# International Trade and Rent Sharing in Developed and Developing countries*

**Lionel Fontagné (corresponding author)**
CEPII and TEAM (University of Paris1 and CNRS),
9, rue Georges Pitard,
75740 Paris cedex 15, France
Tel: (+33) 1 53 68 55 43
Fax: (+33) 1 53 68 55 02
Email: fontagne@cepii.fr
and
**Daniel Mirza**
TEAM (University of Paris1 and CNRS),
106-112, Bd. de l'hôpital,
75647 Paris cedex 13, France
Tel: (+33) 1 44 07 82 64
Fax: (+33) 1 44 07 82 67
Email: danmirza@univ-paris1.fr

First draft: April 2001
This version: October 2001

**Abstract**

In this paper, we derive then test a theoretical equation, based on rent sharing theories, linking industry wages to openness variables. This relation has three main features: 1/ it can be easily confronted to the data. 2/ it allows for both impacts of import and export variables to be properly considered in a same testable wage equation. 3/ it stresses explicitly the role of imperfect market structures of goods and labor, as well as their interaction, when studying wages' response to openness. We construct a dataset that provides together trade, activity and labor related data for around 29 industries and 65 countries between 1981 and 1997. We find, for OECD countries, that an increase in export as well as domestic market shares is associated with growth in wages in roughly half of [redacted]. Among developing countries, Mediterranean followed by Latin American countries, are those where such phenomenon of rent-sharing can be observed. This does not seem to be the case in Asia however.

JEL Classification: F1,L1 et J3

*This paper has benefited from the financial support of the Commissariat Général du Plan (Project 5-2000). We are grateful to Keith Head, Sebastien Jean, David Margolis and Thierry Mayer for helpful comments on an earlier version. Usual disclaimer apply.

# 1 Introduction

Since the WTO's Seattle meeting, NGOs, unions and other representatives of the civil society called for more equity in the globalization process. According to these claims, today's globalization would firstly benefit capital holders and multinational firms. To quote the recent Porto Alegre Call for Mobilisation:

> *" ... We demand the genuine recognition of the right to organise and negociate for unions, and new rights for workers to face the globalisation strategy ... Free trade is anything but free. Global trade rules ensure the accelerated accumulation of wealth and power by multinational corporations and the further marginalisation and impoverishment of small farmers, workers and local enterprises... ".*

The bulk of the trade literature fails to address the issue of openness in these terms however, while there has been burgeoning literature on the interactions between trade, employment and wages. How rents are captured and contested, and then shared among countries, employers and employees, remains an avenue for research. Moreover, whereas civil society from around the world seems to be concerned about this call, existing studies have been mainly focusing on labor market adjustments in developed countries only.

Originally, the traditional factor proportion view of trade theorists has been used to examine the impact of openness to trade with developing countries on wage inequalities in the OECD. However, authors do not find any sizeable impact of openness on wages in importing countries. Besides, unlike the theory's prediction, factor demand for white collars seems to be increasing, not decreasing, with the skill premium. In total, the Stolper-Samuelson view according to which imports from low wage countries harm unskilled labor in OECD countries should be questioned [1]. Labor economists offer an alternative explanation of labor adjustment where imports, but also immigration from developing countries, affect the labor supply curve. Accordingly, inequalities could be explained by a rise in the relative services of unskilled labor in the OECD embodied in trade volumes[2]. Technological change is also considered to be a serious candidate for explaining the rise in inequalities [3]. However, Neary (2001) shows that the impact of technology could be also endogenous to openness.

Nevertheless, the above studies do not focus on the distribution or capture of rents consecutive to openness, but on factor revenues. Except in Neary (2001), most of them are actually

[1] See recent work on the Stolper-Samuelson effect concerning the period of the eighties, in Leamer (1996) as well as Baldwin and Cain (1997).

[2] See Wood (1995) and Borjas, Freeman and Katz (1996) among others.

[3] See for instance Haskel (1999) and Slaughter (1999) for a review of this literature. An additional explanation for rising inequalities considers a potential increase in labor demand elasticities (Slaughter (2001) and Jean (2000)).

constrained by the assumption of perfectly competitive markets. Neary notes that the competitive general equilibrium trade models, do not allow for any discussion on the impact of trade on mark-ups.

Indeed, in recent years, more attention has been paid to the role of imperfect competition in the impact of trade on labor. In a pioneering work, Oliveira-Martins (1994) finds that trade's impact on industrial wages relies on product market structure characteristics in the OECD. One possible reason behind this result, is that these wages do not only result from the equalization of labour demand and supply, which is what is usually assumed by the classical view of trade and labour theorists. They could also depend on the financial situation of the employer and the bargaining power of employees[4].

Accordingly, a growing body of the literature has explained changes in wages by changes in rents consecutive to openness, assuming both imperfections in the commodity and the labour markets. Two seminal articles by Abowd and Lemieux (1993) and Borjas and Ramey (1995), stress the importance of accounting for openness as a rent shifter from domestic to foreign firms. In the presence of unions, the loss of profits due to openness translates into a reduction in the wage premium. Borjas and Ramey propose a simple theoretical framework of a two-sector economy, in which the impact of trade on wage inequality is greater in concentrated industries: foreign firms entering the market capture rents otherwise shared with employees within the domestic firms.

In addition, the literature is rather scarce on examining whether related mechanisms affect developing countries in the same way as industrialized ones. Harrison and Hanson (1999) review the literature on trade policy and the labor market adjustment, mainly based on specific studies related to Mexico and Morocco, and find that *openness had a small impact on wages and employment.* The main reasons, the authors argue, come from both imperfections of labor and product markets consistent with the rent sharing theories. Ghose (2000) provides useful descriptive evidence of these phenomena, confirming the limited impact of imports from developing countries in the OECDs, while the former would have benefited from gains in wages and employment.

In total, many issues are still puzzling. The literature on trade and rent sharing was particularly interested in one vector of openness: import penetration. However, if rents accruing to the labor are contested by imports, then why not examine whether foreign rents can be captured by firms, and hence unions, through exporting? Budd and Slaughter (2000) stress the idea that profits may be shared across borders as well. They are the first to find robust

[4]As showed by Katz and Summers (1989), Krueger and Summers (1988) or more recently Abowd, Kramarz and Margolis (1999), the competitive wage assumption appears to be inconsistent with the evidence.

support to international linkages affecting Canadian wages. The authors capture these linkages *via* four main variables: multinational ownership, international unions, tariffs and transport costs. However, these variables enter the rent sharing equation, mainly through their interaction with the industry profits in the domestic and foreign markets. Put differently, the authors do not sufficiently explicit the theoretical relation between openness variables, mark-ups and wages. Here, we focus instead on trade volumes –imports and exports– and ask typically what is the appropriate shape of the relation between industry wages and openness indicators such as import penetration, export intensity or foreign market shares.

Moreover, we ask whether these indicators impact wages identically in developed and developing countries. In the latter group of countries, rents accruing to protected factors may be important as well, while rents to be captured by exporting might be more limited. As a matter of fact, opening those economies may be associated with the loss of large rents on the domestic market in industries characterized by imperfect competition, while these countries would tend to specialize and export in rather competitive industries.

In this paper, we address these questions by building and testing a theoretical model based on rent sharing theories. The existing model is extended to account for both the Structure Conduct Performance paradigm and international market segmentation, which enables us to derive an equation linking industry wages to both domestic and foreign market share variables. This theoretical relation has three main features: 1/ it can be easily confronted to the data at the industry level. 2/ it allows for both impacts of import and export type variables to be properly considered in a same testable wage equation. 3/ finally, it stresses explicitly the role of imperfect market structures of goods and labor, as well as their interaction, when studying wages' response to openness.

Why the issues stressed above have received so little attention, especially regarding developing countries, remains a puzzling issue itself. As far as empirical studies are at stake, the persistent lack of data may have limited tentative check ups to individual countries experiences, such as Mexico or Morocco among other very few countries (see Currie and Harrison (1997) and De Melo et al. (2000)). Besides, one could hardly quote a handful of papers jointly addressing the role of market structures in trade's impact on wages and employment for developed *and* developing countries.

Here, we use two UNIDO databases: the 3-digit ISIC Industrial Statistics database, as well as the Industrial Demand-Supply Balance database at the 4-digit level ISIC Code. From these sources, we construct a dataset that matches trade, activity and labour related data for around 29 industries at the 3 ISIC nomenclature (Rev.2) in 65 countries, within the 1981-1997 period.

We find, for the OECD countries, that an increase in export as well as domestic market shares is associated with an increase in wages in roughly half of the industries. Among developing countries, in Mediterranean countries, followed by those in Latin America, such phenomenon of rent-sharing can be observed. This does not seem to be the case in Asia however.

In the next section, we present the theoretical model. Section 3 highlights some stylized facts. In section 4 we design a strategy to match theory with the data. Section 5 shows the econometric results. Section 6 concludes.

## 2 A simple model with imperfect competition

We follow the Sen and Dutt hypothesis (1995) by considering a firm $n$ from a country $i$, acting in oligopoly, where the firm's employers and unions bargain over both wages and output. The authors do not clearly justify the intuition behind this particular type of *strongly* efficient bargaining as it is usually employment that is the second variable of interest in these models[5]. One can actually think that from the unions' point of view, the variable behind output is actually employment as they know that these two variables are directly linked in production functions. However, in oligopolistic markets the output of the firm stands as a strategic variable from the managers point of view.

Here, we simply add to the Senn and Dutt framework the hypothesis that the firm serves its own market and exports to $J-1$ foreign markets. These markets are assumed to be internationally segmented so that firms' sales on a given $j$ market, with $j \in (1 \dots J)$, depend only on this market's characteristics (see Brander and Krugman (1983)). Note that $j$ can be the domestic market ($j = i$) or the foreign market ($j \neq i$), so that each time that the firm serves the domestic market we shall say that it 'exports' to this market.

Then, as output stands for the sum of exports, the Nash solution to the bargaining problem would be to choose wages and export volumes to each $j$ market. Hence, the objective function

[5]The concept of strongly efficient bargaining (i.e. both parties negotiate over wages and employment) has been introduced by Brown and Ashenfelter (1986). It is usually opposed to the *right to manage* hypothesis (i.e. unions and employers bargain only over wages only) or *the monopoly union* model (i.e. unions choose solely the wage rate). In these models, employers settle a level of employment conditional to the wage rate accordingly determined. While Brown and Ashenfelter (1986), Card (1990) and Hosken and Margolis (1997) find a mixed support to the hypothesis of efficient bargaining, Abowd (1989) and Christofides and Oswald (1991) support completely that hypothesis. Furthermore, using data on New York State public schools Hosken and Margolis (1997) reject systematically the hypothesis that teachers' unions and school districts engage in monopoly union or right to manage style bargaining. In this article we maintain the hypothesis of strongly efficient bargaining agreements and discuss in later sections the implication of a right to manage or monopoly union assumptions on the parameters to estimate.

to maximize is

$$(l_{i,n}[w_{i,n} - w_{u,i}])^{\lambda_i} \; [(\sum_{j=1}^{J} p_{ij,n} x_{ij,n}) - w_{i,n} l_{i,n}]^{1-\lambda_i} \tag{1}$$

where $w_u$ designates the alternative wage in the economy $i$, $\lambda_i$ indicates the union's degree of market power ($0 \leq \lambda \leq 1$), $p_{ij,n}$ and $x_{ij,n}$ the price and the volume of the exporting good of the firm. $l_{i,n}$ stands for the volume of labour demand for the representative firm.

From the first order conditions we derive the following wage equation:

$$w_{i,n} = \lambda_i \left( \frac{\sum_j p_{ij,n} x_{ij,n} - w_{u,i} l_{i,n}}{l_{i,n}} \right) + w_{u,i} \tag{2}$$

Here, firm wages are linear functions of alternative wages and quasi rents per worker (Abowd 1989). However, as the markets are assumed to be segmented, then total revenues are the sum of revenues obtained from each export market.

Besides, equating marginal revenue to marginal cost in each market, and considering equation 2 we derive the following *quasi* mark-up equation on each export market:

$$\frac{p_{ij,n} - w_{u,i}}{p_{ij,n}} = \frac{[1 + \alpha_j]}{\sigma_j} \, s_{ij,n} \tag{3}$$

Unlike *traditional* mark-ups that express *total profits* per unit value, *quasi* mark-ups stand for the *total quasi rents* per unit value. Equation 3 is closely related to the Structure-Conduct-Performance type expressions in industrial economics, since 'quasi' mark-ups depend on conjectural variation $\alpha$, price-elasticity of demand $\sigma$ and market share $s_{ij,n} = x_{ij,n}/X_j$, with $X_j$ representing total sales in the market $j$[6].

For ease of exposition, we assume that output equals labour demand $y_{i,n} = \sum_{j=1 \ldots J} x_{ij,n} = l_{i,n}$. Let $p_{i,n} y_{i,n} = \sum_j p_{ij,n} x_{ij,n}$ be the total revenue for firm $n$ and $b_{ij} = \left( \lambda_i \frac{[1+\alpha_j]}{\sigma_j} \right), \forall j \in 1 \ldots J$. Expressing by $j'$ a foreign market different from the domestic one $i$, then equations 2 and 3 give the following real wage function:

$$\frac{w_{i,n}}{p_{i,n}} = \; b_{ii} \; e_{ii,n} s_{ii,n} + \sum_{j' \neq i} \left[ b_{ij'} \; e_{ij',n} s_{ij',n} \right] + \frac{w_{u,i}}{p_{i,n}} \tag{4}$$

where, $e_{ij,n} = \left( \frac{p_{ij} x_{ij,n}}{p_{i,n} y_{i,n}} \right)$ stands for the export rate of firm $n$ in the market $j$. Then, the real wage equation, net from the real alternative wage, is a linear combination of the sum of

[6]The conjectural variation parameter $\alpha$ varies between -1 and $N_j - 1$ in order to allow for a set of strategic behaviors upon the $N_j$ firms selling in the market. The former value corresponds to a perfectly competitive market while the latter suggests a Cartel behaviour when $N_j > 1$, or a monopoly when only one firm serves the market. A Cournot competition is assumed when $\alpha = 0$.

export market shares weighted by the export rate to each country $j$. The intuition behind this relation is that an increase in the market share, in a given market $j$, translates into more quasi rents for the firm, that are shared with the employees in the presence of union power. Now, these quasi rents, and thus wage compensation gains, are the more important the more the fraction of output used to serve this market $j$ is high.

However, as we do not have access to firms' data we present in what follows an aggregation strategy that enables us to test a variant of the above equation at the industry level (Hereafter, we assume that the industry suffix $k$ is implicit). Thus, let $S_{ij} = X_{ij}/X_j$ be the country's $i$ market share in country $j$ for an industry, $E_{ij} = \left(\frac{p_{ij}X_{ij}}{p_iY_i}\right)$ being its industry's export rate and $L_i = \sum_n l_{i,n}$ representing total demand for labour at the industry level. Moreover, let $\psi_{ij} = [\sum_n (\frac{x_{ij,n}}{X_{ij}})^2]$ be the export concentration on the bilateral market $\{ij\}$. This concentration index informs us about the degree of competition *within* all the exporting firms from $i$ to the market $j$[7]. Then considering equation 4 and computing the **real average wage** $w_i/p_i = [\sum_n w_{i,n}l_{i,n}/L_i]/p_i$ at the industry level we can derive the following expression:

$$\frac{w_i}{p_i} = \beta_{1,ii}\, E_{ii}S_{ii} + \sum_{j' \neq i} \beta_{2,ij'}\, E_{ij'}S_{ij'} + \frac{w_{u,i}}{p_i} \tag{5}$$

where

$$\beta_{1,ii} = \left[\lambda_i \psi_{ii} \frac{[1+\alpha_i]}{\sigma_i}\right]$$

and

$$\beta_{2,ij'} = \left[\lambda_i \psi_{ij'} \frac{[1+\alpha_{j'}]}{\sigma_{j'}}\right], \forall j' \neq i, j' \in \{1 \ldots J-1\}$$

Before interpreting the $\beta$ parameters, assume first that they are given. The wage relation we obtain at the industry level is then rather similar to the one presented at the firm level, except that now export or domestic sales rates and market shares are not specific to a firm but relative to a country in a representative industry. Besides, now that the relation is expressed at the industry level an additional term $\psi_{ij}$, relative to the state of competition *within* the exporters in that industry, enters the equation.

[7]The export concentration on the bilateral market is the export concentration relative to a country $i$ exporting to $j$. For sake of clarity, assume the particular case where all the exporting firms have symmetric characteristics in costs then this bilateral concentration index reduces to the inverse of the number of firms that export to the market $j$. Then, it is easy to understand why this index of concentration reveals the degree of competition *within* these exporting firms on the market $j$.

This equation has three main characteristics: First, it can be easily confronted to the data that could be found at the industry level when studying a country's openness to trade.

Second, this relation suggests that in order to appreciate the openness impact on wages, import penetration, export market shares and export intensity indicators need to be considered together. To see how they could intervene, we call hereafter the composite variable $E_{ii}S_{ii}$ the 'relevant domestic market share' and $E_{ij}S_{ij}$ the 'relevant export market share' relative to $i$ exporting to $j$. Market shares obtained from exporting to the market $j$, are 'relevant' when they count more in the total rents of the industry. Actually, when a country's production in an industry essentially serves its domestic demand (inward oriented) then this industry's rents are mainly those driven by the domestic market. Hence, if this country's shares in foreign markets increase, neither do they greatly affect total rents nor wages in that industry. Besides, the domestic market share variable $S_{ii}$ is by construction inversely related to import penetration $M_{ii}$ as $S_{ii} = 1 - M_{ii}$. This suggests that import penetration is the more painful on wages, the more the country is inward oriented in the considered industry. On the opposite, when a country is mainly outward oriented (proportion of exports to production is high), an increase in its foreign market shares would be more relevant to total rents that would be then shared with employees.

Finally, the above relation stresses explicitly the role of imperfect competition in goods and labour markets when looking at the wage response to openness. More explicitly, the extent of the relevant export market shares or import penetration effects on wages depends on the degree of interaction of both unions' and firms' market powers. Actually, the $\beta_{1,ii}$ and the $J$-1 parameters $\beta_{2,ij'}$, $\forall j' \neq i$, express the interacted market powers of both unions and firms in determining industry real wages. Typically, price elasticity ($\sigma_j$), conjectural variation($\alpha_j$) and export concentration ($\psi_{ij}$), form together an average market power indicator of firms in $i$ that export to $j$, $\forall j \in \{i, j'\}$. Hence, the larger the market power, the larger the rents to be shared. Whether or not these rents are shared between workers or employers, then depends on unions relative power captured by $\lambda_i$. On the opposite, in a competitive market where, for instance, price elasticity is high or producers behave aggressively through the conjectural variation parameter, the effect of openness on industry wage differentials should be low or even not significant.

# 3 Stylized Facts

The 3-Digits Industrial Statistics Database (Indstat3) reports data on activity such as 3-digit industry total compensation (wages and benefits), employment and production (ISIC

rev.2). UNIDO provides trade data with Developed and Developing countries (imports and exports) at the 4-digit industry level (ISIC rev.2 as well), easily aggregatable to 3-digit. Then matching these two databases, we were able to construct a table of activity and trade data for 65 developed and developing countries in 29 industries between 1981-1997. We present in tables 1 and 2 the number of industries where data is available in each country finally selected over the period 1981-1997.

Matching data for different countries and periods is a difficult exercise however. Table 1 summarizes available information and sheds light on the large discrepancy between countries. While information is available for the 29 industries and the whole 1981-97 period for the United-States, we got information for 10 to 23 Danish industries depending on the year, or for 2 to 24 industries in Mauritius. Other countries did not provide information for the whole period: for instance, data on Germany end in 1994, Bangladesh in 1992, while Costa Rica's data start in 1984 only. On the whole, the worst information is available for El Salvador, Ethiopia, France, Ghana, Madagascar, Nepal, Nicaragua, Romania, South-Africa and Tunisia. Except for France, data problems are concentrated in developing countries. We did not update the database in order to authorize the replicability of our results and to stick to an homogeneous data source. This is why data for European countries was not completed. Notwithstanding such unbalanced structure, the data set entails very rich information for numerous developing countries, and this comes out as a good surprise: Chile, the Hong Kong province of China, Colombia, Costa Rica, India, Indonesia, Korea, Malaysia, Mexico, Philippines, Sri Lanka, Turkey, Uruguay and Venezuela collected complete information on a regular basis.

It is to be noted that UNIDO trade data are based on the United Nations Commodity Trade tapes and thus, are expected to be exhaustive by country and industry while Indstat3 database reports activity data from different sources of information. A significant proportion of this data appears to be collected from business surveys conducted by UNIDO, which suggests that wages, employment and production could be underestimated relative to their real values in national statistics. However, total compensation in the theoretical model to be tested is expressed relative to employment, and thus the related variable $w_i$ constructed from UNIDO would be a good proxy of the real one.

More problematic is the production variable which is used to compute domestic and foreign market shares in the wage relation. However, we made two different types of controls before using this variable. In the first control, we noticed that the type of source from where data is gathered could vary from year to year within a pair country-industry. Hence, we simply compared the observations gathered from questionnaires to those that are reported to be compatible with national accounts a year earlier, or a year later and found coherent time series. Moreover, a second control was made in order to check whether the production figures

were not underestimated in OECD countries. Hence, we compared production data from the STAN-OECD database based on national accounts[8] to that of UNIDO and again found values that were rather similar.

Let us consider the whole panel of countries and industries and tabulate the annual growth of wage per employee, labour productivity, production and exports, in all industries.

The best performances in terms of wage growth over the period under consideration were obtained by Lithuania, Nicaragua, Italy, Korea, Macau, Hong Kong, Slovakia, Singapore, Turkey and Spain. As pictured in figure 1 the ranking in terms of productivity gains closely matches the ranking in terms of wages. But more interestingly, most of these countries are well ranked in terms of export growth, with the exception of Hong Kong and Singapore that exhibit a more limited performance.

Reciprocally, the worst performances (figure 2) are obtained by Ghana, Guatemala, Nigeria, Romania, Madagascar, Venezuela, Ecuador, Bolivia, Honduras, Trinidad and Tobaggo. What characteristics do these countries have in common? Productivity gains are generally limited, notably for Ghana, Trinidad and Tobaggo, Nigeria and Madagascar. But this could be the outcome of a specialization in labour intensive products, authorizing a rise in employment. This assumption is compatible with Honduras and Bolivia figures, but certainly not with the remaining countries listed here. In particular, Ghana exhibits simultaneously poor performances for exports, production, productivity and wages.

Unsurprisingly, the rank correlation between gains in wages and gains in productivity is very large. The correlation with production is more difficult to establish, since exports and imports can vary at a similar pace, while the latter crowds out to some extent domestic producers. Lastly, the rank correlation between exporting and paying wages is nearly zero, notwithstanding the fact that the better performances in terms of wages are precisely obtained for those countries who successfully enter foreign markets.

All this proves that the relation between exporting and distributing wages is not trivial and will appear only under certain circumstances to be identified below. In total, according to these stylized facts, the question to be addressed below is *whether exporting and gaining market shares enhances wages, controlling for the expected relationship between wages and productivity* in order to identify market structure related impacts. We will demonstrate that the relative productivity of sectors enters in the determination of the alternative wage, conditional to an assumption of imperfect portability of qualifications. These observations also suggest that the relationship under examination here might vary according to the region of the world

[8]More rigorously, the OECD production data are estimated values from both surveys and national accounts series.

considered. Since fixing wages is also a matter of bargaining among social partners, the same mechanism might drive to different outcomes in developed and developing countries, but also between developing countries in different regions of the world economy. This will lead us to characterize separately the corresponding relationships in the estimation phase below.

# 4 Matching data and theory

Notice from tables 1 and 2 that the panel is unbalanced as we do not have access to all the observations by class of identifiers: country-year-industry. Hence, estimates such as the traditional Between methods, that could be driven from inter-country variances would be biased. We deal with this potential problem by undertaking hereafter Within methods of estimation at the industry level in order to capture exclusively intertemporal variances leaving aside variances that could arise between countries.

Although some information is available on price *indexes* from different sources, the relation to be tested needs price *levels* at the denominator of both industry and alternative wages, otherwise all the parameters that have an economic interpretation would be overestimated. We thus construct a vector of prices from the following:

$$\widetilde{p_i} = \sum_{j=(1...J)} S_{ij} w_j \tag{6}$$

where the price in a given country $i$, stands as the mean of wages per employee of both domestic producers and importers (indexed by $j$, $\forall j \in \{i, j'\}$), weighted by their respective market share. Obviously, in industries with positive rents, real prices should be higher than this constructed variable that is more relevant to proxy mean costs. However, following Oliveira-martins *et al* (1996) among others[9], average industry mark-ups are showed to be rather low (around 1.20-1.30 in general), and thus our constructed vector of prices would underestimate the true one of 20-30% on average. Consequently, one should keep in mind that the parameters in the wage equation would be weakly overestimated in industries with rents.

The alternative wage in the considered industry is not directly observable from the data. It can be approached by the average of the wage over all the industries ($\overline{w_i}$), if one assumes that employees have the same qualifications among industries. However, we relax this assumption by introducing some components of the alternative wage specific to the representative industry

[9]See for instance Schmalensee (1989) for reviewing profitability measures and results.

that could be captured by differentials in apparent productivity[10]. Hence, one way of modeling the alternative wage that is specific to a representative industry is to consider that:

$$w_{u,i} = \beta_{3,i}\overline{w_i} + \beta_{4,i}\left[(Pty_i) - \overline{Pty_i}\right] \tag{7}$$

where $\overline{w_i}$ and $\overline{pty_i} = \overline{(Y_i/L_i)}$ represent respectively wage and labour productivity averaged over all the industries of the sample, for a given country. Alternative wages are function of labour productivity differentials, in addition to the average wage.

The theory we develop in section 2 is based on a framework consistent with homogeneous products sold in each marketplace $j, j \in \{1 \dots J\}$. However, UNIDO data rely on rather aggregate classifications, both in terms of the reported industries and markets' boundaries. Data is observed at the 3-digit level (ISIC classification) and three group of markets can be distinguished: the domestic market, the Industrialized countries' market (*Ind*, hereafter) and the Developing countries' one (*Dev*, hereafter). This suggests a potential presence of product and spatial differentiation *within* each industry or group of markets aggregate. We show in appendix A that our wage equation is still consistent with both goods and spatial differentiation hypothesis. In that case however, the parameters on the market shares should be higher than the $\beta$ ones from equation 5, where we have assumed a homogeneous good and perfectly integrated markets' configuration. The reason is that a firm $n$ selling a variety $x_{ij,n}$ faces a 'perceived' demand which is smaller than total demand for the differentiated good $x$(see Gerosky (1983))[11]. This enables this firm to gain an additional market power on its product, that should be captured by the market shares' parameters.

Accounting for spatial and goods' differentiation (appendix A), then replacing the real price by its estimate (eq. 6) and the alternative wage by its function (eq. 7) in the wage relation 5, gives the following specification to estimate:

$$\begin{aligned}\frac{w_{i,t}}{\widetilde{p_{i,t}}} &= \beta'_{1,it}\,(E_iS_i)_{i,t} + \beta'_{2,Ind,t}(E_{Ind}S_{Ind})_{i,t} + \beta'_{2,Dev,t}(E_{Dev}S_{Dev})_{i,t} \\ &\quad + \beta_{3,i}\frac{\overline{w_i,.t}}{\widetilde{p_{i,t}}} + \beta_{4,i}\frac{\left[Pty_{i,t} - \overline{Pty_{i,t}}\right]}{\widetilde{p_{i,t}}} + \varphi_i + u_{i,t}\end{aligned}$$

[10]When the labour force is specific to the industry, the relevant alternative wage to be considered at the level of the firm is that of the industry the firm belongs to. In theory, marginal productivity should be considered as a measure of the competitive (alternative) wage. Since it is not observable however, we replaced it by the apparent productivity. It is to be noted however that this proxy could be related to capital intensity of the industry which is in turn, another source of rents that could be shifted to the wages $w_i$. (See Katz and Summers (1989)).

[11]Perceived equals total demand only in case of a homogeneous goods' market.

(8)

Without loss of generality and for ease of exposition, we assume hereafter that the conjectural variation $\alpha$ is zero (i.e: Cournot type behavior). The $\beta'$ parameters in a context of differentiation are then defined as:

$$\beta'_{1,it} = \left[\lambda_{i,t}\psi_{it}\frac{\kappa_{iit}}{\sigma_i^e}\right]$$

and $\forall j' = \{Ind, Dev\}$

$$\beta'_{2,j't} = \left[\lambda_{it}\psi_{ij't}\frac{\kappa_{ij't}}{\sigma_{j'}^e}\right]$$

Here, $\forall j$, $\sigma_j^e$ stands for the mean price-elasticity of 'effective' demand. In addition, an extra parameter $\kappa_{ij,t}$, $\forall j\{\in i, j'\}$ enters the definition of the coefficients on domestic and foreign market shares. As showed in appendix A, this parameter is an increasing function of the degree of differentiation and could take on values between 1 (homogeneous goods and perfect market integration case) and $\left(\frac{X_j}{x_{ij,n}}\right)$, $\forall j \in \{i, j'\}$ (perfect product and spatial differentiation case). Thus, the $(\beta')$'s are expected to be always either null or positive, with values that could be high in case of spatial or goods' differentiation[12]. Therefore, one could expect the coefficients relative to foreign market shares to be higher than that on domestic market share, assuming that the domestic market is perfectly integrated. Typically, as foreign market shares used as independent variables are not of a bilateral nature[13], parameter estimates could tend to be abnormally high. This issue will be briefly tackled in the next section. However, the three $\beta'$ parameters are expected to be positive and significant if two conditions are filled:

1/when increasing 'relevant' market shares are associated with rents captured by any or all of the parameters representing market power at the industry level($\sigma$,$\alpha$, $\psi$ but also the differentiation indicator $\kappa$).

2/when these rents are shared with employees ($\lambda > 0$).

However, if the $\beta'_j$ parameter associated to a market $j \in \{i, Ind, Dev\}$, is null then this would be consistent with one of the two hypothesis below:

1/ country $i$'s export firms have no market power on that market or

[12]In theory, the $(\beta')$'s take zero values in the absence of unions market power ($\lambda_{i,t} = 0$) or in case of perfect competition ($\forall j$, $\sigma_j$ tends to infinity).

[13]Recall that we consider three markets relative to the domestic, and the whole Developed and Developing countries.

2/ unions have no market power on the labour market able to shift the rents from exporting to $j$.

Besides, in equation 8 above, we added country fixed effects in order to capture other potential components of the wage relation that are specific to a country. We indexed the parameters to be estimated by $t$, because unions' market power ($\lambda_{it}$) as well as bilateral concentration ($\psi_{ii,t}$) could vary over time which causes in return the $\beta$'s to evolve in the same way. However, Harrison (2001) finds little evidence on the relation between globalization and the labour share in output induced by the evolution of the unions' power parameter. This suggests that bargaining power did not evolve with globalization variables. Moreover, bilateral concentration should not vary a lot with openness as foreign firms' entry should sweep out from the market those firms that are not efficient and thus, those that would already have a small market share. These two remarks, along with the assumption that $\kappa_{ijt}$ does not vary much in time, but mostly among countries, lead us to specify the interaction between $\lambda_{i,t}$ and $\psi_{i,t}$ to take the following form, $\forall j, j \in \{i, Ind, Dev\}$:

$$\lambda_{i,t}\psi_{ij,t}\kappa_{ij,t} = \overline{\lambda_i\psi_{ij}\kappa_{ij}} + v_{it}$$

with $v_{it}$ following a normal distribution with mean 0 and a variance $\sigma_v^2$. Putting the above function into equation 8, we end up with the same relation to estimate except that now the $(\beta')$'s do not vary with time and the residual expressed as: $u'_{i,t} = u_{it} + v_{it}(E_iS_i)_{it} + v_{it}(E_{Ind}S_{Ind})_{it} + v_{it}(E_{Dev}S_{Dev})_{it}$. This suggests that the relevant market shares' vectors in the wage equation would be correlated with the residual, which could bias the estimates. In addition to the possibility of correlation between the relevant market shares and the residual by theoretical construction, all the right hand variables could be affected in return by industry wages. In fact, average wages as well as productivity differentials could be endogenous to industry wages for relatively obvious reasons. Besides, an increase in wages could reduce competitivity and thus be negatively related to both domestic and foreign market shares. We control for these endogeneity problems by conducting hereafter General Methods of Moments (GMM) estimation methods.

# 5 Econometric results

We class countries first into two groups, Developed and Developing countries, and run econometric regressions by group of countries and industry. In a second step, we break the

developing countries group into four subgroups: East Asian, Asian, Latin American as well as Mediterranean countries. We do this because estimates are not country-specific in the econometric model, while the theoretical model indicates that they should be. This is why we make first the assumption that within industrialized countries(resp. developing countries), market powers of both unions on the labour and firms' on the commodity markets are of similar magnitude. We then relax this assumption by considering that the parameters are the same among subgroups of developing countries[14].

As noted above, the nature of our panel suggests running regressions on the wage equation 8 that should capture time variance within each country. We therefore provide Within estimates (fixed effects)[15] in the tables of results hereafter and when necessary, Instrumental variables(IV) and General Methods of Moments (GMM) on that Within relation. Given the similarity between IV-results and GMM-ones, we preferred reporting the latter each time it was convenient. We test for the exogeneity of both explanatory variables as well as instruments, by running systematically Durbin-Wu-Hausman and Over-identification tests [16]. When the p-value relative to DWH test exceeds 0.05, we do not reject the hypothesis that the explanatory variables are exogenous to the model and choose the Within model. However, when the DWH p-value is lower than 0.05, we choose the GMM model and present estimates where the instruments are suggested to be orthogonal to the residual allowing the equation to be over-identified (see p-values from over-identification test results).

Tables 8 and 9 report results for the developed and the developing countries panel. Some common observations could be derived from these two tables. First, as it is expected, the industry average wage and the productivity differential variables have significant positive effects on real industry wage per employee in most of the industries for the two groups of countries. However, notice that the productivity differential effects are of similar magnitude whereas the coefficients on the average wage are usually higher in the developing than in industrialized countries, even when accounting for standard errors of the estimates. Thus, the alternative wage constituted by these two variables seems to play a greater role in affecting industry wages in the less developed than in rich countries. Besides, the $\beta'$ coefficients on both foreign market shares' variables (in absolute terms), appear systematically to be higher than those on domestic market shares for all of the industries in the two sub-panels. Following our theoretical analysis,

[14]We preferred an industry-type specification instead of a country-type specification because from the point of view of industrial economics, market structures should be much more industry-specific than country specific (see for instance the introduction chapter in Sutton (1991)). However, we account partly for country features since we run regressions by groups with comparable characterestics. Besides, we use Within-type methods that account systematically for *permanent* country heterogeneity captured by the fixed effects.

[15]The parameters of the fixed effect equation 8 suggested by the theory are exactly the same as those of a Within equation where all the variables are expressed in differences to the means, through the period.

[16]see Davidson and Mac Kinnon, 1994 for more details on these tests.

this result is consistent with spatial differentiation within the two groups of foreign markets. For illustration, the table 5 report some descriptive statistics among which one can observe the very small market share of each country in all the Industrialized and Developing countries' markets. However, for most of the exporting countries, the market that counts constitutes a small part of those observed markets. Thus, the *effective* market shares for extracting rents should be significantly bigger. USA's exports for instance, are mainly directed toward Canada and Japan, two sub-markets lying in the whole *Ind* market we refer to. This underestimation of the market shares relative to each country, is balanced by an overestimation of the $\beta'_{2,Ind}$ and $\beta'_{2,Dev}$ corresponding parameters[17].

Nevertheless, the $\beta'_1$ parameters relative to domestic shares are mainly between 0 (non significant) and 0.5, which is consistent with our theory as well as other studies that try to evaluate properly the unions' market power parameter $\lambda_i$ (see for instance, Abowd and Lemieux (1993) and Abowd and Allain (1996))[18].

Note by the way, that some small minority of $\beta'$ coefficients appear to be negative and significant in the two tables. This could be due to a reverse causality: an increase in wages should hamper competitiveness, leading to a reduction in market shares. This result is consistent with non-efficient bargaining practices between unions and employers in the corresponding industries. In that case, unions first determine wages, leaving employers determining domestic and foreign sales in a second step. High fixed wages might then lead to less competitiveness on each market. However, we account for these potential endogeneity problems by conducting DWH tests and then GMM methods. Accordingly, in this limited number of industries, we must interpret this outcome as a mismatch between the theoretical framework we use and evidence.

However, specific features need to be highlighted from each group of countries considered. For instance, in table 8 relative to developed countries, the $\beta'$ parameters associated with any market share variable are in a large majority of cases positive (around 15 industries) or insignificant (around 10), which is consistent with our theory. Moreover, in 10 industries (out of 29), gaining market shares in *all* of the markets affects wages positively. This suggests that rents acquired from selling on domestic, but also *Ind* and *Dev* markets in the corresponding industries are systematically shared between firms and employees. Besides in this developed countries' panel, the significance and sign of the coefficient $\beta'_1$ on the domestic market share

[17] see appendix A.

[18] In fact, these authors evaluated the 'revenue shifter' $\lambda_i$ to be around 0.25 and 0.40 on average. Then it is not a strong assumption to consider that in an integrated market, such as the domestic one, $\kappa_i$ is near or a little above unity. Meanwhile, given that $0 < \psi_i < 1$ and for values of $\sigma$ around or above unity (See Goldstein and Khan (1985)), the ratio $\frac{\psi_i}{\sigma_i}$ should be slightly smaller than unity. This would be consistent with our results on $\beta'_{1i}$.

variable is extremely correlated with that on market share relative to the *Ind* markets ($\beta'_{2,Ind}$). One explanation compatible with our theory is that industry market features detected by the $\beta'$ parameters, through price-elasticities($\sigma$) or implicitly firms conduct ($\alpha$), could be quite similar within rich countries. This argument is even more convincing when comparing the effects when selling to home or industrialized markets with that of the developing markets: in Beverages, Footwear, Iron and Steel, Other Chemicals and Wearing Apparel, there is a positive effect associated with domestic and *Ind* gains in market shares whereas the effect is not significant when gaining shares in *Dev* markets. One of the reasons is that in industries like Footwear, rich countries face high competition in developing countries' markets that could be captured, for instance, by high sensitivity of consumers to their prices ($\sigma$). On the opposite, in industries like Industrial Chemicals, Electrical Machinery and Professional and Scientific Instruments, where competition among *Ind* markets is usually higher than in *Dev* markets, employees gain from rents that seem to be acquired on developing countries' markets.

Table 9 presents results relative to the developing countries' panel. We find only nine industries where wages are positively and significantly linked to relevant domestic market shares. Hence, in one third of the developing countries' industries, results are consistent with positive rents that are shared with employees due to an increase in domestic market shares. For the rest of the industries, given the presumably limited competition in the corresponding markets the explanations of such an outcome rely on the fact that unions do not exist or have no market power to shift rents from an increase in domestic market shares. Besides, only in six (resp. 4) industries are the effects on relevant market shares in *Ind* (resp. *Dev*) positive and significant. This suggests that firms from developing countries have no or little market power in foreign markets that enables them to extract rents and then to share them with their employees. Moreover, we must stress that a negative and significant impact of foreign sales is observed in 7 industries. In order to better interpret these outcomes, we conduct more disaggregated analysis hereafter. We break the developing countries' sample into 4 sub-groups: Asia, East Asia, Mediterranean and Latin America.

From table 10, we see that in Mediterranean Countries, both domestic and foreign relevant market shares are often associated with positive and significant effects. For instance, all significant coefficients on the domestic market shares are positive (16 out of 29). Interestingly, as far as foreign market shares on OECD markets are concerned, the same outcome is observed in 12 industries. This is the case for Glass, Leather, Other Manufactured, Other non metallic, Pottery and Textile products which are usually considered to be traditional industries of specialization.

In Latin America however (see table 11), industry wages appear often to be positively linked to domestic relevant market shares (in 16 industries) but an increase in foreign market

shares is not systematically associated with higher wages. On OECD markets, and among significant parameters, six are positive while two are negative. On other developing countries' markets, seven are positive and four are negative. Hence, rents gained on the domestic market can turn into higher wages, whereas unions fail to capture rents on foreign markets. Unionized industries could be less competitive when selling abroad.

In East Asia and Asia (table 12), the coefficients on the domestic relevant market share appear to be positive and significant for less than a third of the industries. Compared to other regions, rent sharing does not seem to be often practiced in Asian countries. Moreover, the number of industries where the $\beta'_{2,Ind}$ and the $\beta'_{2,Dev}$ are positive and significant is very low (between 4 and 6). These countries do not usually seem to extract rents from selling to foreign *Ind* and *Dev* markets. Moreover, in various industries assumed to be industries of specialization, the estimated parameter is negative. In East Asia, this is the case for Fabricated metal products, Electrical machinery, Machinery and Pottery, Other non metallic products and Iron and Steel. Turning to Asia, the same outcome is observed for Leather products, Wood products, Textiles and Wearing Apparel. Noteworthy, the coefficients on average wage are usually higher in these two samples of countries than for other considered samples. This suggests that what drives most Asian industry wages are effects that could be more relevant to national countries features than effects relative to industries' ones. Then, if in the long term openness is supposed to affect alternative wages by reasoning from a general and not partial equilibrium point of view, one could consider that long term trade's effect could be captured by this variable.

# 6 Conclusion

This paper has focused on rent sharing issues consecutive to openness. We asked whether openness, through exporting, is a source of rents for an industry that are shared between its workers and capital holders. In that respect, we aimed at considering the short or medium run impact of openness instead of looking at general equilibrium effects from the Stolper-Samuelson type.

We have derived then tested a theoretical equation, based on rent sharing theories, linking industry wages to openness variables. The real wage equation, net from the alternative wage, is shown to be a linear combination of the domestic market share and export market shares weighted by the rate of sales to each country. As the domestic market share variable is by construction inversely related to import penetration, the impact of openness has been tackled here through both import and export type variables.

Another feature of the equation is that it stresses explicitly the interaction between unions'

power on the labor market and domestic firms' power on the domestic and each of the export markets, when studying wages' response to openness.

We then used industrial trade and activity data from two UNIDO databases on 65 developed and developing countries to test this equation. We found, for developed countries, that an increase in export as well as domestic market shares is associated with growth in wages in roughly half of the industries. Then, rents to be captured abroad also matter. We find similar results for Mediterranean countries where both domestic and foreign relevant market shares are often associated with positive and significant effects.

In Latin America, things are slightly different as domestic market shares are more positively linked to wages than exports are. Unlike domestic market shares, export ones do not seem to be a principal source of rents to be shared with workers, for the average firm in Latin America.

The most striking results however are relative to Asia and East-Asia groups. Openness variables do not seem to be related in general to industrial wages. Either firms do not have enough power on average on the domestic or export markets to extract rents, or unions in Asia are not strong enough to shift a part of them to workers.

In sum, openness through exports and imports, is not systematically associated with gains and losses of rents respectively. The outcome depends on the characteristics of the industries, the power of unions and/or group of countries considered.

## References


Abowd, J. (1989). The Effect of Wage Bargains on the Stock Market Value of the Firm. *American Economic Review 79*(4).

Abowd, J. and L. Allain (1996). Compensation Structure and Product Market Competition. *NBER Working Paper*. n 5493.

Abowd, J., F. Kramarz, and D. Margolis (1999). High Wage Workers and High Wage Firms. *Econometrica 67*(2), 251–333.

Abowd, J. and T. Lemieux (1993, November). The Effects of Product Market Competition on Collective Bargaining Agreements: The Case of Foreign Competition in Canada. *Quarterly Journal of Economics 108*(4), 983–1014.

Baldwin, R. and G. Cain (1997). Shifts in US Relative Wages: The Role of Trade, Technology, and Factor Endowments. *NBER working paper*.

Borjas, G., R. Freeman, and L. Katz (1996). Searching for the Effect of Immigration on the Labor Market. *American Economic Review 86*(2), 246–251.

Borjas, G. and V. Ramey (1995). Foreign Competition, Market Power, and Wage Inequality. *Quarterly Journal of Economics 110*(4), 1075–1110.

Brander, J. and P. Krugman (1983). A 'Reciprocal Dumping' Model of International Trade. *Journal of International Economics 15*, 313–321.

Brown, J. and O. Ashenfelter (1986). Testing The Efficiency of Employment Contracts. *Journal of Political Economy 94*(3), S55–S78.

Budd, J. and M. Slaughter (2000). Are Profits Shared Across Borders? Evidence on International Rent Sharing. *NBER working paper*. N 8014.

Card, D. (1990). Unexpected Inflation, Real Wages, and Employment Determination in Union Contracts. *American Economic Review LXXX*, 669–688.

Christofides, L. N. and A. Oswald (1991). Efficient and Inefficient Employment Outcomes: A Study Based on Canadian Contract Data. *Research in Labour Econmics XII*, 173–190.

Currie, J. and A.Harrison (1997). Sharing The Costs: The Impact of Trade Reform on Capital and Labor in morocco? *Journal of Labor Economics 15*(3), S44–71.

De Melo, J., M.Haddad, and M.Horton (2000). Exports and Industrial Performance During the Moroccan Trade Liberlization. In J. Tybout and J. Roberts (Eds.), *Producer Heterogeneity and Performance in the Semi-Industrialized Countries*. Oxford University Press.

Geroski, P. (1983). Some Reflexions on the Theory and Application of Concentration Indices. *Journal of Industrial Economics 1*, 79–94.

Geroski, P. (1998). Thinking Creatively About Markets. *International Journal of Industrial Organization 16*(2), 677–695.

Ghose, A. K. (2000). Trade Liberalization and Manufacturing Employment. *Employment Working Paper*. N 2000-3, Geneva, ILO.

Goldstein, M. and M. Khan (1985). Income and Price Effects in Foreign Trade. In R. Jones and P. Kenen (Eds.), *Handbook of International Economics*, Volume 2. North Holland.

Harrison, A. and G.Hanson (1999). Who Gains From Trade Reform? Some Remaining Puzzles. *Journal of Development Economics 59*, 125–154.

Harrison, A. E. (2001). Has Globalization Eroded Labor's Share: some cross country evidence. *Working paper*. Columbia University.

Haskel, J. E. (1999). The Trade and Labour Approaches of Wage Inequality. *mimeo*.

Hosken, D. and D. Margolis (1997). The Efficiency of Collective Bargaining in Public Schools. *CREST-INSEE Working Paper*. N 9755.

Jean, S. (2000). Effect of Intersectoral Trade on Labour Demand Elasticities: Intersectoral matters. *Review of International Economics*.

Katz, L. and L. Summers (1989). Industry Rents: Evidence and Implications. *Brookings Papers on Economic Activity*, 209–275.

Krueger, A. B. and L. Summers (1988). Efficiency Wages and the Inter-Industry Wage Structure. *Econometrica 56*(2), 259–293.

Leamer, E. (1996). In Search Of Stolper Samuelson Effect On U.S Wages. *NBER working paper*. N 5427.

Martin, S. (1993). *Advanced Industrial Economics*. Blackwell.

Neary, J. (2001, January). Competition, Trade and Wages. *ETSG Working Paper*.

Oliveira Martins, Y. (1994). Market Structure, Trade and Industry Wages. *OECD Economic Studies 22*, 131–154.

Oliveira Martins, Y., S. Scarpetta, and D. Pilat (1996). Mark-up Pricing, Market Structure and the Business Cycle. *OECD Economic Studies 27*.

Schmalensee, R. (1989). Inter Industry Studies of Structure and Performance. In R. Shmalensee and R. Willig (Eds.), *Handbook of Industrial Economics*, Volume 2, pp. 951–1009. North Holland.

Sen, A. and A. Dutt (1995). Wage Bargaining, Imperfect Competition and the Markup: Optimizing Microfoundations. *Economics Letters 48*(1), 15–20.

Slaughter, M. (1999). Globalization and Wages: a Tale of Two Perspectives. *World Economy 22*(5), 609–629.

Slaughter, M. (2001). International Trade and Labour Demand Elasticities. *Journal of International Economics 54*(1), 27–56.

Sutton, J. (1991). *Sunk Costs and Market Structure: price competition, advertising and the evolution of concentration.* The MIT press.

Wood, A. (1995). How Trade Hurt Unskilled Workers. *Journal of Economic Perspectives*, 57–80.

# A Robustness of the Specified Equation to differentiation

We follow Gerosky's (1983) specification of structure-conduct-performance in the presence of product differentiation. Goods are differentiated because each good is assumed to have its specific market. Put differently, every variety is unique as it is only partially comparable to the others[19]. However, goods could also be geographically differentiated. For instance, in a big region $j$, where local markets are distant from one another, demand addressed to a firm in a market, say $m_1$, could have little if any effect on the perceived demand of firms' selling in another marketplace, $m_2$. On the opposite, if markets $m_1$ and $m_2$ are very close, and thus, tend to be integrated into one overall market $j$, then consumers' total demand perceived by each firm in this region $j$ tends to match total supply from these firms.

Hence, let $X^e_{j,n_i} = x_{ij,n} + \theta_j \left[\sum_{n' \neq n,} x_{ij,n'} + \sum_{i' \neq i} X_{i'j}\right]$ be the total 'effective' demand faced by firm $n$. The parameter $\theta_j$ can be considered either an indicator of product or spatial differentiation or a combination of both. The value of $\theta_j$ varies between 0 (perfectly differentiated good or geographically segmented markets) and 1 (perfectly homogeneous good or perfectly integrated markets within $j$ ). Then, the Lerner index for firm $n$ is determined by the same function of that expressed for the homogeneous good and perfectly integrated market equation 2, except that price-elasticity $\epsilon^e_{ij,n}$, conjectural variation $\alpha^e_{ij,n}$ and the firm $n$'s market share $s^e_{ij,n}$ are defined in terms of 'effective' quantities. Recalling the mark up equation we then have:

$$\frac{p_{ij,n} - w_{u,i}}{p_{ij,n}} = [(1 + \theta_j \alpha^e_{ij,n})/\sigma^e_{ij,n}] * s^e_{ij,n} \tag{9}$$

with $s^e_{ij,n} = \frac{x_{ij,n}}{X_j} \frac{X_j}{X^e_{j,n_i}} = s_{ij,n} \frac{X_j}{X^e_{j,n_i}}$ representing the effective share of firm $n$ on region $j$. Notice that 'effective' or 'perceived' market share is systematically higher than observed market share $\frac{x_{ij,n}}{X_j}$ which increases the firm's $n$ rents at equilibrium. Following Martin's (1993) specification, let $\alpha^e_{ij,n} = \alpha^e_j$, $\sigma^e_{ij,n} = \sigma^e_j$ . Note $\kappa_{ij,n} = \frac{X_j}{X^e_{j,n_i}}$. This parameter equals 1 when goods are perfectly homogeneous (resp. perfectly integrated region), and reaches $\left(\frac{X_j}{x_{ij,n}}\right)$, $\forall j \in \{i, j'\}$ when the variety that is produced by firm $n$ is perfectly differentiated (resp. perfect market segmentation), (i.e: $\theta_j = 0$). Then equation 4 becomes:

[19] see also Gersoky (1998) who defines the market in 'strategic' terms. The main idea is that managers think about conceiving a product that creates its own market.

$$\frac{w_{i,n}}{p_{i,n}} = \lambda_i \left( \frac{[1+\theta_i \alpha_i^e]}{\sigma_i^e} \kappa_{ii,n} \right) e_{ii} s_{ii,n} + \lambda_i \sum_j \left[ \left( \frac{[1+\theta_j \alpha_j^e]}{\sigma_j^e} \kappa_{ij,n} \right) e_{ij} s_{ij,n} \right] + \frac{w_{u,i}}{p_{i,n}} \qquad (10)$$

We add the assumption that firms are sufficiently small in each market $j$. In that case, the value of $\left[\theta_j \sum_{n' \neq n,} x_{ij,n'} + \theta_j \sum_{i' \neq i} X_{i'j}\right]$ is sufficiently large, which enables us to consider that $X^e_{j,n_i} \approx X^e_{j,n'_i}$, $\forall n, n' \in i$. Hence, $\kappa_{ij,n} \approx \kappa_{ij,n'} \approx \kappa_{ij}$, $\forall n, n' \in i$. Aggregating at the industry level leads to the following average real wage equation:

$$\frac{w_i}{p_i} = \beta'_{1,ii} \, E_{ii} S_{ii} + \sum_{j' \neq i} \beta'_{2,ij'} \, E_{ij'} S_{ij'} + \frac{w_{u,i}}{p_i} \qquad (11)$$

where

$$\beta'_{1,i} = \left[ \lambda_i \psi_i (1 + \theta_i \alpha_i^e) \frac{\kappa_{ii}}{\sigma_i^e} \right]$$

and $\forall j' \neq i$

$$\beta'_{2,j'} = \left[ \lambda_i \psi_{ij'} (1 + \theta_j \alpha_j^e) \frac{\kappa^e_{ij'}}{\sigma^e_{j'}} \right]$$

Considering three markets $j$, with $j \in \{i, Ind, Dev\}$, replacing the real price by its estimate (eq. 6) and the alternative wage by its function (eq. 7) in the wage relation 11, corresponds exactly to the equation 8 we have estimated, except that the $\beta'$ parameters are expressed in their general form. Indeed, the $\beta'$ parameters enclose the conjectural variation parameter $\alpha$ and the differentiation indicator $\theta$, unlike what is presented in the core of the text where we assumed Cournot behavior for simplification (i.e: $\alpha_i = 0$),. However, this general form specification of the $\beta'$ parameters leads to the same conclusions of the Cournot type: The $\beta'$'s are expected to have null or positive values. This is why we preferred to present the most simple case.

## List of Figures

Figure 1: Countries with the best Wage/Employee performances (variables expressed in terms of estimated annual growth)

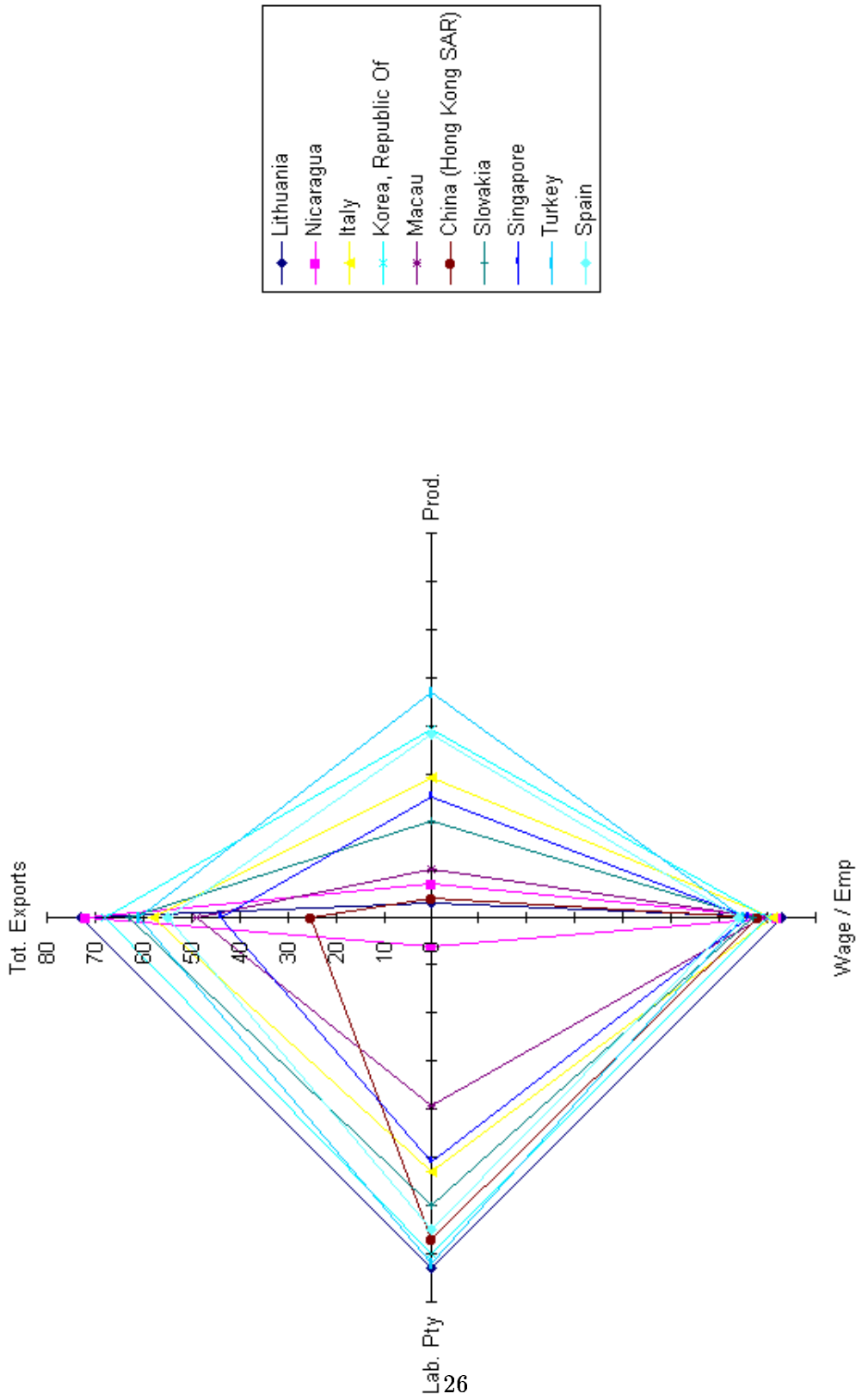
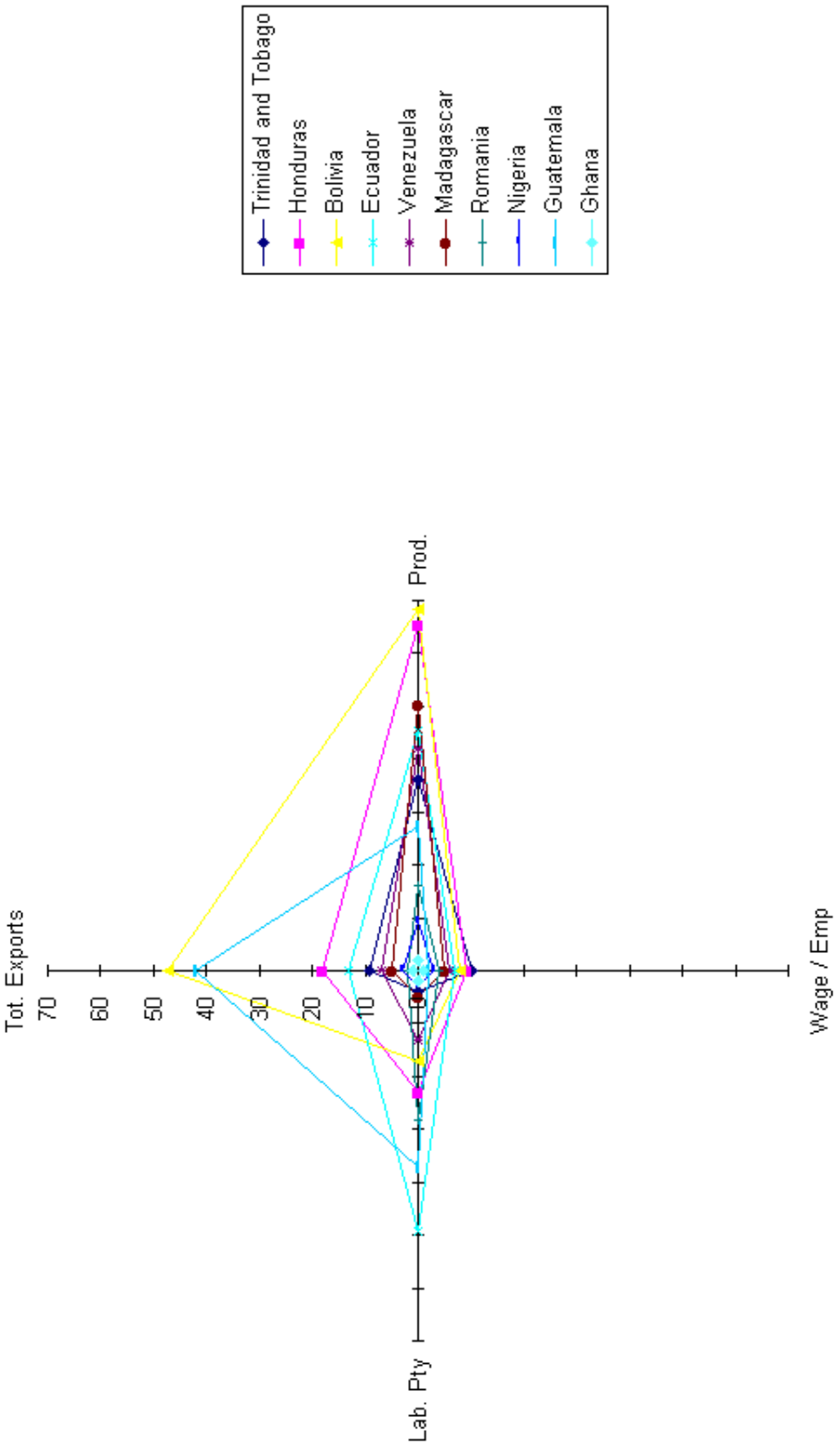


Figure 2: Countries with the worse Wage/Employee performances (variables expressed in terms of estimated annual growth)



# List of Tables

Table 1: Summary of available observations (values in the table design the number of industries observed)

| Obs | Country | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Argentina | | | 13 | 27 | 14 | 11 | 12 | 13 | 15 | 9 | | | 10 | | | | |
| 2 | Australia | 22 | 22 | 23 | 23 | 24 | 9 | 23 | 23 | 21 | 21 | 21 | 22 | | | | | |
| 3 | Austria | 13 | 13 | 27 | 27 | 27 | 25 | 24 | 23 | 24 | 22 | 23 | 21 | 23 | 22 | 19 | 18 | 7 |
| 4 | Bangladesh | 12 | 14 | 17 | 14 | 17 | 14 | 14 | 2 | 19 | 20 | 17 | 19 | | | | | |
| 5 | Bolivia | 14 | 12 | 12 | 12 | 8 | 11 | 14 | 14 | 10 | 12 | 17 | 24 | 23 | 22 | 23 | 25 | 25 |
| 6 | Canada | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 27 | 27 | 27 |
| 7 | Chile | 28 | 28 | 28 | 27 | 28 | 28 | 28 | 28 | 28 | 27 | 28 | 29 | 29 | 28 | 29 | 29 | 28 |
| 8 | China (Hong Kong) | 23 | 25 | 26 | 26 | 25 | 26 | 25 | 26 | 26 | 22 | 23 | 22 | 20 | 20 | 19 | 20 | 25 |
| 9 | Colombia | 29 | 28 | 28 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 29 | 29 | 29 | 29 | 29 | 29 |
| 10 | Costa Rica | | | | 23 | 23 | 25 | 26 | 25 | 24 | 23 | 24 | 23 | 24 | 25 | 25 | 25 | 22 |
| 11 | Cyprus | 25 | 24 | 25 | 25 | 24 | 25 | 24 | 23 | 24 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| 12 | Denmark | 20 | 22 | 21 | 21 | 20 | 18 | 21 | 22 | 23 | 19 | 19 | 10 | 11 | 10 | 10 | 10 | 10 |
| 13 | Ecuador | 20 | 17 | 15 | 17 | 20 | 15 | 21 | 22 | 23 | 25 | 24 | 28 | 28 | 28 | 28 | 25 | 23 |
| 14 | Egypt | 17 | 22 | 23 | 23 | 19 | 24 | 28 | 26 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 17 | |
| 15 | El Salvador | 22 | 24 | 22 | 21 | 21 | | | | | | | | 17 | 19 | 23 | 26 | 27 |
| 16 | Ethiopia and Eritrea | 11 | 9 | 9 | 10 | 6 | 8 | 9 | 8 | 8 | | | | | | | | |
| 17 | Fiji | 14 | 13 | 13 | 12 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | | | | | |
| 18 | Finland | 28 | 28 | 28 | 28 | 28 | 28 | 26 | 24 | 24 | 23 | 24 | 24 | | 26 | 11 | 11 | 11 |
| 19 | France | 2 | 2 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | | | | | |
| 20 | Germany | | | | | | | | | | | 23 | 24 | 26 | 26 | | | |
| 21 | Germany, Western Part | 29 | 29 | 29 | 29 | 27 | 27 | 27 | 27 | 27 | 26 | | | | | | | |
| 22 | Ghana | 9 | 11 | 9 | 6 | | | | | | | | | | | | | |
| 23 | Greece | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 29 | 28 | 28 | 28 | 28 | 29 | 29 | 29 | 29 | 29 |
| 24 | Guatemala | 23 | 25 | 25 | 26 | 27 | 27 | 26 | 28 | | | 26 | | 27 | 29 | 26 | | 25 |
| 25 | Honduras | 3 | 3 | 18 | 17 | 23 | 3 | 3 | 3 | 3 | 25 | 24 | 25 | 26 | 27 | 26 | | |
| 26 | Iceland | 10 | 8 | 11 | 10 | 11 | 11 | 12 | 17 | 16 | 16 | 14 | 18 | 17 | 17 | 19 | 19 | |
| 27 | India | 27 | | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 28 | 27 | 27 | 28 | 28 | 28 | 29 | 29 |
| 28 | Indonesia | 22 | 24 | 24 | 24 | 23 | 23 | 24 | 24 | 20 | 25 | 25 | 27 | 26 | 26 | 27 | 27 | 13 |
| 29 | Italy | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 29 | 28 | 27 | 27 | 27 | | | |
| 30 | Japan | 27 | 28 | 28 | 27 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 |
| 31 | Jordan | 11 | 11 | 11 | 13 | 13 | 12 | 13 | 16 | 19 | 23 | 20 | 22 | 24 | 26 | 25 | | |
| 32 | Korea, Republic Of | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 28 | 29 | 29 | 29 | 29 | 27 | 27 |
| 33 | Kuwait | 17 | 15 | 17 | 18 | | 21 | 16 | 20 | 18 | 20 | 14 | 21 | 23 | 23 | 22 | 22 | 23 |
| 34 | Macau | 23 | | 24 | 9 | 11 | 24 | 24 | 17 | 15 | 14 | 16 | 15 | 15 | 13 | 13 | 12 | 15 |
| 35 | Madagascar | 14 | 14 | 15 | 13 | 14 | 14 | | | | | | | | | | | |
| 36 | Malaysia | 28 | 28 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 24 | 25 | 24 | 29 |
| 37 | Malta | 17 | 18 | 16 | 17 | 19 | 18 | 20 | 18 | 11 | 18 | 18 | 19 | 18 | 19 | 18 | 17 | |
| 38 | Mauritius | 19 | 20 | 18 | 5 | 3 | 20 | 2 | 3 | 3 | 22 | 22 | 23 | 21 | 22 | 24 | 22 | 24 |
| 39 | Mexico | 18 | 18 | 18 | 26 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 22 | 21 | 21 | 20 | 27 | 27 |

*continued next page ...*

Table 2: Summary of available observations (continued)

| | | *... continued from previous page* | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Obs | Country | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
| 40 | Morocco | 25 | 26 | 26 | 26 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 26 | 26 | 10 | 27 | 25 | 9 |
| 41 | Nepal | | | | | | 15 | 8 | 7 | 7 | 16 | 6 | | 9 | | | 11 | |
| 42 | Netherlands | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 26 | 26 | 22 | 22 | 21 | 21 | 27 | 27 | 27 | 27 |
| 43 | New Zealand | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 16 | 7 | | 7 | 11 | 11 | 11 | |
| 44 | Nicaragua | 22 | 17 | 13 | 19 | 13 | | | | | | | | | | | | |
| 45 | Norway | 28 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 26 | 21 | 22 | 22 | 23 | 23 |
| 46 | Pakistan | 25 | 28 | 27 | 28 | 23 | 22 | 25 | 22 | 25 | 27 | 23 | 27 | | | | | |
| 47 | Panama | 16 | 12 | 16 | 19 | 19 | 19 | 17 | 17 | 17 | 23 | 18 | 16 | 18 | 18 | | 18 | 19 |
| 48 | Peru | | 26 | 26 | 28 | 27 | 27 | 27 | 26 | 27 | 28 | 28 | 27 | | 27 | | | |
| 49 | Philippines | 29 | 29 | 26 | 27 | 26 | 27 | | 28 | 28 | 28 | 26 | 28 | 29 | 26 | 26 | 26 | 26 |
| 50 | Portugal | 27 | 27 | 27 | 26 | 26 | 25 | 25 | 26 | 26 | | | | | | | | |
| 51 | Romania | | | | | | | | | | 14 | 15 | 15 | 15 | | | | |
| 52 | Singapore | 20 | 20 | 19 | 18 | 18 | 17 | 17 | 16 | 15 | 15 | 15 | 15 | 15 | 14 | 25 | 24 | 24 |
| 53 | South Africa | | | | | | | | | | | | 29 | 23 | 23 | 23 | 23 | 23 |
| 54 | Spain | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 |
| 55 | Sri Lanka | 27 | 28 | 28 | 27 | 27 | 27 | 27 | 26 | 27 | 23 | 24 | 22 | 25 | 24 | 26 | | |
| 56 | Sweden | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 27 | 28 | 26 | 28 | 28 | 26 | 27 | 29 | 29 | 29 |
| 57 | Thailand | | 21 | | 25 | | 25 | | 25 | 24 | 23 | 26 | | 24 | 24 | | | |
| 58 | Trinidad and Tobago | 22 | 22 | 21 | 21 | 21 | 22 | 22 | 6 | 22 | 22 | 25 | 23 | 23 | 22 | 21 | | |
| 59 | Tunisia | 27 | | | | | | | | | | | | 16 | 16 | 16 | 16 | 16 |
| 60 | Turkey | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 27 | 28 | 28 | 28 | 28 | 28 | 29 | 29 | 29 |
| 61 | United Kingdom | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 25 | 25 | 28 | 29 | 29 |
| 62 | United States of America | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |
| 63 | Uruguay | 26 | 26 | 22 | 25 | 25 | 25 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| 64 | Venezuela | 27 | 28 | 29 | 25 | 27 | 28 | 27 | 27 | 27 | 29 | 28 | 28 | 28 | 28 | 28 | 28 | |
| 65 | Zimbabwe | | | | 26 | 26 | 26 | | | | 25 | 25 | 25 | 24 | 24 | 23 | 26 | 26 |

Table 3: Ranking of Average Industry Annual Changes in

| Country | Wage/employee | emp. | prod | tot. imports | tot.exports | Lab.pty | Penet.rate | World M.S..[20] |
|---|---|---|---|---|---|---|---|---|
| Lithuania | 1 | 71 | 1 | 1 | 1 | 1 | 1 | 1 |
| Nicaragua | 2 | 67 | 2 | 68 | 72 | 2 | 72 | 72 |
| Italy | 3 | 45 | 16 | 21 | 42 | 7 | 48 | 55 |
| Korea, Rep. | 4 | 35 | 6 | 4 | 31 | 4 | 26 | 27 |
| Macau | 5 | 64 | 25 | 35 | 62 | 6 | 15 | 62 |
| Hong Kong | 6 | 70 | 49 | 7 | 49 | 5 | 31 | 44 |
| Slovakia | 7 | 54 | 11 | 14 | 3 | 3 | 61 | 2 |
| Singapore | 8 | 49 | 30 | 23 | 17 | 15 | 54 | 13 |
| Turkey | 9 | 27 | 13 | 2 | 14 | 17 | 7 | 14 |
| Spain | 10 | 36 | 19 | 9 | 30 | 14 | 10 | 32 |
| Germany, West. | 11 | 46 | 24 | 22 | 35 | 11 | 39 | 53 |
| Iceland | 12 | 56 | 47 | 53 | 28 | 20 | 43 | 20 |
| Cyprus | 13 | 23 | 21 | 28 | 61 | 32 | 58 | 63 |
| Mauritius | 14 | 11 | 9 | 12 | 18 | 31 | 29 | 18 |
| Germany | 15 | 73 | 68 | 67 | 64 | 24 | 19 | 61 |
| Austria | 16 | 51 | 22 | 27 | 39 | 8 | 37 | 37 |
| Norway | 17 | 57 | 38 | 50 | 43 | 19 | 55 | 41 |
| Philippines | 18 | 26 | 17 | 11 | 33 | 30 | 14 | 35 |
| Japan | 19 | 40 | 26 | 13 | 56 | 12 | 18 | 52 |
| Finland | 20 | 62 | 50 | 41 | 54 | 22 | 33 | 51 |
| Sweden | 21 | 63 | 48 | 49 | 51 | 18 | 51 | 45 |
| Greece | 22 | 52 | 39 | 16 | 29 | 28 | 17 | 29 |
| United Kingdom | 23 | 59 | 41 | 38 | 46 | 21 | 52 | 40 |
| Denmark | 24 | 28 | 34 | 42 | 50 | 40 | 53 | 43 |
| Peru | 25 | 44 | 42 | 54 | 59 | 29 | 49 | 60 |
| Malta | 26 | 33 | 14 | 33 | 57 | 13 | 47 | 56 |
| France | 27 | 55 | 31 | 34 | 44 | 10 | 41 | 46 |
| Argentina | 28 | 60 | 66 | 29 | 19 | 47 | 4 | 25 |
| Netherlands | 29 | 50 | 37 | 40 | 34 | 25 | 64 | 34 |
| Uruguay | 30 | 41 | 33 | 8 | 25 | 27 | 9 | 23 |
| Costa Rica | 31 | 17 | 40 | 19 | 55 | 49 | 22 | 50 |
| Malaysia | 32 | 5 | 5 | 15 | 7 | 33 | 40 | 6 |
| Chile | 33 | 8 | 8 | 17 | 8 | 36 | 50 | 7 |
| Sri Lanka | 34 | 19 | 10 | 31 | 26 | 26 | 42 | 30 |
| New Zealand | 35 | 61 | 53 | 30 | 41 | 37 | 44 | 39 |
| Mexico | 36 | 42 | 44 | 3 | 11 | 34 | 3 | 12 |
| Thailand | 37 | 7 | 4 | 5 | 6 | 16 | 16 | 9 |
| Australia | 38 | 53 | 52 | 48 | 37 | 35 | 35 | 49 |
| Eth. and Erit. | 39 | 16 | 46 | 59 | 65 | 54 | 71 | 66 |
| U.S. of America | 40 | 43 | 51 | 36 | 36 | 38 | 27 | 36 |
| Canada | 41 | 48 | 55 | 39 | 40 | 39 | 21 | 38 |
| Gabon | 42 | 68 | 57 | 66 | 71 | 51 | 20 | 71 |
| Tunisia | 43 | 14 | 15 | 52 | 38 | 42 | 59 | 31 |
| Pakistan | 44 | 12 | 18 | 55 | 60 | 43 | 66 | 64 |
| Morocco | 45 | 13 | 20 | 26 | 22 | 44 | 45 | 24 |
| South Africa | 46 | 34 | 63 | 56 | 32 | 56 | 34 | 33 |
| Portugal | 47 | 25 | 7 | 6 | 16 | 9 | 11 | 17 |
| Bahamas | 48 | 66 | 23 | 45 | 20 | 67 | 65 | 19 |
| Colombia | 49 | 30 | 45 | 20 | 27 | 45 | 13 | 26 |
| Indonesia | 50 | 1 | 3 | 18 | 2 | 41 | 56 | 3 |
| Myanmar | 51 | 3 | 28 | 73 | 73 | 65 | 73 | 73 |
| Bangladesh | 52 | 2 | 12 | 47 | 24 | 63 | 69 | 28 |

*continued next page ...*

Table 4: Ranking of Average Industry Annual Changes in (continued)

| Country | Wage/employee | emp. | prod | tot. imports | tot.exports | Lab.pty | Penet.rate | World M.S.[21] |
|---|---|---|---|---|---|---|---|---|
| *continued from previous page* | | | | | | | | |
| Panama | 53 | 39 | 62 | 43 | 23 | 50 | 38 | 22 |
| Kuwait | 54 | 22 | 54 | 58 | 66 | 59 | 70 | 65 |
| India | 55 | 21 | 35 | 24 | 15 | 46 | 25 | 16 |
| Bahrain | 56 | 37 | 64 | 65 | 63 | 60 | 57 | 58 |
| Nepal | 57 | 10 | 43 | 44 | 48 | 48 | 36 | 42 |
| El Salvador | 58 | 15 | 58 | 32 | 58 | 66 | 24 | 59 |
| Senegal | 59 | 69 | 70 | 62 | 67 | 53 | 8 | 68 |
| Fiji | 60 | 18 | 36 | 64 | 4 | 52 | 63 | 4 |
| Zimbabwe | 61 | 31 | 59 | 10 | 21 | 55 | 5 | 21 |
| Egypt | 62 | 20 | 60 | 63 | 10 | 64 | 60 | 10 |
| Jordan | 63 | 4 | 29 | 60 | 47 | 62 | 67 | 54 |
| Trin. and Tob. | 64 | 38 | 65 | 70 | 53 | 61 | 62 | 57 |
| Honduras | 65 | 9 | 56 | 51 | 45 | 69 | 30 | 47 |
| Bolivia | 66 | 6 | 27 | 57 | 12 | 58 | 23 | 11 |
| Ecuador | 67 | 29 | 61 | 25 | 5 | 57 | 12 | 5 |
| Venezuela | 68 | 32 | 67 | 61 | 13 | 68 | 32 | 15 |
| Madagascar | 69 | 24 | 69 | 69 | 69 | 71 | 28 | 69 |
| Romania | 70 | 58 | 72 | 46 | 68 | 72 | 2 | 67 |
| Nigeria | 71 | 65 | 71 | 71 | 9 | 70 | 68 | 8 |
| Guatemala | 72 | 47 | 32 | 37 | 52 | 23 | 46 | 48 |
| Ghana | 73 | 72 | 73 | 72 | 70 | 73 | 6 | 70 |

Table 5: Descriptive statistics on wages and market shares variables for 1994 (cross industry means and standard errors)

| Country | Wage/employee (US $) | | R.Dom.MS | | R. MS in *Ind* | | R. MS in *Dev* | |
|---|---|---|---|---|---|---|---|---|
| CTY | **Mean** | **std** | **Mean** | **std** | **Mean** | **std** | **Mean** | **std** |
| Austria | 34982,21 | 1829,53 | 0,36 | 0,03 | 0,001406 | 0,000204 | 0,000113 | 0,000031 |
| Bolivia | 2988,99 | 373,29 | 0,67 | 0,03 | 0,000000 | 0,000000 | 0,000029 | 0,000012 |
| Canada | 28200,48 | 801,28 | 0,38 | 0,03 | 0,007500 | 0,001396 | 0,000192 | 0,000094 |
| Chile | 9137,98 | 709,79 | 0,57 | 0,03 | 0,000443 | 0,000250 | 0,001080 | 0,000544 |
| Hong Kong | 15543,18 | 432,26 | 0,14 | 0,03 | 0,000097 | 0,000049 | 0,001394 | 0,000397 |
| Colombia | 4125,70 | 194,99 | 0,63 | 0,03 | 0,000057 | 0,000018 | 0,000121 | 0,000046 |
| Costa Rica | 3638,25 | 189,93 | 0,53 | 0,03 | 0,000012 | 0,000004 | 0,000033 | 0,000011 |
| Cyprus | 12019,72 | 810,77 | 0,43 | 0,03 | 0,000011 | 0,000007 | 0,000007 | 0,000004 |
| Denmark | 33264,00 | 1169,38 | 0,28 | 0,10 | 0,002502 | 0,001017 | 0,000018 | 0,000007 |
| Ecuador | 2990,25 | 357,96 | 0,64 | 0,03 | 0,000008 | 0,000002 | 0,000028 | 0,000006 |
| Egypt | 2332,70 | 238,34 | 0,67 | 0,03 | 0,000049 | 0,000021 | 0,000022 | 0,000007 |
| El Salvador | 5911,73 | 949,79 | 0,36 | 0,05 | 0,000001 | 0,000001 | 0,000053 | 0,000023 |
| Finland | 24673,77 | 624,21 | 0,36 | 0,03 | 0,002256 | 0,000616 | 0,000250 | 0,000068 |
| Gabon | 12806,89 | 1966,63 | 0,46 | 0,06 | 0,000000 | 0,000000 | 0,000007 | 0,000005 |
| Germany | 35946,03 | 690,34 | 0,48 | 0,03 | 0,011255 | 0,001134 | 0,002339 | 0,000593 |
| Greece | 14142,51 | 610,20 | 0,56 | 0,12 | 0,000351 | 0,000278 | 0,000086 | 0,000039 |
| Guatemala | 348,16 | 36,25 | 0,55 | 0,03 | 0,000001 | 0,000001 | 0,000105 | 0,000031 |
| Honduras | 1809,84 | 141,56 | 0,62 | 0,03 | 0,000002 | 0,000001 | 0,000002 | 0,000001 |
| Iceland | 27118,41 | 621,73 | 0,58 | 0,03 | 0,000035 | 0,000009 | 0,000000 | 0,000000 |
| India | 1285,61 | 82,22 | 0,81 | 0,01 | 0,000083 | 0,000087 | 0,000211 | 0,000042 |
| Indonesia | 1033,40 | 67,32 | 0,50 | 0,03 | 0,000795 | 0,000510 | 0,002366 | 0,001533 |
| Italy | 32530,36 | 791,36 | 0,44 | 0,03 | 0,007099 | 0,001595 | 0,002762 | 0,000820 |
| Japan | 45615,47 | 1857,71 | 0,81 | 0,02 | 0,002921 | 0,000659 | 0,013015 | 0,002503 |
| Jordan | 3076,57 | 182,97 | 0,45 | 0,04 | 0,000000 | 0,000000 | 0,000112 | 0,000041 |
| Rep. of Korea | 14973,58 | 504,07 | 0,59 | 0,03 | 0,001217 | 0,000334 | 0,004485 | 0,001302 |
| Kuwait | 21998,98 | 3427,27 | 0,63 | 0,06 | 0,000000 | 0,000000 | 0,000015 | 0,000017 |
| Lithuania | 1113,66 | 40,72 | 0,21 | 0,43 | 0,000172 | 0,000028 | 0,000002 | 0,000002 |
| Macau | 5838,71 | 308,66 | 0,43 | 0,04 | 0,000003 | 0,000007 | 0,000008 | 0,000005 |
| Malaysia | 4631,92 | 321,49 | 0,26 | 0,04 | 0,001342 | 0,000438 | 0,004049 | 0,000806 |
| Malta | 10811,24 | 239,90 | 0,39 | 0,03 | 0,000034 | 0,000025 | 0,000010 | 0,000014 |
| Mauritius | 3226,13 | 313,66 | 0,30 | 0,05 | 0,000578 | 0,000243 | 0,000008 | 0,000003 |
| Mexico | 9087,73 | 375,44 | 0,38 | 0,05 | 0,000952 | 0,000272 | 0,000121 | 0,000066 |
| Morocco | 3750,61 | 205,33 | 0,57 | 0,04 | 0,000134 | 0,000100 | 0,000090 | 0,000061 |
| Netherlands | 36484,56 | 1107,22 | -0,37 | 1,83 | 0,009847 | 0,001611 | 0,000605 | 0,000119 |
| New Zealand | 23123,96 | 2486,04 | 0,42 | 0,04 | 0,000302 | 0,000094 | 0,000608 | 0,000283 |
| Norway | 31351,46 | 1088,77 | 0,51 | 0,06 | 0,001198 | 0,000620 | 0,000099 | 0,000040 |
| Panama | 8890,78 | 1667,13 | 0,55 | 0,04 | 0,000001 | 0,000001 | 0,000006 | 0,000002 |
| Peru | 5784,47 | 567,94 | 0,66 | 0,03 | 0,000097 | 0,000065 | 0,000178 | 0,000135 |
| Philippines | 4207,46 | 823,21 | 0,55 | 0,04 | 0,000158 | 0,000066 | 0,000095 | 0,000047 |
| Singapore | 17788,66 | 441,61 | 0,35 | 0,02 | 0,000012 | 0,000009 | 0,000366 | 0,000224 |
| South Africa | 9464,94 | 386,71 | 0,63 | 0,07 | 0,000315 | 0,000620 | 0,000277 | 0,000126 |
| Spain | 19881,79 | 822,87 | 0,56 | 0,03 | 0,001659 | 0,000392 | 0,000416 | 0,000078 |
| Sri Lanka | 802,10 | 53,49 | 0,46 | 0,04 | 0,000018 | 0,000015 | 0,000005 | 0,000001 |
| Sweden | 25427,13 | 291,95 | 0,29 | 0,03 | 0,003098 | 0,000466 | 0,000336 | 0,000079 |
| Thailand | 4331,79 | 781,79 | 0,55 | 0,03 | 0,000355 | 0,000171 | 0,000955 | 0,000385 |
| Trin. and Tob. | 6755,11 | 788,11 | 0,39 | 0,04 | 0,000115 | 0,000057 | 0,000071 | 0,000022 |
| Tunisia | 5575,21 | 463,92 | 0,58 | 0,04 | 0,000027 | 0,000005 | 0,000013 | 0,000006 |
| Turkey | 8343,82 | 539,32 | 0,68 | 0,02 | 0,000139 | 0,000044 | 0,000309 | 0,000184 |
| United Kingdom | 23858,64 | 714,41 | 0,47 | 0,04 | 0,005263 | 0,000749 | 0,001466 | 0,000525 |
| U.S.America | 32047,14 | 1082,67 | 0,73 | 0,02 | 0,002714 | 0,000384 | 0,006860 | 0,001196 |
| Uruguay | 6878,32 | 408,57 | 0,55 | 0,03 | 0,000029 | 0,000024 | 0,000220 | 0,000056 |
| Venezuela | 4533,45 | 249,95 | 0,64 | 0,03 | 0,000055 | 0,000040 | 0,000170 | 0,000049 |
| Zimbabwe | 2758,21 | 123,69 | 0,54 | 0,03 | 0,000024 | 0,000008 | 0,000005 | 0,000002 |
| **Mean** | **13381,96** | | **0,49** | | **0,00126** | | **0,00087** | |

R.Dom MS= Relevant Domestic Market Share; R.MS in *Ind*= Relevant Market Share in the *Ind* market
R.MS in *Dev*= Relevant Market Share in the *Dev* market

Table 6: Estimation results at the industry level for **Developed Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-val.* | Overid *P-val.* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.061*** | **0.003**** | **0.405***** | **15.925***** | **6.456** | 0.235 | | FE | 219 |
| | *0.031* | *0.001* | *0.026* | *5.729* | *5.807* | | | | |
| Fab.metal pcts. | **0.186***** | **0.005***** | **0.295***** | **23.879***** | **3.044*** | 0.544 | | FE | 202 |
| | *0.029* | *0.001* | *0.036* | *6.197* | *1.771* | | | | |
| Food products | **0.092***** | **0.001** | **0.147***** | **15.806***** | **16.104**** | 0.527 | | FE | 200 |
| | *0.027* | *0.001* | *0.042* | *3.737* | *7.703* | | | | |
| Footwear | **0.561***** | **0.015***** | **0.129***** | **3.443***** | **10.921** | 0.511 | | FE | 219 |
| | *0.023* | *0.002* | *0.036* | *0.697* | *7.742* | | | | |
| Furniture | **0.27***** | **0.003**** | **0.359***** | **11.966***** | **5.556***** | 0.986 | | FE | 227 |
| | *0.027* | *0.002* | *0.036* | *1.953* | *1.737* | | | | |
| Glass and products | **0.365***** | **0.012***** | **0.391***** | **15.756***** | **7.812***** | 0.222 | | FE | 220 |
| | *0.049* | *0.002* | *0.046* | *3.364* | *1.78* | | | | |
| Industrial chemicals | **1.081***** | **0.015***** | **0.013** | **0.492** | **5.123***** | 0.842 | | FE | 206 |
| | *0.063* | *0.004* | *0.048* | *0.89* | *1.496* | | | | |
| Iron and steel | **0.73***** | **0.006***** | **0.105*** | **10.221**** | **0.082** | 0.17 | | FE | 179 |
| | *0.051* | *0.002* | *0.061* | *4.392* | *0.797* | | | | |
| Leather products | **0.651***** | **0.001** | **-0.201** | **-1.042** | **1.24** | 0.003 | 0.774 | GMM | 226 |
| | *0.035* | *0.007* | *0.141* | *5.46* | *3.813* | | | | |
| Machinery, electric | **0.707***** | **0.008*** | **-0.049** | **-1.497** | **8.281***** | 0.058 | 0.773 | GMM | 198 |
| | *0.092* | *0.004* | *0.063* | *4.573* | *1.761* | | | | |
| Machinery | **1.387***** | **0.006** | **0.044** | **3.895** | **1.46** | 0.08 | 0.31 | GMM | 177 |
| | *0.035* | *0.009* | *0.111* | *3.368* | *2.795* | | | | |
| Misc. Petrol. Pdts. | **0.058*** | **0.009***** | **-0.192***** | **-7.536** | **-49.329**** | 0.475 | | FE | 185 |
| | *0.033* | *0.002* | *0.036* | *6.869* | *21.574* | | | | |
| Non-ferrous metals | **0.766***** | **0.001** | **0.304** | **5.638*** | **2.998** | 0.009 | 0.31 | GMM | 203 |
| | *0.154* | *0.007* | *0.19* | *3.126* | *7.097* | | | | |
| Other chemicals | **0.293***** | **0.016***** | **0.198***** | **7.663**** | **16.698** | 0.213 | | FE | 218 |
| | *0.061* | *0.004* | *0.061* | *3.176* | *10.597* | | | | |
| Other manuf. Pcts. | **0.851***** | **0.009** | **-0.003** | **0.283** | **-0.827*** | 0.081 | 0.598 | GMM | 210 |
| | *0.05* | *0.007* | *0.008* | *2.293* | *0.465* | | | | |
| Other non-metallic pdts. | **0.049***** | **0.004***** | **0.207***** | **24.029***** | **11.947***** | 0.218 | | FE | 207 |
| | *0.017* | *0.001* | *0.025* | *2.628* | *1.602* | | | | |
| Paper and products | **0.405***** | **0.007***** | **-0.038** | **1.847** | **-2.761** | 0.871 | | FE | 213 |
| | *0.039* | *0.002* | *0.047* | *1.592* | *4.584* | | | | |
| Petroleum refineries | **1.294***** | **0.001** | **-0.061** | **-20.54***** | **6.174** | 0.27 | | FE | 189 |
| | *0.062* | *0.001* | *0.058* | *3.854* | *9.784* | | | | |
| Plastic products | **0.452***** | **0.007***** | **-0.06** | **-27.155***** | **1.133** | 0.001 | 0.427 | GMM | 227 |
| | *0.102* | *0.002* | *0.055* | *10.081* | *5.019* | | | | |
| Pottery/china | **0.723***** | **0.005** | **0.498***** | **11.058***** | **5.529**** | 0.028 | 0.59 | GMM | 221 |
| | *0.091* | *0.005* | *0.127* | *2.957* | *2.324* | | | | |
| Printing and publishing | **0.05**** | **0.002**** | **0.484***** | **68.88***** | **18.181***** | 0.41 | | FE | 218 |
| | *0.022* | *0.001* | *0.044* | *17.447* | *5.384* | | | | |
| Professional & scient. | **0.912***** | **0.024***** | **0.001** | **-1.003** | **3.164***** | 0.115 | | FE | 182 |
| | *0.029* | *0.004* | *0.001* | *0.822* | *0.978* | | | | |
| Rubber products | **0.806***** | **0.015***** | **0.257***** | **14.886***** | **16.426***** | 0.769 | | FE | 227 |
| | *0.038* | *0.003* | *0.032* | *1.593* | *4.641* | | | | |
| Textiles | **0.496***** | **0.013***** | **0.487***** | **35.267***** | **14.448**** | 0.075 | 0.627 | GMM | 231 |
| | *0.084* | *0.005* | *0.119* | *8.777* | *7.054* | | | | |
| Tobacco | **0.04**** | **0.001** | **0.244***** | **4.343***** | **8.386**** | 0.531 | | FE | 215 |
| | *0.018* | *0.001* | *0.033* | *1.236* | *3.739* | | | | |
| Total manufacturing | **0.49***** | **0.013***** | **0.341***** | **17.677***** | **3.116** | 0.33 | | FE | 184 |
| | *0.034* | *0.002* | *0.048* | *1.42* | *2.928* | | | | |
| Transport equipment | **0.646***** | **0.05***** | **-0.393***** | **-14.397***** | **5.631*** | 0.744 | | FE | 214 |
| | *0.081* | *0.008* | *0.097* | *3.923* | *3.115* | | | | |
| Wearing apparel | **0.573***** | **-0.008** | **-0.04***** | **-14.79***** | **-6.137** | 0.041 | 0.455 | GMM | 196 |
| | *0.023* | *0.005* | *0.011* | *4.223* | *4.109* | | | | |
| Wood products | **0.146***** | **0.012***** | **0.054***** | **-0.674** | **9.401** | 0.384 | | FE | 222 |
| | *0.026* | *0.002* | *0.01* | *1.02* | *6.472* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 7: Estimation results at the industry level for **Developing Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-value* | Overid *P-value* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.899*** ** | **0.005** | **-0.467** | **-367.83** | **57.372** | 0.008 | 0.465 | GMM | 391 |
| | *0.151* | *0.004* | *0.402* | *351.67* | *53.687* | | | | |
| Fab.metal pcts. | **0.974*** ** | **0.007** | **-0.094*** | **-6.801** | **-3.086** | 0.001 | 0.788 | GMM | 471 |
| | *0.029* | *0.007* | *0.055* | *10.35* | *5.548* | | | | |
| Food products | **0.877*** ** | **0.001** | **0.026** | **15.46** | **-19.452*** ** | 0.693 | | FE | 498 |
| | *0.02* | *0.001* | *0.033* | *42.985* | *7.131* | | | | |
| Footwear | **0.79*** ** | **0.014** ** | **0.007** | **-4.977** | **19.783** | 0.003 | 0.37 | GMM | 331 |
| | *0.075* | *0.007* | *0.011* | *5.672* | *28.721* | | | | |
| Furniture | **0.617*** ** | **0.006*** ** | **0.09*** ** | **10.544*** ** | **6.455** | 0.366 | | FE | 415 |
| | *0.019* | *0.001* | *0.024* | *2.913* | *4.973* | | | | |
| Glass and products | **0.886*** ** | **0.013*** ** | **0.3*** ** | **19.885** ** | **-11.082** | 0.48 | | FE | 322 |
| | *0.037* | *0.002* | *0.045* | *9.156* | *7.52* | | | | |
| Industrial chemicals | **1.053*** ** | **0.02*** ** | **0.001** | **0.276** | **2.961*** | 0.004 | 0.685 | GMM | 365 |
| | *0.007* | *0.004* | *0* | *17.465* | *1.562* | | | | |
| Iron and steel | **1.175*** ** | **0.016*** ** | **-0.001** | **64.351** | **3.874** | 0.075 | 0.1 | GMM | 274 |
| | *0.075* | *0.006* | *0.034* | *43.458* | *16.226* | | | | |
| Leather products | **0.853*** ** | **0.006** | **-0.173*** ** | **-11.72** | **-0.287** | 0.001 | 0.613 | GMM | 333 |
| | *0.036* | *0.008* | *0.045* | *9.1* | *0.81* | | | | |
| Machinery, electric | **1.075*** ** | **0.005*** ** | **0.001** | **0.387** ** | **0.152** | 0.301 | | FE | 432 |
| | *0.014* | *0.001* | *0* | *0.161* | *0.19* | | | | |
| Machinery | **1.01*** ** | **-0.01*** ** | **0.092*** ** | **-10.27*** ** | **2.329*** ** | 0.011 | 0.794 | GMM | 391 |
| | *0.024* | *0.002* | *0.009* | *0.954* | *0.716* | | | | |
| Misc. Petrol. Pdts. | **0.696*** ** | **-0.001** | **0.519*** ** | **30.496** ** | **81.543*** | 0.806 | | FE | 160 |
| | *0.053* | *0.001* | *0.085* | *13.645* | *45.792* | | | | |
| Non-ferrous metals | **0.86*** ** | **-0.01*** ** | **0.001** | **-32.949*** ** | **-0.415** | 0.055 | 0.364 | GMM | 246 |
| | *0.087* | *0.002* | *0* | *9.597* | *0.283* | | | | |
| Other chemicals | **1.11*** ** | **0.011*** ** | **0.053*** | **66.344** | **9.4*** ** | 0.33 | | FE | 420 |
| | *0.023* | *0.002* | *0.032* | *66.958* | *2.85* | | | | |
| Other manuf. Pcts. | **0.647*** ** | **0.001** | **0.001** | **-2.818*** ** | **1.337*** ** | 0.471 | | FE | 430 |
| | *0.005* | *0.001* | *0* | *0.729* | *0.341* | | | | |
| Other non-metallic pdts. | **0.798*** ** | **0.014*** ** | **0.003** ** | **-77.103** | **-11.889** ** | 0.813 | | FE | 405 |
| | *0.029* | *0.001* | *0.001* | *111.606* | *4.69* | | | | |
| Paper and products | **1.038*** ** | **0.013*** ** | **0.069** | **41.084** | **1.801** | 0.001 | 0.253 | GMM | 394 |
| | *0.042* | *0.005* | *0.062* | *120.034* | *3.678* | | | | |
| Petroleum refineries | **0.471*** ** | **0.001** | **0.006*** ** | **10.718** | **-7.493** | 0.202 | | FE | 198 |
| | *0.108* | *0* | *0.001* | *14.582* | *6.57* | | | | |
| Plastic products | **0.83*** ** | **0.001** | **-0.138** | **-16.751** | **-37.66** ** | 0.001 | 0.378 | GMM | 370 |
| | *0.044* | *0.003* | *0.09* | *13.759* | *17.604* | | | | |
| Pottery/china | **0.78*** ** | **0.011*** ** | **0.001** | **-5.772** | **6.758** | 0.96 | | FE | 308 |
| | *0.023* | *0.002* | *0.001* | *6.4* | *17.121* | | | | |
| Printing and publishing | **0.791*** ** | **0.002*** ** | **0.256*** ** | **140.719*** | **10.681** | 0.619 | | FE | 435 |
| | *0.029* | *0.001* | *0.052* | *82.613* | *32.654* | | | | |
| Professional & scient. | **0.99*** ** | **-0.01** | **-0.025** | **5.95** | **1.975** | 0.037 | 0.344 | GMM | 283 |
| | *0.048* | *0.009* | *0.02* | *5.469* | *3.941* | | | | |
| Rubber products | **1.011*** ** | **0.006*** ** | **-0.048** | **190.951*** ** | **-4.721** | 0.014 | 0.588 | GMM | 360 |
| | *0.032* | *0.002* | *0.068* | *42.987* | *3.595* | | | | |
| Textiles | **0.832*** ** | **0.011** | **-0.023** | **-12.882** | **1.237** | 0.018 | 0.372 | GMM | 462 |
| | *0.036* | *0.008* | *0.055* | *25.608* | *1.17* | | | | |
| Tobacco | **0.141*** ** | **0.002*** ** | **0.049** ** | **103.163** | **-22.031** ** | 0.521 | | FE | 253 |
| | *0.041* | *0.001* | *0.023* | *536.92* | *9.63* | | | | |
| Total manufacturing | **1.034*** ** | **0.017*** ** | **-0.006** | **1.863** | **-2.141*** ** | 0.003 | 0.377 | GMM | 450 |
| | *0.02* | *0.004* | *0.031* | *3.356* | *0.831* | | | | |
| Transport equipment | **1.09*** ** | **0.01*** ** | **0.065*** ** | **3.011** | **-3.192** | 0.92 | | FE | 416 |
| | *0.021* | *0.002* | *0.022* | *2.52* | *3.308* | | | | |
| Wearing apparel | **0.573*** ** | **0.002*** ** | **0.013** | **0.921** | **2.272** | 0.95 | | FE | 315 |
| | *0.007* | *0.001* | *0.01* | *0.944* | *3.397* | | | | |
| Wood products | **0.723*** ** | **0.008*** ** | **-0.001** | **3.256** | **-2.789** | 0.328 | | FE | 454 |
| | *0.011* | *0.001* | *0.004* | *12.45* | *1.727* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 8: Estimation results at the industry level for **Mediterranean Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-value* | Overid *P-value* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.162*** ** | **0.009** ** | **0.424** | **2147.25*** | **327.922** | 0,567 | | FE | 52 |
| | *0.049* | *0.004* | *0.312* | *1218.687* | *2109.248* | | | | |
| Fab.metal pcts. | **0.756*** ** | **0.026*** ** | **0.245*** | **799.514** | **173.399*** ** | 0,537 | | FE | 67 |
| | *0.076* | *0.009* | *0.127* | *878.008* | *61.041* | | | | |
| Food products | **0.576*** ** | **0.025*** ** | **0.324** ** | **451.66*** | **26.53** | 0,834 | | FE | 75 |
| | *0.079* | *0.004* | *0.148* | *266.257* | *82.678* | | | | |
| Footwear | **0.308*** ** | **0.024*** ** | **0.556*** ** | **-36.132** | **31.817*** ** | 0,112 | | FE | 60 |
| | *0.041* | *0.005* | *0.114* | *54.201* | *11.864* | | | | |
| Furniture | **0.48*** ** | **0.022*** ** | **0.682*** ** | **576.162** | **87.845*** ** | 0,581 | | FE | 63 |
| | *0.06* | *0.006* | *0.148* | *542.138* | *20.903* | | | | |
| Glass and products | **0.892*** ** | **0.022** ** | **0.226** | **182.813*** ** | **0.422** | 0,732 | | FE | 48 |
| | *0.097* | *0.009* | *0.14* | *69.697* | *20.687* | | | | |
| Industrial chemicals | **1.118*** ** | **0.001** | **-0.003** | **332.557** | **-99.102*** ** | 0,664 | | FE | 59 |
| | *0.109* | *0.005* | *0.124* | *327.831* | *32.561* | | | | |
| Iron and steel | **1.159*** ** | **0.012** | **0.016** | **-291.894** | **-3.503** | 0,896 | | FE | 27 |
| | *0.232* | *0.013* | *0.369* | *223.525* | *18.029* | | | | |
| Leather products | **0.254*** ** | **0.003** | **1.04*** ** | **470.061*** ** | **710.559** | 0,418 | | FE | 48 |
| | *0.07* | *0.008* | *0.131* | *132.877* | *699.165* | | | | |
| Machinery, electric | **1.152*** ** | **0.014*** ** | **-0.042** | **-10.089** | **282.275** | 0,308 | | FE | 68 |
| | *0.058* | *0.002* | *0.057* | *134.281* | *289.643* | | | | |
| Machinery | **1.099*** ** | **0.023** ** | **0.231*** ** | **261.413** | **137.015*** ** | 0,106 | | FE | 70 |
| | *0.049* | *0.01* | *0.081* | *197.517* | *47.773* | | | | |
| Misc. Petrol. Pdts. | **0.257** | **-0.001*** ** | **1.46*** ** | **-412.281** | **130.513** | 0,308 | | FE | 28 |
| | *0.167* | *0* | *0.187* | *431.42* | *115.441* | | | | |
| Non-ferrous metals | **1.003*** ** | **-0.01** | **0.034** | **-247.195** ** | **-149.85** ** | 0,669 | | FE | 31 |
| | *0.087* | *0.011* | *0.043* | *111.673* | *72.545* | | | | |
| Other chemicals | **1.152*** ** | **0.029*** ** | **-0.204** | **362.964** | **-94.474** | 0,516 | | FE | 55 |
| | *0.076* | *0.006* | *0.141* | *471.521* | *324.87* | | | | |
| Other manuf. Pcts. | **0.692*** ** | **0.021*** ** | **0.178*** ** | **126.723*** | **74.406** | 0,163 | | FE | 66 |
| | *0.056* | *0.008* | *0.065* | *68.135* | *64.379* | | | | |
| Other non-metallic pdts. | **0.579*** ** | **0.019*** ** | **0.206*** ** | **215.126** ** | **29.566*** ** | 0,044 | 0,842 | GMM | 62 |
| | *0.1* | *0.004* | *0.074* | *102.793* | *8.401* | | | | |
| Paper and products | **0.908*** ** | **0.006** | **0.036** | **-1385.62** | **-249.601** ** | 0,851 | | FE | 51 |
| | *0.073* | *0.008* | *0.112* | *1584.525* | *97.728* | | | | |
| Petroleum refineries | **-0.045** | **0** | **0.001** | **-1317.595*** ** | **3483.999*** ** | 0,544 | | FE | 37 |
| | *0.284* | *0* | *0.002* | *393.906* | *1335.342* | | | | |
| Plastic products | **0.278*** ** | **0.024** ** | **0.701** ** | **706.592** | **369.051** | 0,754 | | FE | 42 |
| | *0.093* | *0.011* | *0.295* | *1169.853* | *331.104* | | | | |
| Pottery/china | **0.472*** ** | **0.007** | **0.322** ** | **165.525** ** | **119.041** ** | 0,766 | | FE | 43 |
| | *0.095* | *0.006* | *0.157* | *81.808* | *46.95* | | | | |
| Printing and publishing | **0.3*** ** | **-0.004** | **1.635*** ** | **5025.931*** ** | **538.184*** | 0,862 | | FE | 61 |
| | *0.098* | *0.006* | *0.382* | *1922.73* | *316.343* | | | | |
| Professional & scient. | **1.138*** ** | **0.003** | **0.081** | **97.69** | **294.804** | 0,139 | | FE | 46 |
| | *0.12* | *0.011* | *0.109* | *819.617* | *236.442* | | | | |
| Rubber products | **0.949*** ** | **0.038*** ** | **0.305*** ** | **439.337*** ** | **116.851*** ** | 0,231 | | FE | 45 |
| | *0.068* | *0.007* | *0.057* | *72.06* | *32.35* | | | | |
| Textiles | **0.488*** ** | **0.009*** ** | **0.855*** ** | **54.668** ** | **208.918*** ** | 0,051 | 0,908 | GMM | 65 |
| | *0.054* | *0.003* | *0.161* | *23.035* | *35.926* | | | | |
| Tobacco | **1.045*** ** | **0.015** ** | **0.063** | **731.458** | **-81.812** | 0,708 | | FE | 41 |
| | *0.188* | *0.006* | *0.157* | *640.668* | *144.953* | | | | |
| Total manufacturing | **1.122*** ** | **0.007** ** | **0.266*** ** | **92.193*** ** | **278.816*** ** | 0,069 | | GMM | 61 |
| | *0.025* | *0.003* | *0.071* | *30.694* | *31.74* | | | | |
| Transport equipment | **1.07*** ** | **0.016** ** | **-0.058** | **-87.334** | **-333.064** | 0,308 | | FE | 66 |
| | *0.072* | *0.007* | *0.102* | *420.29* | *238.938* | | | | |
| Wearing apparel | **0.423*** ** | **-0.009*** ** | **0.453*** ** | **62.632*** | **17.463** | 0,128 | | FE | 49 |
| | *0.025* | *0.002* | *0.109* | *35.204* | *13.391* | | | | |
| Wood products | **0.895*** ** | **0.015*** ** | **0.068** | **-1420.272** | **25.235** ** | 0,163 | | FE | 62 |
| | *0.06* | *0.004* | *0.092* | *1044.458* | *12.456* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 9: Estimation results at the industry level for **Latin American Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-value* | Overid *P-value* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.601*** ** | **0.001** | **0.656** | **-49.93** | **810.106** ** | 0,056 | 0,7 | GMM | 153 |
| | *0.08* | *0.002* | *0.45* | *123.513* | *376.034* | | | | |
| Fab.metal pcts. | **0.732*** ** | **0.005*** ** | **0.148*** ** | **8.857** | **-65.477** | 0,281 | | FE | 166 |
| | *0.023* | *0.001* | *0.043* | *10.199* | *153.525* | | | | |
| Food products | **0.839*** ** | **-0.001*** | **-0.016** | **-101.437** | **-185.105*** | 0,027 | 0,816 | GMM | 175 |
| | *0.023* | *0.001* | *0.027* | *66.098* | *101.984* | | | | |
| Footwear | **0.347*** ** | **0.006*** ** | **-0.009*** ** | **-38.862*** ** | **-28.359*** ** | 0,498 | | FE | 138 |
| | *0.03* | *0.001* | *0.003* | *4.547* | *8.828* | | | | |
| Furniture | **0.608*** ** | **0.006*** ** | **0.032** | **3.686** | **-39.623** | 0,668 | | FE | 144 |
| | *0.025* | *0.001* | *0.025* | *3.069* | *77.161* | | | | |
| Glass and products | **0.829*** ** | **0.012*** ** | **0.437*** ** | **26.991** ** | **5.177** | 0,697 | | FE | 122 |
| | *0.076* | *0.004* | *0.114* | *13.147* | *41.517* | | | | |
| Industrial chemicals | **1.187*** ** | **0.009*** ** | **-0.006** | **21.54** | **-32.178*** | 0,796 | | FE | 145 |
| | *0.038* | *0.003* | *0.022* | *21.874* | *18.186* | | | | |
| Iron and steel | **0.833*** ** | **0.008** ** | **0.134** | **45.307** | **-87.957** | 0,159 | | FE | 102 |
| | *0.098* | *0.003* | *0.108* | *35.482* | *56.056* | | | | |
| Leather products | **0.469*** ** | **0.005*** ** | **0.204*** ** | **39.188** | **36.315** ** | 0,323 | | FE | 124 |
| | *0.029* | *0.001* | *0.048* | *31.29* | *15.805* | | | | |
| Machinery, electric | **1.098*** ** | **-0.002** | **0** | **0.475** | **12.235** | 0,468 | | FE | 140 |
| | *0.022* | *0.002* | *0* | *0.417* | *197.733* | | | | |
| Machinery | **0.948*** ** | **-0.002** | **0.012** | **-2.783** | **-4.785** | 0,708 | | FE | 142 |
| | *0.024* | *0.002* | *0.043* | *9.337* | *65.139* | | | | |
| Misc. Petrol. Pdts. | **0.634*** ** | **-0.001** | **0.646*** ** | **41.413*** | **734.197*** | 0,729 | | FE | 60 |
| | *0.075* | *0.001* | *0.191* | *21.595* | *436.189* | | | | |
| Non-ferrous metals | **0.76*** ** | **-0.002*** | **0** | **-8.845** | **0.182** | 0,344 | | FE | 118 |
| | *0.041* | *0.001* | *0.002* | *16* | *4.85* | | | | |
| Other chemicals | **1.007*** ** | **0.009*** ** | **0.427*** ** | **408.696** | **144.706*** ** | 0,33 | | FE | 150 |
| | *0.047* | *0.003* | *0.107* | *264.061* | *54.446* | | | | |
| Other manuf. Pcts. | **0.727*** ** | **-0.003** ** | **0** | **-0.903** | **-12.131** | 0,222 | | FE | 152 |
| | *0.025* | *0.001* | *0.009* | *3.554* | *37.615* | | | | |
| Other non-metallic pdts. | **0.65*** ** | **0.003** | **0.804*** ** | **266.522** | **235.574** | 0,69 | | FE | 148 |
| | *0.039* | *0.002* | *0.133* | *193.224* | *206.806* | | | | |
| Paper and products | **0.94*** ** | **0.008*** ** | **0.222*** ** | **-54.713** | **27.625** | 0,254 | | FE | 138 |
| | *0.05* | *0.003* | *0.072* | *108.294* | *20.118* | | | | |
| Petroleum refineries | **0.275*** | **-0.002** ** | **0.767*** ** | **77.317*** ** | **84.113** | 0,168 | | FE | 72 |
| | *0.144* | *0.001* | *0.103* | *17.992* | *61.534* | | | | |
| Plastic products | **0.747*** ** | **0.008*** ** | **0.211*** ** | **3.318** | **274.881** | 0,187 | | FE | 138 |
| | *0.037* | *0.001* | *0.078* | *11.068* | *209.921* | | | | |
| Pottery/china | **0.737*** ** | **0.015*** ** | **0.294*** ** | **8.893** | **26.366** | 0,703 | | FE | 128 |
| | *0.047* | *0.003* | *0.069* | *6.868* | *22.236* | | | | |
| Printing and publishing | **0.844*** ** | **0.004** ** | **0.191** ** | **-2.573** | **129.075** ** | 0,46 | | FE | 139 |
| | *0.042* | *0.002* | *0.08* | *90.755* | *57.891* | | | | |
| Professional & scient. | **0.986*** ** | **0.002** | **0.022** ** | **-7.269** ** | **-4.131** | 0,089 | 0,734 | GMM | 105 |
| | *0.069* | *0.006* | *0.011* | *3.234* | *71.911* | | | | |
| Rubber products | **0.819*** ** | **0.012*** ** | **0.447*** ** | **12.607** | **32.591** | 0,858 | | FE | 130 |
| | *0.054* | *0.003* | *0.073* | *52.652* | *49.826* | | | | |
| Textiles | **0.65*** ** | **0.006*** ** | **0.262*** ** | **4.985** | **18.517** | 0,816 | | FE | 167 |
| | *0.029* | *0.001* | *0.055* | *9.579* | *53.803* | | | | |
| Tobacco | **0.009** | **0.001** ** | **1.673*** ** | **7231.103*** ** | **1092.138*** ** | 0,258 | | FE | 53 |
| | *0.071* | *0* | *0.287* | *2119.049* | *279.983* | | | | |
| Total manufacturing | **0.951*** ** | **0.011*** ** | **0.13*** ** | **7.356*** ** | **-113.521** ** | 0,107 | | FE | 149 |
| | *0.015* | *0.001* | *0.027* | *2.413* | *56.922* | | | | |
| Transport equipment | **1.022*** ** | **0.012*** ** | **0.086** ** | **5.247** ** | **-104.186*** ** | 0,673 | | FE | 124 |
| | *0.036* | *0.003* | *0.042* | *2.565* | *36.933* | | | | |
| Wearing apparel | **0.643*** ** | **0.008*** ** | **0.004** | **0.194** | **-0.13** | 0,718 | | FE | 149 |
| | *0.009* | *0.002* | *0.006* | *0.56* | *3.29* | | | | |
| Wood products | **0.626*** ** | **0.002** | **-0.001** | **0.021** | **-85.976*** ** | 0,102 | | FE | 159 |
| | *0.016* | *0.001* | *0.004* | *15.167* | *28.565* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 10: Estimation results at the industry level for **East Asian Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-value* | Overid *P-value* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.846*** ** | **0.001** | **-0.296*** ** | **61.793** | **-9.734** | 0,046 | 0,948 | GMM | 91 |
| | *0.122* | *0.004* | *0.106* | *197.849* | *39.652* | | | | |
| Fab.metal pcts. | **0.939*** ** | **0.003** | **-0.106*** ** | **-111.073*** | **-6.837*** | 0,421 | | FE | 97 |
| | *0.024* | *0.002* | *0.039* | *57.632* | *3.704* | | | | |
| Food products | **0.699*** ** | **0.007*** ** | **-0.019** | **284.432*** ** | **-12.62** ** | 0,263 | | FE | 97 |
| | *0.039* | *0.001* | *0.137* | *80.096* | *5.553* | | | | |
| Footwear | **0.573*** ** | **0.003** | **0.475*** ** | **4.013** | **2.185** | 0,609 | | FE | 42 |
| | *0.033* | *0.003* | *0.069* | *4.248* | *12.33* | | | | |
| Furniture | **0.737*** ** | **0.009*** ** | **0.308*** ** | **-25.293** | **17.167*** | 0,131 | | FE | 89 |
| | *0.042* | *0.001* | *0.071* | *25.584* | *9.893* | | | | |
| Glass and products | **0.922*** ** | **0.015*** ** | **0.421*** ** | **-42.288** | **-2.658** | 0,487 | | FE | 68 |
| | *0.104* | *0.003* | *0.09* | *111.347* | *10.765* | | | | |
| Industrial chemicals | **1.451*** ** | **0.009*** ** | **0.059** ** | **-20.773** | **0.837** | 0,928 | | FE | 65 |
| | *0.109* | *0.002* | *0.029* | *55.981* | *2.187* | | | | |
| Iron and steel | **1.444*** ** | **0.008** ** | **-0.183*** | **-50.669** | **-27.554** ** | 0,411 | | FE | 70 |
| | *0.103* | *0.004* | *0.107* | *98.29* | *13.582* | | | | |
| Leather products | **0.839*** ** | **0.005** | **-0.161*** ** | **6.647** | **0.051** | 0,887 | | FE | 67 |
| | *0.029* | *0.003* | *0.041* | *29.177* | *1.662* | | | | |
| Machinery, electric | **1.112*** ** | **0.008** ** | **-0.081*** ** | **-12.496*** ** | **1.921*** ** | 0,339 | | FE | 98 |
| | *0.032* | *0.003* | *0.03* | *4.249* | *0.633* | | | | |
| Machinery | **1.068*** ** | **-0.001** | **0.009** | **-17.92*** ** | **5.235*** ** | 0,195 | | FE | 75 |
| | *0.027* | *0.002* | *0.005* | *2.124* | *1.154* | | | | |
| Misc. Petrol. Pdts. | **0.881*** ** | **0.014*** ** | **0.03** | **-17355.852*** | **992.819*** ** | 0,279 | | FE | 48 |
| | *0.2* | *0.004* | *0.134* | *9711.786* | *311.21* | | | | |
| Non-ferrous metals | **1.157*** ** | **0.005** ** | **0.004** | **3.552** | **0.674** | 0,265 | | FE | 59 |
| | *0.098* | *0.002* | *0.003* | *26.698* | *0.834* | | | | |
| Other chemicals | **1.231*** ** | **0.004** | **0.041** | **-99.885** | **11.381*** | 0,238 | | FE | 90 |
| | *0.107* | *0.004* | *0.051* | *569.467* | *6.687* | | | | |
| Other manuf. Pcts. | **0.787*** ** | **0.017*** ** | **0.001** | **-1.833** | **0.871** ** | 0,147 | | FE | 90 |
| | *0.042* | *0.003* | *0.024* | *8.513* | *0.41* | | | | |
| Other non-metallic pdts. | **0.797*** ** | **0.022*** ** | **0.002*** | **-397.1** | **-10.629*** | 0,546 | | FE | 97 |
| | *0.079* | *0.002* | *0.001* | *476.927* | *6.075* | | | | |
| Paper and products | **0.862*** ** | **0.009*** ** | **0.21*** ** | **472.937** | **14.203*** ** | 0,371 | | FE | 99 |
| | *0.051* | *0.002* | *0.057* | *1317.171* | *5.283* | | | | |
| Petroleum refineries | **0.181** | **0** ** | **0.268*** | **-8.549** | **-36.446*** ** | 0,788 | | FE | 51 |
| | *0.135* | *0* | *0.154* | *162.782* | *12.486* | | | | |
| Plastic products | **0.891*** ** | **0.006*** ** | **0.082** | **-40.15** | **-9.003** | 0,539 | | FE | 82 |
| | *0.039* | *0.002* | *0.059* | *26.525* | *10.421* | | | | |
| Pottery/china | **0.567*** ** | **-0.003** | **0** | **-28.968*** ** | **24.319** | 0,784 | | FE | 52 |
| | *0.083* | *0.003* | *0.001* | *10.512* | *14.965* | | | | |
| Printing and publishing | **0.754*** ** | **0.002*** ** | **0.236** ** | **470.514** ** | **-61.346** | 0,859 | | FE | 99 |
| | *0.069* | *0.001* | *0.095* | *238.296* | *37.783* | | | | |
| Professional & scient. | **0.896*** ** | **0.013*** ** | **0.05*** | **9.695** ** | **-3.039*** | 0,309 | | FE | 66 |
| | *0.035* | *0.004* | *0.029* | *4.227* | *1.807* | | | | |
| Rubber products | **0.751*** ** | **0.01*** ** | **0.005** | **108.548*** ** | **-0.889** | 0,101 | | FE | 79 |
| | *0.058* | *0.001* | *0.019* | *35.416* | *3.564* | | | | |
| Textiles | **0.792*** ** | **0.007** ** | **-0.1*** ** | **40.399** | **0.627** | 0,231 | | FE | 101 |
| | *0.011* | *0.003* | *0.032* | *150.241* | *3.634* | | | | |
| Tobacco | **0.128** | **0.015*** ** | **0.022** | **-8261.4*** | **-10.473** | 0,219 | | FE | 83 |
| | *0.107* | *0.002* | *0.025* | *4732.717* | *10.302* | | | | |
| Total manufacturing | **0.983*** ** | **0.006*** ** | **-0.048** | **3.615** | **-1.262** | 0,136 | | FE | 99 |
| | *0.027* | *0.002* | *0.035* | *22.047* | *3.998* | | | | |
| Transport equipment | **1.288*** ** | **0** | **0.029** | **8.583** | **6.398** | 0,084 | 0,807 | GMM | 93 |
| | *0.063* | *0.004* | *0.071* | *27.001* | *5.992* | | | | |
| Wearing apparel | **0.557*** ** | **-0.001** | **0.119** | **8.591** | **-1.516** | 0,541 | | FE | 27 |
| | *0.009* | *0.002* | *0.137* | *7.227* | *3.349* | | | | |
| Wood products | **0.789*** ** | **0.004** ** | **-0.087** | **98.452*** ** | **-10.121*** ** | 0,832 | | FE | 102 |
| | *0.009* | *0.001* | *0.06* | *36.645* | *2.116* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 11: Estimation results at the industry level for **Asian Countries**

| Industry | Av. wage | Pty. dif | R.Dom share $\beta'_{1,i}$ | R.Share Ind $\beta'_{2,Ind}$ | R.Share Dev $\beta'_{2,Dev}$ | DWH *P-value* | Overid *P-value* | Meth | Obs |
|---|---|---|---|---|---|---|---|---|---|
| Beverages | **0.12** | **0.005** | **1.73*** ** | **-238594.15** | **-18485.85*** ** | 0,235 | | FE | 45 |
| | *0.137* | *0.004* | *0.5* | *150849.792* | *3891.598* | | | | |
| Fab.metal pcts. | **1.099*** ** | **0.005*** | **-0.039** | **-52.853** | **2.641** | 0,773 | | FE | 71 |
| | *0.046* | *0.003* | *0.031* | *220.393* | *34.965* | | | | |
| Food products | **0.731*** ** | **0.008*** ** | **-0.062** | **-187.058** ** | **28.222** | 0,358 | | FE | 75 |
| | *0.058* | *0.002* | *0.05* | *87.008* | *19.624* | | | | |
| Footwear | **0.756*** ** | **0.001** | **0.433*** ** | **-4.398** | **-61.562** | 0,237 | | FE | 44 |
| | *0.097* | *0.004* | *0.084* | *3.441* | *48.095* | | | | |
| Furniture | **0.716*** ** | **0.001** | **-0.049** | **-25.683** | **-2.081** | 0,947 | | FE | 48 |
| | *0.071* | *0.005* | *0.054* | *22.648* | *39.965* | | | | |
| Glass and products | **0.908*** ** | **0.022*** ** | **0.124** | **-82.478** | **-11.014** | 0,639 | | FE | 48 |
| | *0.085* | *0.005* | *0.095* | *240.524* | *9.937* | | | | |
| Industrial chemicals | **1.749*** ** | **0.011*** | **-0.066** | **-118.714** | **-16.364*** | 0,416 | | FE | 56 |
| | *0.115* | *0.006* | *0.053* | *90.932* | *8.99* | | | | |
| Iron and steel | **0.895*** ** | **0.001** | **0.309** ** | **126.65** | **6.596** | 0,559 | | FE | 47 |
| | *0.171* | *0.004* | *0.12* | *579.428* | *95.316* | | | | |
| Leather products | **0.681*** ** | **0.007*** ** | **0.045*** | **-3.066*** | **-0.805** | 0,083 | 0,922 | GMM | 56 |
| | *0.019* | *0.002* | *0.023* | *1.584* | *9.527* | | | | |
| Machinery, electric | **1.433*** ** | **0.008*** ** | **-0.053** | **2.492** | **-5.372** | 0,82 | | FE | 71 |
| | *0.058* | *0.003* | *0.034* | *33.872* | *13.746* | | | | |
| Machinery | **1.253*** ** | **0.011*** ** | **-0.03** | **155.164** | **-77.244** ** | 0,332 | | FE | 66 |
| | *0.051* | *0.003* | *0.032* | *360.426* | *33.175* | | | | |
| Non-ferrous metals | **1.28*** ** | **0.025*** ** | **-0.262*** ** | **150.623** | **-11.681** | 0,879 | | FE | 29 |
| | *0.113* | *0.005* | *0.08* | *531.873* | *18.433* | | | | |
| Other manuf. Pcts. | **1.251*** ** | **0.013*** ** | **-0.026** | **119.017** | **-198.192*** ** | 0,377 | | FE | 65 |
| | *0.068* | *0.003* | *0.062* | *161.982* | *48.077* | | | | |
| Other non-metallic pdts. | **0.687*** ** | **-0.003** | **0** | **-7.471** | **1.425** | 0,415 | | FE | 68 |
| | *0.035* | *0.002* | *0* | *5.815* | *3.583* | | | | |
| Paper and products | **0.798*** ** | **0.017*** ** | **0.112** | **2538.99** ** | **-146.779*** ** | 0,26 | | FE | 58 |
| | *0.079* | *0.004* | *0.099* | *1253.003* | *52.564* | | | | |
| Plastic products | **0.987*** ** | **0.006*** | **0.001** | **1694.432** ** | **-12.701** | 0,929 | | FE | 53 |
| | *0.054* | *0.003* | *0.028* | *794.294* | *7.964* | | | | |
| Pottery/china | **0.584*** ** | **0.019*** ** | **0.118** | **217.921** | **130.083** | 0,477 | | FE | 50 |
| | *0.096* | *0.007* | *0.123* | *166.876* | *294.678* | | | | |
| Printing and publishing | **0.705*** ** | **0.005*** ** | **0.263*** ** | **139.993*** ** | **-6.367** | 0,247 | | FE | 53 |
| | *0.047* | *0.001* | *0.073* | *37.837* | *31.159* | | | | |
| Professional & scient. | **0.927*** ** | **0.009** ** | **0.148** | **-96.634** | **-652.363** | 0,376 | | FE | 65 |
| | *0.095* | *0.004* | *0.098* | *3695.068* | *517.473* | | | | |
| Rubber products | **1.126*** ** | **0.005** | **-0.002** | **34.758** ** | **9.149** | 0,947 | | FE | 39 |
| | *0.073* | *0.005* | *0.017* | *16.665* | *9.319* | | | | |
| Textiles | **0.835*** ** | **0.013*** ** | **0.217** ** | **96.609** | **-212.85*** ** | 0,33 | | FE | 55 |
| | *0.084* | *0.002* | *0.087* | *214.986* | *39.89* | | | | |
| Tobacco | **0.821*** ** | **0.006*** ** | **-0.03** | **-24.581** | **14.652*** ** | 0,381 | | FE | 71 |
| | *0.051* | *0.002* | *0.051* | *15.562* | *4.932* | | | | |
| Total manufacturing | **0.036** | **0.002** | **9.858*** ** | **37390.456*** ** | **1256.905*** ** | 0,664 | | FE | 49 |
| | *0.036* | *0.001* | *0.901* | *12922.641* | *396.47* | | | | |
| Transport equipment | **0.998*** ** | **0.005*** ** | **-0.068*** ** | **-89.918** ** | **-0.055** | 0,086 | 0,837 | GMM | 67 |
| | *0.013* | *0.001* | *0.011* | *37.35* | *15.814* | | | | |
| Wearing apparel | **1.364*** ** | **0.006*** | **-0.023** | **-3042.301*** ** | **-150.72*** ** | 0,372 | | FE | 71 |
| | *0.052* | *0.003* | *0.023* | *906.548* | *50.726* | | | | |
| Wood products | **0.584*** ** | **0.001** | **0.094** | **-51.743*** ** | **5.566*** | 0,312 | | FE | 65 |
| | *0.06* | *0.005* | *0.066* | *15.159* | *2.944* | | | | |

Parameter estimates are in Bold characters and standard errors in italics

***,** and * significant respectively at 1, 5 and 10%

***,** and * significant respectively at 1, 5 and 10%

Instruments used in GMM: Av.Wage (t-1) and (t-2), App.Productivity (t-2) and (t-3),
Market Shares in Domestic, Developing and Industrialized markets (t-2) and (t-3),
Imports from and Exports to OECD and developing countries (t, t-1 and t-2).

Table 12: The four group of developing countries considered

| Group | Related countries |
|---|---|
| Mediterranean Countries | Egypt, Morocco, Tunisia, Turkey, Cyprus, Malta |
| Asian Countries | Bangladesh, Madagascar, India, Indonesia, Pakistan, Sri Lanka, Nepal |
| Est(and South) Asian Countries | Macaw, Hong Kong (China), Singapore, Korean Republic, Malaysia, Thailand, Philippines |
| Latin American countries | Bolivia, Chili, Colombia, Nicaragua, Argentina, Costa Rica, Ecuador, Salvador, Guatemala, Honduras, Mexico, Panama, Peru, Venezuela, Uruguay |