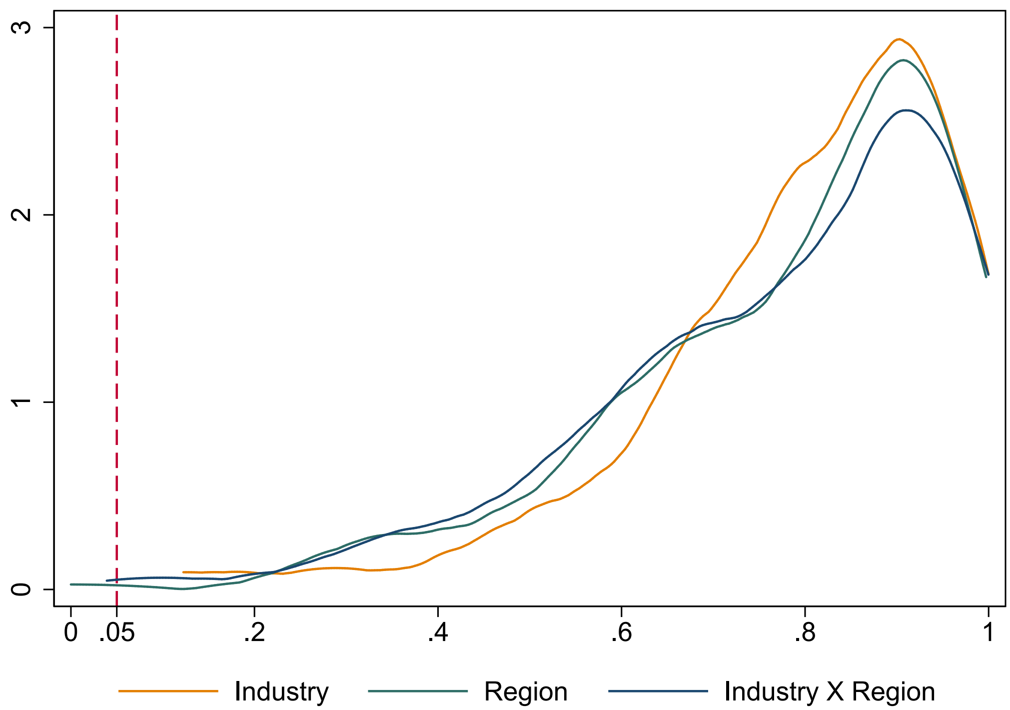


Figure 6: Share of households with internet access

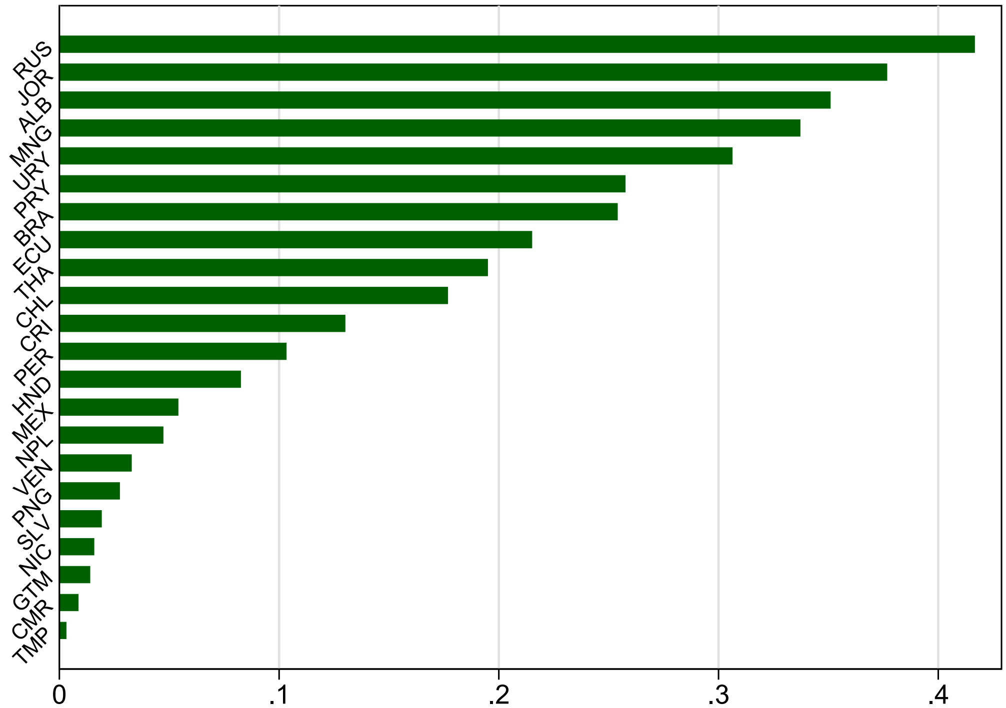


Figure 7: Comparison with Artuç et al. (2015)

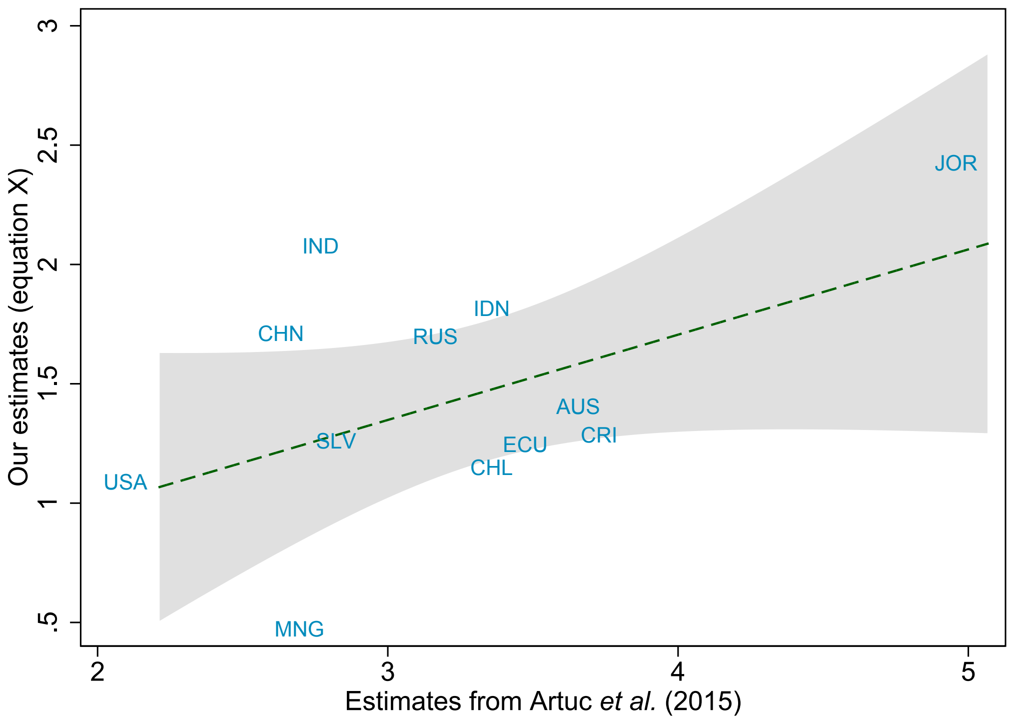


Table 1: Mobility costs estimates (OLS): summary statistics

	All estimates			Significant estimates only		
	median	[5%;95%]	#Obs.	median	[5%;95%]	#Obs.
	(1)	(2)	(3)	(4)	(5)	(6)
$\widehat{C2}_{j,j'}$	0.123	[-0.246;0.829]	227	0.269	[-0.560;1.247]	97
$\widehat{C2}_{r,r'}$	-0.271	[-0.941;0.327]	227	-0.428	[-0.979;0.556]	123
$\widehat{C2}_{jr,j'r'}$	0.322	[0.069;1.360]	227	0.375	[0.137;1.542]	186
In terms of average real wage:						
	(7)	(8)	(9)	(10)	(11)	(12)
$e^{\widehat{C2}_{j,j'}}$	1.130	[0.782;2.290]	227	1.308	[0.571;3.480]	97
$e^{\widehat{C2}_{r,r'}}$	0.763	[0.390;1.387]	227	0.652	[0.376;1.744]	123
$e^{\widehat{C2}_{jr,j'r'}}$	1.381	[1.072;3.897]	227	1.456	[1.147;4.673]	186

Table 2: Mobility costs estimates correcting for self-selection: summary statistics

	All estimates			Significant estimates only		
	median	[5%;95%]	#Obs.	median	[5%;95%]	#Obs.
	(1)	(2)	(3)	(4)	(5)	(6)
$\widehat{C2}_{j,j'}$	0.137	[-0.234;1.006]	227	0.316	[-0.538;1.412]	100
$\widehat{C2}_{r,r'}$	-0.234	[-0.841;0.538]	227	-0.379	[-1.124;0.838]	116
$\widehat{C2}_{jr,j'r'}$	0.343	[0.044;1.596]	227	0.403	[0.143;1.784]	191
In terms of average real wage:						
	(7)	(8)	(9)	(10)	(11)	(12)
$e^{\widehat{C2}_{j,j'}}$	1.147	[0.791;2.736]	227	1.371	[0.584;4.140]	100
$e^{\widehat{C2}_{r,r'}}$	0.791	[0.431;1.712]	227	0.685	[0.325;2.312]	116
$e^{\widehat{C2}_{jr,j'r'}}$	1.410	[1.045;4.933]	227	1.496	[1.154;5.954]	191

Table 3: Summary of p-values from Z-test comparing estimates of mobility cost, OLS vs Dahl's correction

variable	N	mean	sd	min	p10	p25	p50
p-value ind	227	0.80	0.17	0.12	0.59	0.71	0.84
p-value region	227	0.78	0.18	0.00	0.54	0.67	0.84
p-value both	227	0.77	0.19	0.04	0.51	0.66	0.83

Table 4: Specialization, distance, rail lines, and mobility costs

	(1) Region cost	(2) Region cost	(3) Region cost
Ln Internal Distance	-0.030		-0.106
	(-0.889)		(-0.778)
Ln Rail Lines		-0.023	0.021
		(-0.900)	(0.383)
Observations	216	77	77
R^2	0.004	0.010	0.040

	(1) Region cost	(2) Region cost	(3) Region cost
Ln Internal Distance	-0.006		-0.209
	(-0.081)		(-0.609)
Ln Rail Lines		-0.051	0.017
		(-1.563)	(0.176)
Observations	114	42	42
R^2	0.000	0.030	0.092

t statistics in parentheses

^{c} p¡0.1, ^{b} p¡0.05, ^{a} p¡0.01

Table 5: GDP per capita and mobility costs

Using all the estimates of the mobility costs:				*corrected for self-selection:*		
	$\widehat{C2}_{j,j'}$	$\widehat{C2}_{r,r'}$.	$\widehat{C2}_{jr,j'r'}$	$\widehat{C2}_{j,j'}$	$\widehat{C2}_{r,r'}$	$\widehat{C2}_{jr,j'r'}$
	(1)	(2)	(3)	(4)	(5)	(6)
Ln GDPcap	-0.120^a	-0.049	-0.249^a	-0.054	-0.069	-0.147^b
	(-4.501)	(-1.182)	(-8.314)	(-1.018)	(-0.874)	(-2.610)
FE	year	year	year	cty	cty	cty
Observations	206	206	206	206	206	206

Using only significant estimates of the mobility costs:						
	(7)	(8)	(9)	(10)	(11)	(12)
Ln GDPcap	-0.136^b	-0.054	-0.263^a	-0.061	0.088	-0.151^b
	(-2.668)	(-0.540)	(-8.874)	(-0.367)	(0.839)	(-2.477)
Observations	91	104	178	91	104	178

Robust standard errors, t-statistics in parentheses. Significance levels: ^{c} p<0.1, ^{b} p<0.05, ^{a} p<0.01

Table 6: Inequality (Gini index) and mobility costs

Using all the estimates of the mobility costs:				*corrected for self-selection:*		
	$\widehat{C2}_{j,j'}$	$\widehat{C2}_{r,r'}$.	$\widehat{C2}_{jr,j'r'}$	$\widehat{C2}_{j,j'}$	$\widehat{C2}_{r,r'}$	$\widehat{C2}_{jr,j'r'}$
	(1)	(2)	(3)	(4)	(5)	(6)
Ln Gini	0.866^a	-0.700^b	0.896^a	0.382	-0.461	0.675
	(6.868)	(-2.331)	(4.630)	(1.585)	(-0.961)	(1.668)
FE	year	year	year	cty	cty	cty
Observations	227	227	227	227	227	227

Using only significant estimates of the mobility costs:						
	(7)	(8)	(9)	(10)	(11)	(12)
Ln Gini	1.660^a	-1.374^c	0.890^a	0.633	-1.900	0.793^c
	(6.269)	(-1.927)	(3.307)	(1.672)	(-1.597)	(1.814)
FE	year	year	year	cty	cty	cty
Observations	100	116	191	100	116	191

Robust standard errors, t-statistics in parentheses. Significance levels: ^{c} p<0.1, ^{b} p<0.05, ^{a} p<0.01

Table 7: Mobility costs estimates correcting for self-selection: summary statistics (Internet)

	All estimates			Significant estimates only		
	median	[5%;95%]	#Obs.	median	[5%;95%]	#Obs.
	(1)	(2)	(3)	(4)	(5)	(6)
$\widehat{C2}_{j,j'}$	0.137	[-0.028;1.410]	64	0.260	[0.114;1.935]	30
$\widehat{C2}_{r,r'}$	-0.262	[-0.869;0.793]	64	-0.351	[-0.929;-0.184]	36
$\widehat{C2}_{jr,j'r'}$	0.293	[0.169;2.098]	64	0.295	[0.169;2.271]	59
$\widehat{int_C 2}_{j,j'}$	0.102	[-0.088;1.401]	64	0.213	[0.097 ;2.252]	30
$\widehat{int_C 2}_{r,r'}$	-0.266	[-0.733;0.712]	64	-0.321	[-0.733;-0.180]	41
$\widehat{int_C 2}_{jr,j'r'}$	0.248	[0.102;2.109]	64	1.297	[1.121 ; 6.92]	30
In terms of average real wage:						
	(7)	(8)	(9)	(10)	(11)	(12)
$e^{\widehat{C2}_{j,j'}}$	1.147	[0.972;4.095]	64	1.297	[1.121;6.923]	30
$e^{\widehat{C2}_{r,r'}}$	0.769	[0.420;2.210]	64	0.769	[0.420; 2.210]	36
$e^{\widehat{C2}_{jr,j'r'}}$	1.340	[1.185;8.151]	64	1.343	[1.185;9.687]	59
$\widehat{int_C 2}_{j,j'}$	1.107	[0.916;4.061]	64	1.107	[0.916;4.061]	30
$\widehat{int_C 2}_{r,r'}$	0.766	[0.481;2.038]	64	0.726	[0.481;0.835]	41
$\widehat{int_C 2}_{jr,j'r'}$	1.281	[1.108;8.242]	64	1.281	[1.108; 8.242]	30

Table 8: Differences in mobility costs estimates: with access to Internet

	All estimates			Significant estimates only		
	median	[5%;95%]	#Obs.	median	[5%;95%]	#Obs.
	(1)	(2)	(3)	(4)	(5)	(6)
Average versus no-access to Internet						
$\widehat{int_C 2}_{j,j'}$	-0.032	[-0.166;0.031]	64	-0.084	[-0.188;-0.008]	23
$\widehat{int_C 2}_{r,r'}$	0.002	[-0.236;0.177]	64	0.058	[0.327 ; -0.496]	16
$\widehat{int_C 2}_{jr,j'r'}$	-0.010	[-0.094;0.111]	64	-0.059	[-0.149;0.086]	26
High- versus low-access to Internet						
	(7)	(8)	(9)	(10)	(11)	(12)
$\widehat{int_C 2}_{j,j'}$	-0.041	[-0.189;0.032]	64	-0.078	[-0.174;-0.017]	23
$\widehat{int_C 2}_{r,r'}$	0.003	[-0.108;0.337]	64	0.106	[-4.573;0.385]	16
$\widehat{int_C 2}_{jr,j'r'}$	-0.015	[-0.077;0.165]	64	-0.035	[-0.304;0.130]	26

Appendix

Table 9: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
ALB	2005	0.009	-0.368	0.031
ARG	2003	-0.061	-0.059	0.131^{c}
ARG	2006	-0.117	-0.295^{a}	0.014
ARG	2007	-0.009	-0.372^{a}	-0.047
ARG	2009	0.004	-0.165^{b}	0.081
ARG	2010	0.071	-0.236^{a}	0.096
ARG	2012	0.008	-0.223^{a}	0.043
AUS	2002	0.153	-0.127	0.277^{a}
AUS	2003	0.263^{a}	-0.050	0.405^{a}
AUS	2004	0.277^{a}	0.246^{c}	0.403^{a}
AUS	2005	0.445^{a}	0.087	0.461^{a}
AUS	2006	0.551^{a}	0.374^{b}	0.559^{a}
AUS	2007	0.291^{a}	0.068	0.370^{a}
AUS	2008	0.158^{c}	-0.077	0.212^{b}
AUS	2009	0.120	-0.080	0.136^{c}
BIH	2001	-0.129	0.256	0.175
BRA	1981	-0.113	-0.841^{a}	0.068
BRA	1982	0.044	-1.124^{a}	0.029
BRA	1983	0.015	-0.478^{a}	0.220^{b}
BRA	1984	0.011	-0.916^{a}	0.025
BRA	1985	0.001	-1.138^{a}	0.084
BRA	1986	-0.104	-0.477^{a}	-0.017
BRA	1987	0.025	-0.670^{a}	0.083
BRA	1988	-0.125	-0.970^{a}	0.122
BRA	1989	0.128	-0.369^{b}	0.314^{a}
BRA	1990	0.055	-0.749^{a}	0.116
BRA	1993	0.035	-0.955^{a}	0.254^{a}
BRA	1995	0.114	-0.803^{a}	0.283^{a}
BRA	1996	0.039	-0.800^{a}	0.179^{a}
BRA	2002	0.096	-0.566^{a}	0.216^{a}
BRA	2003	0.084	-0.614^{a}	0.227^{a}
BRA	2004	0.095	-0.434^{a}	0.243^{a}
BRA	2005	0.165^{b}	-0.421^{a}	0.225^{a}
BRA	2006	0.128^{b}	-0.491^{a}	0.239^{a}
BRA	2007	0.078	-0.435^{a}	0.248^{a}
BRA	2008	0.095	-0.372^{a}	0.180^{a}
BRA	2009	0.097^{c}	-0.479^{a}	0.215^{a}
BRA	2011	0.047	-0.400^{a}	0.159^{a}
BRA	2012	0.044	-0.350^{a}	0.112^{b}
CHL	1992	0.117	-0.246	0.230^{a}
CHL	1994	0.086	-0.169	0.195^{a}
CHL	1996	0.079	-0.411^{b}	0.228^{a}
CHL	1998	0.134^{a}	-0.115	0.143^{a}
CHL	2000	0.167^{b}	-0.023	0.240^{a}
CHL	2003	0.114^{b}	-0.074	0.209^{a}
CHL	2006	0.019	-0.100^{c}	0.098^{c}
CHL	2009	0.024	-0.097	0.152^{a}

Table 9: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
CHL	2011	-0.016	-0.198^a	0.044
CHN	2002	0.537^a	-0.070	0.615^a
CRI	2002	0.157	-0.232^c	0.476^a
CRI	2004	0.128	-0.117	0.354^a
CRI	2005	0.133	-0.242^b	0.367^a
CRI	2006	0.218^a	-0.154^c	0.248^a
CRI	2007	0.193^b	-0.090	0.257^a
CRI	2008	0.093	-0.343^a	0.160^b
CRI	2009	0.336^a	-0.167	0.306^a
DOM	2011	0.559^a	0.060	0.606^a
DOM	2012	0.174	-0.117	0.265^b
ECU	2000	0.242	-0.586^b	0.494^a
ECU	2004	0.212^b	-0.472	0.343^a
ECU	2005	0.152	-0.410^a	0.326^a
ECU	2006	0.214^c	-0.356^b	0.323^a
ECU	2007	0.233^a	-0.576^a	0.357^a
ETH	2005	12.809^a	8.915^c	12.414^a
GTM	2000	0.181	-0.911^a	0.418^c
GTM	2002	-0.170	-0.076	0.802^a
GTM	2003	0.417	-0.639	0.546
GTM	2004	-0.168	-0.670^b	-0.063
GTM	2006	0.063	-1.196^a	0.146
HND	1992	0.339^c	-0.037	0.630^a
HND	1993	0.381	-0.232	0.621^a
HND	1994	0.092	-0.150	0.670^a
HND	1995	0.133	-0.039	0.421^a
HND	1996	0.412^b	0.156	0.602^a
HND	1997	0.547	-1.676^c	1.209^b
HND	1998	0.239	-0.240	0.664^a
HND	2001	0.345^c	-0.073	0.767^a
HND	2002	0.056	-0.566^b	0.435^a
HND	2003	-0.096	-0.829^b	0.517^a
HND	2004	-0.009	-0.713^b	0.395^a
HND	2005	-0.186	-0.830^a	0.349^a
HND	2006	0.064	-0.430^c	0.310^a
HND	2007	-0.039	-0.621^b	0.201^a
HND	2008	-0.007	-0.809^a	0.337^a
HND	2009	-0.071	-0.658^c	0.296^a
HND	2010	0.100	0.057	0.526^a
HND	2011	0.149	-0.210	0.591^a
IDN	1996	0.827^a	-0.127	0.937^a
IDN	1998	0.296^a	-0.319	0.546^a
IDN	1999	0.026	-0.161	0.231^a
IND	2007	0.731^a	-0.767^a	0.982^a
JAM	1990	0.506^b	-0.178	0.559^a
JAM	2002	0.259^c	-0.269	0.105
JOR	2010	0.886^b	-0.135	1.229^a
KHM	2003	0.769^a	-0.011	1.120^a
KHM	2006	1.006^a	0.739^b	1.411^a

Table 9: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
KHM	2008	1.210^{a}	0.771^{c}	1.581^{a}
KHM	2012	1.543^{a}	-2.474^{a}	2.861^{a}
LBR	2010	2.087^{a}	-0.112	1.784^{a}
LKA	1993	1.895^{a}	1.258^{a}	1.992^{a}
LKA	1996	0.245	-0.125	0.550^{a}
LKA	1998	0.186	-0.164	0.422^{a}
LKA	1999	0.444^{a}	0.313^{b}	0.753^{a}
LKA	2000	0.551^{a}	-0.161	0.758^{a}
LKA	2001	0.429^{b}	-0.160	0.672^{a}
LKA	2002	0.391^{b}	0.078	0.638^{a}
LKA	2003	0.562^{a}	-0.057	0.753^{a}
LKA	2004	0.489^{a}	-0.046	0.628^{a}
LKA	2008	0.335^{a}	-0.048	0.550^{a}
MEX	1989	0.335^{a}	0.160^{c}	0.427^{a}
MEX	1992	0.532^{a}	-0.259	0.764^{a}
MEX	1994	0.227^{a}	-0.349^{b}	0.252^{a}
MEX	1996	0.293^{a}	-0.269	0.338^{a}
MEX	1998	0.260^{a}	-0.350^{c}	0.273^{a}
MEX	2000	0.221^{b}	-0.561^{a}	0.255^{a}
MEX	2002	-0.020	-0.448^{a}	0.092
MKD	2003	-0.029	-0.273^{b}	0.068
MKD	2004	0.137^{c}	0.090	0.228^{a}
MNG	2002	0.303	0.635^{b}	0.468^{b}
MNG	2006	-0.751^{c}	0.157	0.288
MNG	2007	-0.058	0.108	0.237^{b}
MNG	2011	-0.127	-0.044	0.257^{a}
MWI	2013	2.395^{b}	1.174	2.677^{a}
NIC	1993	0.243	-0.544	0.677^{a}
NIC	1998	0.351^{b}	-0.412	0.686^{a}
NIC	2001	0.493^{a}	-0.678^{b}	0.503^{a}
NIC	2005	0.175^{c}	-0.705^{a}	0.262^{b}
NIC	2009	0.435^{a}	0.007	0.536^{a}
NPL	2008	0.666^{a}	-1.326^{a}	0.649^{a}
NPL	2010	0.183	-0.569^{b}	0.354
PAN	1989	0.285^{b}	-0.025	0.453^{a}
PAN	1995	0.400^{a}	-0.116	0.684^{a}
PAN	1997	0.182^{a}	-0.217	0.430^{a}
PAN	1998	0.355^{a}	-0.128	0.691^{a}
PAN	1999	0.053	-0.455^{a}	0.343^{a}
PAN	2000	0.073	-0.352^{a}	0.338^{a}
PAN	2001	0.180^{c}	-0.172	0.340^{a}
PAN	2002	0.530^{a}	-0.216	0.593^{a}
PAN	2003	0.185	-0.375^{c}	0.496^{a}
PAN	2004	0.042	-0.242	0.490^{a}
PAN	2005	0.102	-0.370^{a}	0.311^{a}
PAN	2006	0.095	-0.404	0.355^{a}
PAN	2007	0.259^{b}	-0.225	0.526^{a}
PAN	2008	0.282^{c}	-0.472^{b}	0.467^{a}
PAN	2009	0.056	-0.309^{b}	0.222^{a}

Table 9: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
PAN	2010	0.050	-0.579^a	0.259^a
PAN	2011	0.132^c	-0.027	0.273^a
PAN	2012	0.154^c	-0.321^c	0.243^a
PER	1997	0.258	-0.514^c	0.571^a
PER	1998	0.128	-0.187	0.749^a
PER	1999	0.145	-0.532	0.578^a
PER	2000	-0.147	-0.490^c	0.591^b
PER	2001	0.214	-0.361	0.558^a
PER	2002	0.108	-0.074	0.563^a
PER	2004	0.123	-0.290	0.536^a
PER	2005	0.107	-0.375^b	0.371^a
PER	2006	0.194^b	-0.090	0.370^a
PER	2007	0.201^c	-0.115	0.427^a
PER	2008	0.160	-0.163	0.542^a
PER	2009	0.110	-0.294^b	0.377^a
PER	2010	0.054	-0.199^c	0.392^a
PER	2011	0.071	-0.234^a	0.210^a
PER	2012	0.126	-0.277^a	0.309^a
PNG	2009	1.251^a	2.105^a	1.596^a
PRY	2010	0.496^a	-0.046	0.399^a
PRY	2012	0.170	-0.490	0.527^a
RUS	2005	0.277	0.191	0.862^c
RUS	2006	0.529^c	0.497	0.559^b
RUS	2009	0.034	0.035	0.199
SLB	2005	1.574^c	1.113	1.854^b
SLV	1995	0.083	-0.412^b	0.305^a
SLV	1998	0.215^c	-0.312	0.421^a
SLV	1999	0.190	-0.678^a	0.305^a
SLV	2000	-0.035	-0.887^a	0.133
SLV	2001	0.208^b	-0.730^a	0.245^a
SLV	2003	0.269^b	-0.467^a	0.304^a
THA	1981	0.642^b	-0.464	1.399^a
THA	1983	0.329	-0.092	1.120^a
THA	1984	0.765^a	0.106	1.405^a
THA	1986	1.177^b	-0.357	2.208^a
THA	1987	0.607^c	-0.202	1.070^a
THA	1988	1.281^a	-0.190	1.963^a
THA	1989	1.159^a	-0.591	1.655^a
THA	1991	0.636^a	0.238	0.904^a
THA	1995	0.517^a	-0.002	0.751^a
THA	2006	0.240^a	-0.024	0.425^a
THA	2009	0.382^a	-0.059	0.488^a
TMP	2007	1.299	1.518^a	2.594^a
TMP	2010	0.613	-0.038	1.072^b
TUN	2001	0.403^a	0.292^b	0.570^a
TZA	2000	-0.290	0.838^b	1.125^a
TZA	2006	0.468	0.118	1.829^a
UGA	2002	0.903^b	-0.161	1.330^a
URY	1998	0.246^a	-0.575^a	0.476^a

Table 9: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
URY	2000	-0.075	-0.349^{a}	0.281^{a}
URY	2001	-0.086	-0.259^{b}	0.205^{a}
URY	2002	-0.053	-0.274^{b}	0.224^{b}
URY	2003	-0.188^{b}	-0.384^{a}	-0.016
URY	2004	0.036	-0.220^{a}	0.208^{a}
URY	2005	-0.037	-0.313^{b}	0.169^{b}
URY	2006	0.079	-0.310^{a}	0.128^{a}
URY	2007	0.056	-0.301^{a}	0.160^{a}
URY	2008	0.119^{b}	-0.233^{a}	0.187^{a}
URY	2009	0.064	-0.298^{a}	0.079^{b}
URY	2010	0.120^{b}	-0.299^{a}	0.177^{a}
URY	2011	0.003	-0.174^{a}	0.098^{b}
URY	2012	0.027	-0.268^{a}	0.128^{a}
USA	2010	0.084^{a}	-0.209^{a}	0.127^{a}
VEN	1989	-0.016	-0.401^{a}	0.145^{a}
VEN	1992	0.008	-0.414^{a}	0.174^{a}
VEN	1995	0.091	-0.155	0.222^{a}
VEN	1998	0.006	-0.166	0.281^{a}
VEN	2005	0.209^{a}	-0.250^{b}	0.313^{a}
VEN	2006	0.134^{a}	-0.253^{a}	0.188^{a}
VNM	2010	0.011	-0.161^{a}	0.156^{a}
WBG	1998	-0.363	-0.792	0.134
WBG	1999	-0.234	-0.234	0.202
WBG	2000	-0.335	0.220	0.429
WBG	2001	-0.580^{c}	0.105	0.190
WBG	2002	-0.496^{b}	-0.190	0.305
WBG	2003	-0.772^{c}	-0.366	-0.025
WBG	2004	-0.773^{b}	0.000	0.249
WBG	2005	-0.676^{c}	-0.148	0.758^{b}
WBG	2006	-0.239	0.538	0.514
WBG	2007	0.436	1.314^{a}	1.067^{b}
WBG	2008	-0.327^{b}	2.022^{a}	-0.193
YEM	2005	0.367	0.082	0.396^{b}
ZAR	2004	0.991	-0.744	1.918^{b}

Significance levels: ^{c}: p<0.1, ^{b}: p<0.05, ^{a}: p<0.01

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year - OLS

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
ALB	2005	0.010	-0.393	0.073
ARG	2003	-0.052	-0.145	0.115^{c}
ARG	2006	-0.080	-0.285^{a}	0.027
ARG	2007	0.029	-0.330^{a}	-0.010
ARG	2009	-0.002	-0.187^{b}	0.073
ARG	2010	0.047	-0.247^{a}	0.061
ARG	2012	-0.017	-0.205^{a}	0.048
AUS	2002	0.211^{b}	-0.035	0.322^{a}

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
AUS	2003	0.235^{a}	-0.087	0.373^{a}
AUS	2004	0.291^{a}	0.215	0.390^{a}
AUS	2005	0.453^{a}	0.099	0.490^{a}
AUS	2006	0.538^{a}	0.294^{c}	0.498^{a}
AUS	2007	0.246^{a}	0.040	0.253^{a}
AUS	2008	0.112	-0.106	0.161
AUS	2009	0.106	-0.111	0.136^{c}
BIH	2001	-0.115	0.242	0.144
BRA	1981	-0.093	-0.802^{a}	0.065
BRA	1982	0.034	-1.189^{a}	0.020
BRA	1983	0.036	-0.552^{a}	0.173^{c}
BRA	1984	0.043	-0.941^{a}	0.022
BRA	1985	0.038	-1.073^{a}	0.087
BRA	1986	-0.096	-0.447^{a}	-0.020
BRA	1987	0.050	-0.671^{a}	0.109
BRA	1988	-0.093	-0.981^{a}	0.129
BRA	1989	0.112	-0.395^{b}	0.282^{a}
BRA	1990	0.065	-0.723^{a}	0.116
BRA	1993	0.054	-0.944^{a}	0.250^{a}
BRA	1995	0.109	-0.830^{a}	0.276^{a}
BRA	1996	0.058	-0.767^{a}	0.204^{a}
BRA	2002	0.096	-0.602^{a}	0.221^{a}
BRA	2003	0.094	-0.558^{a}	0.228^{a}
BRA	2004	0.079	-0.479^{a}	0.236^{a}
BRA	2005	0.147^{c}	-0.428^{a}	0.219^{a}
BRA	2006	0.120^{c}	-0.514^{a}	0.237^{a}
BRA	2007	0.095^{c}	-0.455^{a}	0.259^{a}
BRA	2008	0.076	-0.454^{a}	0.182^{a}
BRA	2009	0.087	-0.479^{a}	0.221^{a}
BRA	2011	0.048	-0.451^{a}	0.163^{a}
BRA	2012	0.032	-0.405^{a}	0.108^{b}
CHL	1992	0.109	-0.266	0.220^{a}
CHL	1994	0.130^{b}	-0.219^{c}	0.164^{a}
CHL	1996	0.091^{c}	-0.431^{a}	0.220^{a}
CHL	1998	0.147^{a}	-0.133^{c}	0.138^{a}
CHL	2000	0.152^{b}	-0.098	0.210^{a}
CHL	2003	0.114^{a}	-0.068	0.195^{a}
CHL	2006	0.040	-0.100^{c}	0.125^{b}
CHL	2009	0.024	-0.092	0.152^{a}
CHL	2011	-0.005	-0.180^{a}	0.045
CHN	2002	0.505^{a}	-0.094	0.560^{a}
CRI	2002	0.231^{b}	-0.200^{c}	0.538^{a}
CRI	2004	0.214^{a}	-0.198	0.328^{a}
CRI	2005	0.217^{a}	-0.269^{b}	0.362^{a}
CRI	2006	0.250^{a}	-0.201^{b}	0.245^{a}
CRI	2007	0.170^{b}	-0.154^{c}	0.223^{a}
CRI	2008	0.145^{b}	-0.324^{a}	0.192^{a}
CRI	2009	0.338^{a}	-0.186	0.322^{a}
DOM	2011	0.240^{c}	-0.113	0.204^{c}

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
DOM	2012	0.125	-0.183[b]	0.175[b]
ECU	2000	0.269[c]	-0.430[b]	0.514[a]
ECU	2004	0.206[b]	-0.458	0.368[a]
ECU	2005	0.185[c]	-0.461[a]	0.339[a]
ECU	2006	0.209[c]	-0.419[b]	0.387[a]
ECU	2007	0.230[a]	-0.574[a]	0.410[a]
GTM	2000	0.146	-0.964[a]	0.306
GTM	2002	-0.361	-0.485	0.655[b]
GTM	2003	0.534	-0.905	0.533
GTM	2004	-0.202	-0.934[a]	-0.025
GTM	2006	-0.020	-1.116[a]	0.128
HND	1992	0.123	-0.159	0.419[a]
HND	1993	0.168	-0.374[c]	0.411[a]
HND	1994	-0.040	-0.357	0.429[a]
HND	1995	-0.151	-0.127	0.279[b]
HND	1996	0.232	0.069	0.320[a]
HND	1997	0.365	-0.944[a]	0.774[a]
HND	1998	0.111	-0.451[b]	0.527[a]
HND	2001	0.238	-0.120	0.545[a]
HND	2002	-0.118	-0.580[b]	0.265[a]
HND	2003	-0.154	-0.966[a]	0.438[a]
HND	2004	-0.140	-0.636[b]	0.318[a]
HND	2005	-0.257	-0.979[a]	0.322[b]
HND	2006	0.065	-0.466[c]	0.307[a]
HND	2007	-0.027	-0.749[b]	0.183[b]
HND	2008	-0.114	-0.835[b]	0.230[a]
HND	2009	-0.078	-0.703[b]	0.283[a]
HND	2010	0.052	-0.128	0.455[a]
HND	2011	0.018	-0.349[c]	0.513[a]
IDN	1996	0.752[a]	-0.253	0.816[a]
IDN	1998	0.294[a]	-0.385[c]	0.518[a]
IDN	1999	0.042	-0.171	0.252[a]
IND	2007	0.779[a]	-0.732[a]	1.024[a]
JAM	1990	0.454[a]	-0.171	0.569[a]
JAM	2002	0.257[c]	-0.275	0.126
JOR	2010	0.829[b]	-0.219	1.109[a]
KHM	2003	0.811[a]	-0.215	1.084[a]
KHM	2006	0.839[b]	0.771[a]	1.202[a]
KHM	2008	1.211[a]	0.556[c]	1.360[a]
KHM	2012	1.501[b]	-2.435[a]	2.804[a]
LBR	2010	1.272[a]	0.449	1.323[a]
LKA	1993	1.808[a]	1.071[a]	1.795[a]
LKA	1996	0.169	-0.296	0.477[a]
LKA	1998	0.150	-0.189	0.414[a]
LKA	1999	0.410[a]	0.128	0.679[a]
LKA	2000	0.453[b]	-0.218	0.721[a]
LKA	2001	0.493[a]	-0.192	0.735[a]
LKA	2002	0.526[a]	0.114	0.745[a]
LKA	2003	0.410[a]	-0.219	0.626[a]

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
LKA	2004	0.453^{a}	-0.089	0.571^{a}
LKA	2008	0.380^{a}	-0.115	0.597^{a}
MEX	1989	0.401^{a}	0.162^{c}	0.485^{a}
MEX	1992	0.484^{a}	-0.334	0.655^{a}
MEX	1994	0.209^{b}	-0.496^{a}	0.209^{a}
MEX	1996	0.222^{b}	-0.214	0.266^{a}
MEX	1998	0.270^{a}	-0.400^{b}	0.308^{a}
MEX	2000	0.224^{b}	-0.582^{a}	0.241^{a}
MEX	2002	-0.006	-0.454^{a}	0.107
MKD	2003	0.013	-0.228^{b}	0.135
MKD	2004	0.118^{c}	0.071	0.218^{a}
MNG	2002	0.222	0.611^{b}	0.561^{a}
MNG	2006	-0.820^{b}	-0.006	0.197
MNG	2007	-0.062	-0.074	0.224^{b}
MNG	2011	-0.131	-0.049	0.261^{a}
MWI	2013	0.673	0.244	1.279^{b}
NIC	1993	0.114	-0.748^{c}	0.600^{a}
NIC	1998	0.474^{a}	-0.403	0.668^{a}
NIC	2001	0.380^{a}	-0.722^{a}	0.469^{a}
NIC	2005	0.123	-0.786^{a}	0.234^{b}
NIC	2009	0.341^{a}	-0.039	0.376^{a}
NPL	2008	0.727^{a}	-1.170^{a}	0.830^{a}
NPL	2010	0.281	-0.637^{b}	0.340
PAN	1989	0.357^{b}	0.005	0.404^{a}
PAN	1995	0.364^{a}	-0.234	0.593^{a}
PAN	1997	0.108	-0.154	0.434^{a}
PAN	1998	0.386^{a}	-0.167	0.637^{a}
PAN	1999	0.056	-0.436^{a}	0.303^{a}
PAN	2000	0.068	-0.446^{a}	0.353^{a}
PAN	2001	0.173^{c}	-0.436^{b}	0.370^{a}
PAN	2002	0.531^{a}	-0.301	0.661^{a}
PAN	2003	0.118	-0.345	0.492^{a}
PAN	2004	0.135	-0.356^{b}	0.447^{a}
PAN	2005	0.086	-0.496^{a}	0.372^{a}
PAN	2006	0.075	-0.427	0.422^{a}
PAN	2007	0.209	-0.384^{c}	0.501^{a}
PAN	2008	0.220	-0.495^{b}	0.557^{a}
PAN	2009	0.010	-0.608^{b}	0.293^{a}
PAN	2010	0.062	-0.815^{a}	0.375^{a}
PAN	2011	0.175^{b}	-0.152	0.271^{a}
PAN	2012	0.119	-0.310^{c}	0.292^{a}
PER	1997	0.187	-0.384	0.563^{a}
PER	1998	0.208	-0.312^{c}	0.628^{a}
PER	1999	0.183	-0.475	0.620^{a}
PER	2000	-0.113	-0.285	0.628^{a}
PER	2001	0.200	-0.334	0.588^{a}
PER	2002	0.022	-0.180	0.524^{a}
PER	2004	0.044	-0.442^{b}	0.532^{a}
PER	2005	0.064	-0.266	0.386^{a}

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
PER	2006	0.218^b	-0.024	0.420^a
PER	2007	0.130	-0.131	0.423^a
PER	2008	0.210^b	-0.153	0.533^a
PER	2009	0.180^c	-0.236^c	0.433^a
PER	2010	-0.021	-0.218^c	0.347^a
PER	2011	0.029	-0.257^a	0.218^a
PER	2012	0.114	-0.278^a	0.324^a
PNG	2009	1.679^a	1.734^a	2.062^a
PRY	2010	0.456^a	-0.135	0.350^a
PRY	2012	0.121	-0.533	0.353^c
RUS	2005	-0.163	-0.168	0.221
RUS	2006	0.413	0.270	0.470
RUS	2009	0.005	0.057	0.235
SLB	2005	0.403	0.739	1.542^b
SLV	1995	0.175	-0.716^a	0.340^a
SLV	1998	0.204^c	-0.366	0.411^a
SLV	1999	0.171	-0.655^a	0.338^a
SLV	2000	-0.027	-0.885^a	0.159^c
SLV	2001	0.158^c	-0.806^a	0.221^a
SLV	2003	0.205^b	-0.414^a	0.270^a
THA	1981	0.493^c	-0.595	1.315^a
THA	1983	0.183	-0.268	1.124^a
THA	1984	0.719^b	0.088	1.366^a
THA	1986	1.027^b	-0.496	2.136^a
THA	1987	0.525^c	-0.417	1.027^a
THA	1988	1.247^a	-0.193	1.883^a
THA	1989	1.018^a	-0.485	1.629^a
THA	1991	0.693^a	0.213	0.921^a
THA	1995	0.504^a	-0.026	0.718^a
THA	2006	0.235^a	-0.079	0.437^a
THA	2009	0.422^a	-0.031	0.541^a
TMP	2007	1.149	1.423^a	1.612^a
TMP	2010	0.575	-0.150	0.946^b
TUN	2001	0.483^a	0.327^b	0.634^a
TZA	2000	-0.131	0.683^b	1.113^a
TZA	2006	0.548	0.341	2.133^a
UGA	2002	0.821^a	-0.167	1.237^a
URY	1998	0.236^a	-0.626^a	0.418^a
URY	2000	-0.132	-0.396^a	0.243^a
URY	2001	-0.101	-0.332^a	0.117
URY	2002	-0.081	-0.314^a	0.147^c
URY	2003	-0.210^b	-0.410^a	-0.033
URY	2004	0.033	-0.244^a	0.188^a
URY	2005	-0.081	-0.386^a	0.154
URY	2006	0.058	-0.278^a	0.091^b
URY	2007	0.082	-0.236^a	0.154^a
URY	2008	0.092^c	-0.205^b	0.170^a
URY	2009	0.065	-0.235^a	0.078^b
URY	2010	0.085^c	-0.232^a	0.136^a

Table 10: Estimations of the industry, regional and industry×region mobility costs by country and year corrected for self-selection (continued)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$
URY	2011	-0.001	-0.169^{b}	0.069^{c}
URY	2012	0.013	-0.160^{a}	0.137^{a}
USA	2010	0.095^{a}	-0.208^{a}	0.124^{a}
VEN	1989	-0.060	-0.447^{a}	0.165^{a}
VEN	1992	0.000	-0.425^{a}	0.182^{a}
VEN	1995	0.110	-0.224^{c}	0.227^{a}
VEN	1998	0.014	-0.159	0.278^{a}
VEN	2005	0.214^{a}	-0.271^{a}	0.316^{a}
VEN	2006	0.098^{b}	-0.265^{a}	0.167^{a}
VNM	2010	0.006	-0.214^{a}	0.139^{a}
WBG	1998	-0.225	-0.919	0.282
WBG	1999	-0.255	-0.315	0.223
WBG	2000	-0.416	-0.135	0.404
WBG	2001	-0.582^{c}	0.097	0.251
WBG	2002	-0.560^{b}	-0.307	0.240
WBG	2003	-0.777	-0.340	0.076
WBG	2004	-0.729^{b}	0.161	0.310
WBG	2005	-0.681^{b}	-0.118	0.656^{b}
WBG	2006	-0.426	-0.168	0.516
WBG	2007	0.661	0.757	1.358^{a}
WBG	2008	-0.246	-0.715	0.107
YEM	2005	0.304^{c}	0.065	0.310^{b}
ZAR	2004	0.968	-0.484	1.914^{b}

Significance levels: ^{c}: p<0.1, ^{b}: p<0.05, ^{a}: p<0.01

Table 11: Estimations of the industry, regional and industry×region mobility costs by country and year (INTERNET)

Cty	Year	$C2_{j,j'}$	$C2_{r,r'}$	$C2_{jr,j'r'}$	b˙Mint˙ind	b˙Mint˙reg	b˙Mint˙both
BRA	2002	0.103	-0.587[a]	0.240[a]	0.095	-0.558[a]	0.213[a]
BRA	2003	0.060	-0.548[a]	0.262[a]	0.079	-0.631[a]	0.220[a]
BRA	2004	0.101	-0.391[a]	0.257[a]	0.095	-0.437[a]	0.244[a]
BRA	2005	0.114	-0.417[a]	0.248[a]	0.161[b]	-0.419[a]	0.225[a]
BRA	2006	0.118	-0.362[a]	0.319[a]	0.120[c]	-0.516[a]	0.232[a]
BRA	2007	0.112	-0.320[b]	0.335[a]	0.073	-0.445[a]	0.246[a]
BRA	2008	0.045	-0.172	0.241[a]	0.090	-0.384[a]	0.180[a]
BRA	2009	0.099	-0.335[b]	0.313[a]	0.097[c]	-0.483[a]	0.219[a]
BRA	2011	0.109	-0.181	0.235[a]	0.046	-0.417[a]	0.158[a]
BRA	2012	0.040	-0.091	0.264[a]	0.043	-0.347[a]	0.115[b]
CHL	2000	0.178[a]	-0.010	0.244[a]	0.169[a]	-0.021	0.241[a]
CHL	2003	0.110[b]	-0.070	0.236[a]	0.113[b]	-0.074	0.210[a]
CHL	2006	0.045	-0.098[c]	0.138[b]	0.023	-0.099[c]	0.102[c]
CHL	2009	-0.011	-0.097	0.152[a]	0.021	-0.098	0.152[a]
CMR	2007	0.066	-0.594	0.587	-0.382	-1.090	0.135
CRI	2005	0.343[a]	-0.350[b]	0.505[a]	0.253[b]	-0.281[c]	0.523[a]
CRI	2006	0.217[a]	-0.184[b]	0.250[a]	0.213[a]	-0.180[b]	0.250[a]
CRI	2007	0.197[a]	-0.087	0.263[a]	0.196[b]	-0.087	0.261[a]
CRI	2009	0.338[a]	-0.168	0.319[a]	0.337[a]	-0.167	0.307[a]
GTM	2006	0.105	-2.202[a]	0.195	0.107	-2.189[a]	0.195
HND	2004	0.033	-0.926[a]	0.348[a]	0.001	-0.600[b]	0.459[a]
HND	2006	0.075	-0.448[c]	0.295[a]	0.057	-0.419[c]	0.309[a]
HND	2007	-0.016	-0.670[b]	0.183[b]	-0.068	-0.605[b]	0.197[a]
HND	2008	0.063	-0.929[a]	0.326[a]	-0.026	-0.733[a]	0.344[a]
HND	2009	-0.028	-0.733[b]	0.259[a]	-0.087	-0.592[c]	0.345[a]
HND	2010	0.178	-0.118	0.494[a]	0.090	0.059	0.535[a]
HND	2011	0.250	-0.258	0.555[a]	0.127	-0.191	0.624[a]
JOR	2010	1.935[a]	1.239	2.271[a]	2.225[a]	1.273	2.489[a]
MEX	2002	0.015	-0.662[a]	0.202	0.044	-0.610[a]	0.235
MNG	2011	-0.108	-0.127	0.227[b]	-0.095	-0.035	0.294[a]
NIC	2009	2.299[a]	1.572	2.827[a]	2.252[a]	1.575[c]	2.821[a]
PER	2000	1.092[c]	0.521	2.098[a]	1.088[c]	0.511	2.109[a]
PER	2001	1.410[a]	0.342	1.989[a]	1.401[a]	0.355	2.020[a]
PER	2002	1.245[a]	0.793	1.821[a]	1.196[a]	0.712	1.749[a]
PER	2004	0.412	-0.351	1.035[a]	0.387	-0.356	1.029[a]
PER	2005	0.101	-0.474[a]	0.357[a]	0.059	-0.509[a]	0.353[a]
PER	2006	0.217[b]	-0.091	0.368[a]	0.203[b]	-0.072	0.368[a]
PER	2007	0.234[b]	-0.142	0.415[a]	0.208[c]	-0.114	0.425[a]
PER	2008	0.201[c]	-0.199	0.556[a]	0.176[c]	-0.173	0.542[a]
PER	2009	0.281[a]	-0.299[c]	0.475[a]	0.212[c]	-0.268[c]	0.467[a]
PER	2010	0.127	-0.318[b]	0.400[a]	0.075	-0.219[c]	0.393[a]
PER	2011	0.118	-0.238[a]	0.291[a]	0.072	-0.230[a]	0.237[a]
PER	2012	0.265[b]	-0.379[a]	0.397[a]	0.159[b]	-0.278[a]	0.324[a]
PNG	2009	2.520	1.230	3.494[b]	2.354[c]	1.537	3.826[a]
PRY	2010	0.547[a]	-0.039	0.431[a]	0.475[a]	-0.062	0.368[a]
PRY	2012	0.229	-0.206	0.413	0.158	-0.515	0.553[b]
SLV	2001	0.654[a]	-0.869[c]	0.724[a]	0.622[a]	-0.855[b]	0.687[a]
SLV	2003	0.814[a]	-0.395[c]	0.875[a]	0.827[a]	-0.361	0.886[a]
THA	2006	0.254[a]	0.001	0.420[a]	0.234[a]	-0.035	0.425[a]
THA	2009	0.402[a]	0.011	0.485[a]	0.373[a]	-0.093	0.487[a]

Table 11: Estimations of the industry, regional and industry×region mobility costs by country and year (INTERNET) (continued)

Cty	Year	int(mean-0) $C2_{j,j'}$	int(mean-0) $C2_{r,r'}$	int(mean-0) $C2_{jr,j'r'}$	int(-1sd+1sd) $C2_{j,j'}$	int(-1sd+1sd) $C2_{r,r'}$	int(-1sd+1sd) $C2_{jr,j'r'}$
URY	2001	-0.056	-0.267^{b}	0.211^{a}	-0.088	-0.258^{b}	0.205^{a}
URY	2002	0.003	-0.317^{b}	0.247^{a}	-0.057	-0.239^{c}	0.220^{b}
URY	2003	-0.106	-0.351^{a}	-0.009	-0.199^{b}	-0.404^{a}	-0.016
URY	2004	0.089	-0.268^{a}	0.229^{a}	0.031	-0.206^{a}	0.207^{a}
URY	2005	0.060	-0.280^{b}	0.200^{a}	-0.033	-0.321^{b}	0.170^{b}
URY	2006	0.114^{b}	-0.288^{a}	0.171^{a}	0.082	-0.313^{a}	0.129^{a}
URY	2007	0.133^{b}	-0.260^{a}	0.213^{a}	0.054	-0.306^{a}	0.156^{b}
URY	2008	0.267^{a}	-0.133	0.263^{a}	0.122^{a}	-0.245^{a}	0.185^{a}
URY	2009	0.149^{a}	-0.300^{a}	0.169^{a}	0.065	-0.293^{a}	0.076^{b}
URY	2010	0.304^{a}	-0.358^{a}	0.224^{a}	0.116^{b}	-0.287^{a}	0.174^{a}
URY	2011	0.173^{a}	-0.032	0.191^{a}	0.007	-0.186^{a}	0.097^{b}
URY	2012	0.204^{a}	-0.264^{a}	0.220^{a}	0.024	-0.265^{a}	0.125^{a}
VEN	2005	0.255^{a}	-0.218^{c}	0.361^{a}	0.220^{a}	-0.225^{b}	0.331^{a}
VEN	2006	0.141^{a}	-0.259^{a}	0.199^{a}	0.133^{a}	-0.253^{a}	0.187^{a}

Note: Significance levels: ^{c}: p<0.1, ^{b}: p<0.05, ^{a}: p<0.01.
int(mean-0) refers to the difference between the simple average concentration of access to internet across age corhots int_k and non-access to internet taking into account the interaction terms plus the respective costs (in levels).
int(-1sd+1sd) refers to the difference between having access to internet equivalent to. $int_k(mean - 1 standard deviation)$ versus $int_k(mean + 1 standard deviation)$.

6.1 "Industry only" and "Region only" mobility costs

(Work in progress)

Table 12: Mobility costs estimates: Summary statistics for the estimates from equations (6a), (6b)