GLOBALIZATION AND THE LABOR SHARE IN NATIONAL INCOME

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Abstract

Contradicting the conventional wisdom of constant factor shares, the portion of national income accruing to labor has been trending downward in the last three decades. This decline must have contributed to rising inequality as labor income is more evenly distributed than capital income. This study contributes to the literature on income inequality by exploring the role of globalization in driving the labor share. In particular, we focus on the impacts of trade openness and foreign direct investments (FDI) on the labor share. Using country-level panel data for 1980–2010, the study finds that trade is a significant and robust determinant of labor share. Generally speaking, export depresses while import increases the labor share. The impact of FDI, however, is insignificant. These results are similar for both developed and developing countries.

JEL Classification: E25, F62, D63

Contents

1. INTRODUCTION

Functional income distribution is at the center of political economy (Ricardo 1817). For decades, studies on production functions and macroeconomic dynamics rely on the assumption of constant factor shares (Bowley 1920; Kaldor 1957; Gollin 2002). This important assumption has recently been questioned after observing a worldwide decline in labor share (Karabarbounis and Neiman 2014; Guerriero 2012; Schneider 2011; Elsby et al. 2013; Rodriguez and Jayadev 2010; Giovannoni 2014). The share has been falling in almost all Organisation for Economic Co-operation and Development (OECD) economies (ILO 2013), and has been trending downward in developing countries, especially since the early 1990s. Developing Asia, for example, experienced a decline of approximately 20%, while the wage share in African countries fell by 15% (ILO 2011).

Studying functional income distribution has important implications for the fight against inequality because labor income is more evenly distributed than capital income, which tends to accrue to the rich (Daudey and Garcia-Penalosa 2007; Garcia-Penalosa and Orgiazzi 2013; Jacobson and Occhino 2012). In his best-selling book, Piketty (2014) cited increasing capital income as the major source of rising inequality. Atkinson (2009) also pointed out that decreases in the labor share contributed to worsening inequality. However, what drives this decline remains an open question for further analysis.

The decline of labor share coincided with the current wave of globalization beginning in the early 1980s.[1] Previous studies modelled the impacts of globalization on income inequality, for example, Goldberg and Pavnik (2007), Topalova (2007), Wan et al. (2007), Xue et al. (2014), and, Chatchai and Pandej (2011). It is thus natural to ask if globalization contributes to this eroding share of labor income.

Against this backdrop, this study aims to estimate the impact of globalization on labor share. The research questions are twofold. First, what are the impacts of trade and FDI on labor share? Second, how do the effects differ, if any, between developed and developing countries?

This study contributes to existing literature in several ways. First, we distinguish the globalization-labor share nexus according to level of development. Differences in the structure of trade, labor market, as well as in factor endowment between developing countries and their advanced counterparts can result in opposite correlations. If so, the impact of the two country groups may offset each other, resulting in insignificant estimates when data is pooled.

Second, we separately estimate the impact of export and import on the labor share. While the bargaining framework of Rodrik (1997) suggests a rise in capital share due to overall trade, import and export can have different impacts. As our empirical results demonstrate, exports depresses labor share, while imports exert the opposite effect. Jaumotte and Tytell (2007) also found heterogeneous impacts of import and export prices on the labor share. In this study, we utilize export and import share to GDP as trade indicators.

Third, we consider both outward and inward FDI. While inward FDI may affect labor share by improving productivity and competition, outward FDI may reduce the bargaining power of domestic workers and provide opportunities for capitalists to pursue higher return abroad.

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[1] For a discussion on different waves of globalization, see Dollar (2005).

2. LITERATURE REVIEW

2.1 Theoretical Considerations

There is no established theoretical framework on the effects of globalization on functional income distribution. Research on this often cite two possible transmission channels: the neoclassical trade theory and the bargaining game framework.

The first channel, neoclassical trade theory, works through changing relative factor price by shifting production towards industries with comparative advantages. The workhorse in the traditional trade theory, the Heckscher-Ohlin model and Stolper-Samuelson (1941) theorem, predicts that the abundant factor gains when a country opens to trade. Thus, developed countries tend to export capital-intensive goods, while developing countries tend to export labor-intensive goods. This implies that those economies and individuals with the abundant factor can reap higher returns under globalization. For example, capital owners in Japan or the United States will gain, whereas in People's Republic of China or Brazil, the benefit of international trade goes to workers. As a consequence, international trade is expected to squeeze labor share in developed countries and increase it in developing counterparts (Stockhammer 2013; Giovannoni 2014).

However, the neoclassical trade model seems unsupported by statistics. The decline of labor share has also been observed in developing countries. The theory, in fact, suffers from several drawbacks. First, the assumption of factor immobility between countries do not reflect the real situation of capital flows across borders, and to some extent, even cross-border labor migration (European Commission 2007). Second, workers are not homogeneous in terms of skills, as assumed in the trade theory. Skilled labor in developing countries may actually gain from globalization (Stockhammer 2009).

Under the second channel, the bargaining framework (Rodrik 1997; Slaughter 1999), the objective of firms and workers is to maximize rents in production under imperfect competition. Rent maximization depends on bargaining power of population groups. Those with more power in the bargaining game will receive the larger share of the profit pie. The bargaining power, on the other hand, depends on a number of factors, such as the fixed costs of relocating abroad and the return to factor at home versus in foreign locations (Harrison 2005).

From this perspective, reductions in trade and FDI barriers imply lower fixed costs of relocation. Rodrik (1997) argues that freer movement across borders will benefit the more mobile factor, namely capital. Because it is easier to relocate capital overseas than labor, capital owners are at a favorable position to move their resources to destinations with higher returns. On the other hand, cross-border migration makes it possible to substitute the domestic supply of labor with imported labor. Consequently, demand for domestic workers becomes more elastic, implying a weakening bargaining power of workers. This may lead to decreases in wages. Under this setting, globalization depresses labor share in both developed and developing countries.

2.2 Empirical Studies

2.2.1 Globalization and Labor Share in Developed Countries

Studies on the globalization-labor share nexus in advanced economies are generally supportive of the Heckscher-Ohlin model. Using a panel of 18 OECD countries from 1983 to 2002, Jaumotte and Tytell (2007) found significant impact of globalization on

wage share. In particular, an increase in relative export price reduces labor share, while an increase in relative import price has the opposite impact. Stockhammer (2009) questioned the reliability of their findings. After adding several control variables and conducting various specification tests, Stockhammer (2009) concluded that their findings suffered from econometric problems. However, globalization is the only variable that appears to be robust.

Similarly, Guscina (2006) examined data from 18 industrial countries from 1960 to 2000 and found that openness to trade and increasing trade with the South have dampened the portion of income accrued to labor. The study employs various indicators of globalization: trade share over GDP, trade share with developing countries, share of FDI flows over GDP, and ratio of capital flows to GDP. This effect became more pronounced after 1985, a rough benchmark for the latest globalization wave.

2.2.2 Globalization and Labor Share in Developing Countries

The bargaining game framework discussed by Rodrik (1997) is often used to explain the distribution of factor incomes in developing countries where the Heckscher-Ohlin theory lacks explanatory power. Starting with a theoretical model that combines the bargaining game framework with the general equilibrium theory, Harrison (2005) explored data from more than one hundred countries from 1960 to 2000. Both ordinary least squares (OLS) and instrumental variables (IV) estimates indicated a negative and significant impact of increasing trade openness on the declining labor share. Coefficients on FDI, however, were not robust across specifications.

While these studies utilized de facto measures of globalization, both de jure and de facto indicators were employed by Jayadev (2007), who focused on the impact of capital mobility on labor share, using data from 80 countries from 1970 to 2001. Capital mobility was represented by the capital account openness index in the manner of Lee and Jayadev (2003). For trade openness, two measures were considered: the ratio of trade taxes to trade sourced from the World Bank's World Development Indicators (WDI)[2] and the residual by regressing the trade share on GDP per capita and population (in log form), as in Rao (1998). The results were robust for developed countries, whereas there was no evidence of the bargaining channel in the developing counterparts. The study concluded that heterogeneity among countries in terms of economic structure plays an important role in determining the openness-labor share linkage.

Decreuse and Maarek (2015) estimated the impact of FDI on labor share using 1980–2000 data from 98 developing countries. They deviated from the bargaining framework by exploring two direct channels: a positive impact due to a rise in wage resulting from increased competition, and, a negative one caused by advanced technology advances and the associated improvement in labor productivity. Estimation results suggested that inward FDI stock is negatively related to labor share, but outward FDI do not have any significant impact. However, the data used in this study was problematic. FDI was for the whole economy but labor share was only for the manufacturing sector. Given the dominant and continously increasing service FDI share in total FDI stock over the period,[3] the data mismatch may lead to misleading results.

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[2] This study did not specify which WDI version was used.

[3] According to UNCTAD's World Investment Report (2007), in 2005, FDI in manufacturing accounted for one third in total FDI stock, as opposed to 61% of FDI in services. For manufacturing, this is a

3. MODEL SPECIFICATION AND DATA

3.1 Model

Following Guerriero and Sen (2012), Jayadev (2007), our baseline model is specified as:

$$s_{it} = \alpha_0 + \beta_1 export_{it} + \beta_2 import_{it} + \beta_3 inwardfdi_{it} + \beta_4 outwardfdi_{it} + \sum \gamma_j x_{jit} + u_{it} \qquad (1)$$

where s_{it} denotes labor share in country I at time t and x_j is a set of control variables which will be included based on the related literature, u_{it} is a composite error term consisting of year fixed effects, country fixed effects as well as a white noise.

We employ first difference estimation as the second strategy. In fact, fixed effect and first difference produce similar estimates if strict exogeneity is satisfied. However, when strict exogeneity fails, these two techniques will provide different estimates. In addition, first difference can tackle the issue of nonstationarity. Therefore, we introduce first difference estimation as a robustness check. We thus modify equation (1) as follows

$$\Delta s_{l,it} = \alpha_0 + \beta_1 \Delta export_{it} + \beta_2 \Delta import_{it} + \beta_3 \Delta inwardfdi_{it} + \beta_4 \Delta utwardfdi_{it} + \sum \gamma_j \Delta x_{jit} + \varepsilon_{it} \qquad (2)$$

In this case, country fixed-effects have been eliminated. Our ε_{it} include year fixed effects and a random error term.

Stockhammer (2009, 2013) and Harrison (2005) also suggested estimation using five-year non-overlapping averages. There are two justifications for this choice. First, some variables may be relatively constant in the short-run. Second, by smoothing out the data over a longer period, we can eliminate autocorrelation and noise. Consequently, we also include OLS estimation using five-year non-overlapping data.

Finally, endogeneity may exist in the baseline model. For example, FDI in labor-intensive sectors may choose countries with higher labor share. Similarly, countries with higher labor share may have lower demand for labor-intensive imports. To address this issue of potential reverse causality, we perform two-stage least squares estimation, using the first lags of export, import, outward FDI and inward FDI as instruments.

3.2 Data

The main source of data is Penn World Table (PWT) version 8.1. Other sources are UNCTAD's FDI Statistics Database for FDI stock share and World Bank's World Development Indicators 2015 for manufacturing share and trade share.

3.2.1 Labor Share

Labor share is the ratio of total labor compensation over national output. Labor compensation includes not only wages and salaries but also workers' benefits, including health insurance, commissions, bonuses, and social security. In principle, it should also include labor income for the self-employed. However, this income portion is

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remarkable drop from 41% in 1990, while FDI stock in services has risen by more than 10% in the corresponding period.

difficult to measure as it represents both returns to labor and returns to capital. Even data on total income of the self-employed is missing for many countries.[4]

The commonly used labor share statistic reflects compensation to corporate workers and regards income of the self-employed as capital income. As a result, labor share is underestimated. This problem is more pronounced in developing countries, where informal sector accounts for a larger portion of the workforce.[5]

To address this problem, Young (1995) suggested derivation of wages of the self-employed based on individuals' sector of employment, sex, age, and education. This method was demanding as far as data was concerned.

A more popular approach was developed by Gollin (2002) who recommended three different ways of adjustment. The first way was to treat all mixed income as labor income. The second was to assume that capital and labor shares in the unincorporated sector was the same as those in the corporate sector. Finally, the average wage of the self-employed was assumed to equal that of corporate workers.

PWT data was used in this study for two reasons. First, the labor share was carefully adjusted for self-employment. A part of this adjustment was based on Gollin's (2002) suggestion of using mixed income and average wage. As Feenstra et al. (2015) pointed out, the "same-average-wage" assumption in Gollin (2002) might well describe the situation in developed countries, where the share of employees in total employment is approximately from 85% to 95%. However, in developing countries where the share is below 50%, this assumption is likely to result in overestimation of the labor share. Consequently, Feenstra et al. (2015) recommended one extra method based on the share of agriculture in total value-added. The most suitable adjustment for each country was chosen based on data availability and comparison of estimated values.

Second, the coverage of PWT was broad in terms of years and countries. Labor share was available for 127 countries over a 60-year period. However, interpolation was used to derive much of the pre-1970 data, which were dropped in this study. Our final dataset on the labor share covered 1980–2010 with 93 countries, 40 of which are advanced economies.

3.2.2 Globalization Indicators

Data on trade and FDI were available at different levels of aggregation and forms.[6] A common concern is the choice between de jure and de facto index. De jure measures are constructed based on related trade and investment policy tools, for example, tariffs and non-tariff barriers, and exchange rate regimes as part of capital controls. De facto measures, on the other hand, represents the real figures of trade amount or FDI volume.

This study used de facto measures of openness. De facto measures capture the effectiveness of policy enforcement, while de jure indicators only represent instruments utilized to achieve a specific policy goal. This effectiveness can change over time even if the policy instruments remain unchanged (Kose et al, 2009). De facto measures also reflect the actual extent to which an economy is open.

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[4] In Guerriero (2012), for example, mixed income data is only available for 60 of 141 countries in the study. Most of them are advanced economies.

[5] According to Gindling and Newhouse (2012), more than 50% of total employment in low- and middle-income economies work outside corporate sectors, compared to only 15% in their high-income counterparts.

[6] Yanikkaya (2003) listed over 20 indicators used for trade openness alone.

For trade openness, we used the ratio of export and import to GDP. We also included the ratios of outward and inward FDI stock to GDP as other indicators of globalization. Although FDI flows appear to correspond more symmetrically to trade flows, as Kose et al. (2009) suggested, stocks are less volatile and less prone to measurement errors. Thus, using stock measures reduce noise in the data (Quinn et al. 2011). As stocks are the accumulation of flows across time it can capture de facto degree of openness, the core issue we were concerned with.

3.2.3 Control Variables

Apart from globalization, technological change is one of the perceived drivers of the labor share. If technological progress is capital-augmenting, wage share will decrease. Bentolila and Saint Paul (2013) showed that capital-augmented technological progress, proxied by total-factor productivity (TFP), has negative and significant impact on labor share. There are other indicators of technological progress, for example information and communication technologies (ICT) capital stock (Jaumotte and Tytell 2007) and capital intensity (Harrison 2005; Stockhammer 2009). We utilized TFP at constant 2005 prices as reported in PWT.

Capital intensity was included to capture the extent of factor endowment. The relationship between capital intensity and labor share depends on the elasticity of substitution (European Commission 2007; Harrison 2005). A fall in capital-labor ratio results in lower labor share, if these two inputs are complementary. When the elasticity of substitution is low, it is not easy to substitute capital stock by labor, implying lower labor share too. On the contrary, labor share will rise when capital intensity falls, if two inputs are relatively substitutable.

Finally, the GDP share of manufacturing was included to capture structural transformation or industrialization that affects labor share. Since both agriculture and services were relatively more labor-intensive, industrialization may lead to lower labor share.

Table 1 reports summary statistics and defines the variables used.

Table 1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Labor share[a]	1986	55.2	11.6	9.0	86.4
Inward FDI stock (% of GDP)[b]	1510	28.1	43.2	0.0	487.6
Outward FDI stock (% of GDP)[b]	1310	8.3	37.1	0.0	790.7
Export (% of GDP)[c]	1814	38.2	27.8	4.7	230.3
Import (% of GDP)[c]	1814	40.6	27.1	0.0	209.4
Manufacturing share, value-added (% of GDP)[d]	1580	16.9	6.6	1.3	42.2
Capital intensity (in log form)[e]	1961	10.9	1.2	7.3	12.7
TFP (in log form)[f]	1783	0.0	0.2	–1.1	0.8

[a] Labor share is defined as adjusted labor share.

[b] FDI is defined as outward FDI stock/GDP and inward FDI stock/GDP.

[c] Trade openness is defined as export value/GDP and import value/GDP.

[d] Manufacturing share is defined as manufacturing, value-added as percentage of GDP (in log form).

[e] Capital intensity is defined as real capital stock/total employment (in log form).

[f] Technological progress is defined as TFP at constant national prices, base year 2005.

Sources: Penn World Table 8.1, UNCTAD's FDI Statistics, and World Development Indicators 2015.

4. EMPIRICAL RESULTS

Table 2 presents the estimation result of the baseline model (1).[7] Year dummies were included in all equations. Four findings stand out.

Table 2: Globalization and Labor Share, All Countries

Variables	Pooled OLS			Fixed Effect			Random Effect		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Export	−0.226***	−0.259**	−0.197*	−0.167**	−0.244***	−0.173***	−0.165**	−0.239***	−0.175***
	(0.081)	(0.102)	(0.112)	(0.072)	(0.071)	(0.064)	(0.068)	(0.067)	(0.061)
Import	0.155*	0.196**	0.155	0.066	0.109*	0.063	0.071	0.115*	0.069
	(0.082)	(0.089)	(0.099)	(0.066)	(0.064)	(0.059)	(0.062)	(0.060)	(0.056)
Outward FDI[b]		0.037*	0.039*		0.009	0.008*		0.009	0.008*
		(0.019)	(0.020)		(0.006)	(0.005)		(0.006)	(0.005)
Inward FDI[b]		−0.026	−0.030		−0.008	−0.004		−0.008	−0.004
		(0.025)	(0.027)		(0.015)	(0.014)		(0.014)	(0.014)
Capital intensity			0.077			1.438			1.176
			(1.541)			(4.232)			(2.736)
TFP			−5.260			−13.341***			−13.096***
			(6.318)			(3.206)			(2.854)
Industry share[c]			0.131			−0.220*			−0.211*
			(0.249)			(0.131)			(0.119)
Observations	1,814	1,239	967	1,814	1,239	967	1,814	1,239	967
R-squared	0.154	0.140	0.108	0.887	0.902	0.938			

[a] Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

[b] FDI and trade variables are measured as percentage of GDP.

[c] Industry share is defined as the share of manufacturing value-added over GDP.

Source: Authors' calculations.

First, the impact of export and import on labor share were mixed. Export depressed labor share and its impact was statistically significant. A percentage point increase in export share resulted in approximately 0.17% to 0.26% decrease in labor share. This effect could be caused by the improvement of productivity following exports or the more capital-intensive export structure.

Import, on the other hand, increased labor share. The coefficient, however, was not significant in half of the estimated equations. The opposite impact on import and export were interesting and deserve further investigation, since previous studies only focused on the overall impact of trade.[8]

Second, outward FDI had a positive but insignificant impact on labor share, while the coefficients of inward FDI had the opposite sign. This result is similar to Harrison (2005), who suggested inward FDI act as a proxy for the ease with which investment come and leave a country.

Third, technology proxied by TFP had a negative and significant impact on labor share, confirming that technology is capital-biased. This finding was consistent with Harrison (2005), Jaumotte and Tytell (2007), Guscina (2006).

Fourth, the impact of capital intensity and structural transformation were insignificant.

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[7] Hausman test favors random effects specification.

[8] The only exception to this is Jaumotte and Tytell (2007). However, their study focused on developed nations.

One concern was that the impact of globalization on factor shares may differ at different stages of development. Therefore, we estimated model (1) separately for developed and developing countries. The income classification is based on World Development Indicators 2015.

Several findings are worth mentioning (Table 3 reports the regression results). First, the signs of coefficients for globalization variables were similar in both groups. Second, the impact of trade was more pronounced in developed countries, where both export and import are significant and larger in magnitude. Third, the opposite and significant impacts of capital intensity between the two groups was notable.

In developed countries, the impact of capital intensity is positive and significant, suggesting a low substitutability between labor and capital. This is consistent with Rowthorn (1999), Antras (2004), and Krusell et al. (2000) who found that that the elasticity of substitution was well below one in advanced economies.

In developing countries, where low-skilled workers account for a significant proportion, capital intensity was negatively correlated with labor share. Unlike with skilled labor, capital and unskilled workers were likely to be substitutes. Thus, a relative increase in capital stock may result in lower labor demand, rendering a decrease in the labor share. Moreover, technological progress in developing countries tend to be labor-augmenting in nature given their early stage of development (Acemoglu 2003). In this case, the elasticity of substitution was larger than one.

Table 3: Globalization and Labor Share, by Income Group

| Variable | Labor Share[a] | | | | | |
| | Developed Countries | | | Developing Countries | | |
	Pooled OLS	FE	RE	Pooled OLS	FE	RE
Export	−0.273**	−0.320***	−0.327***	−0.232*	−0.156***	−0.163***
	(0.123)	(0.069)	(0.064)	(0.130)	(0.047)	(0.043)
Import	0.252*	0.226***	0.279***	0.191***	0.015	0.031
	(0.147)	(0.065)	(0.084)	(0.055)	(0.072)	(0.065)
Outward FDI[b]	0.051	−0.007	0.008	0.033**	0.009	0.010
	(0.109)	(0.036)	(0.071)	(0.013)	(0.006)	(0.006)
Inward FDI[b]	−0.092*	−0.028	−0.052**	−0.014	−0.001	−0.001
	(0.047)	(0.021)	(0.026)	(0.022)	(0.014)	(0.013)
Capital intensity	10.038***	14.823***	9.883***	−6.773***	−4.298	−4.924***
	(2.567)	(4.596)	(3.127)	(1.631)	(3.182)	(1.707)
TFP	−20.178***	−8.140*	−11.051**	−16.171***	−10.963***	−10.741***
	(6.883)	(4.437)	(4.812)	(4.146)	(3.093)	(2.673)
Industry share[c]	0.129	−0.113	−0.025	−0.018	−0.131	−0.120
	(0.200)	(0.180)	(0.174)	(0.162)	(0.098)	(0.085)
Observations	446	446	446	513	513	513
R-squared	0.413	0.933		0.511	0.951	

[a] Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

[b] FDI and trade variables are measured as percentage of GDP.

[c] Industry share is defined as the share of manufacturing value-added over GDP.

Source: Authors' calculations.

Table 4 presents estimation results in first differences as shown by equation (2). The results were similar to those reported in Table 3, except for coefficients on FDI which turned out to be negative, though insignificant in all specifications. Regressions on developed countries yielded more consistent results.

Table 4: Globalization and Labor Share, First Difference Equation

Variables	ΔLabor Share[ab]				
	(1)[e]	(2)[e]	(3)[e]	(4)[f]	(5)[f]
ΔExport	−0.192***	−0.177***	−0.130***	−0.268***	−0.085**
	(0.038)	(0.037)	(0.040)	(0.026)	(0.038)
ΔImport	0.087***	0.066*	0.031	0.198***	−0.028
	(0.028)	(0.036)	(0.047)	(0.032)	(0.048)
ΔOutward FDI[c]		−0.003	−0.003**	−0.008	−0.003**
		(0.002)	(0.001)	(0.012)	(0.001)
ΔInward FDI[c]		−0.006	−0.009	−0.010	−0.015
		(0.006)	(0.007)	(0.008)	(0.010)
ΔCapital intensity			−4.210	−5.121	−6.216***
			(2.845)	(4.060)	(2.103)
ΔTFP			−4.305	−15.028***	−4.388
			(2.700)	(3.738)	(3.041)
ΔIndustry share[d]			−0.271***	−0.502**	−0.274***
			(0.097)	(0.198)	(0.089)
Observations	1,714	1,155	898	417	474
R-squared	0.154	0.170	0.180	0.348	0.094

[a] Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

[b] Year dummies are included.

[c] FDI and trade variables are measured as percentage of GDP.

[d] Industry share is defined as the share of manufacturing value-added over GDP.

[e] Columns (1) to (3) report results for the whole sample.

[f] Columns (4) and (5) report results for developed countries and developing countries, respectively.

Source: Authors' calculations.

As argued earlier, it is useful to average data over a number of years and repeat the above estimations. Table 5 reports the results of estimating (1) using five-year averages for all variables. Although the sample size dropped considerably, the results were consistent with those presented in Tables 3 and 4. For example, export was a robust determinant of labor share. The estimated coefficient of import was positive and significant in most cases. Inward FDI also exerted negative impact on labor share, while outward FDI exerted positive impact, although both coefficients were not stable.

Lastly, 2SLS estimation was performed to account for endogeneity. Table 6 shows the results, which were broadly consistent with previous results.

**Table 5: Globalization and Labor Share, Using Five-Year
Non-Overlapping Average Data**

Variables	Labor Share[ab]				
	(1)[e]	(2)[e]	(3)[e]	(4)[f]	(5)[f]
Export	−0.235***	−0.269**	−0.218*	−0.267	−0.255*
	(0.078)	(0.103)	(0.111)	(0.164)	(0.144)
Import	0.169**	0.212**	0.182*	0.259	0.198***
	(0.076)	(0.090)	(0.096)	(0.187)	(0.065)
Outward FDI[c]		0.045*	0.048*	0.103	0.039**
		(0.024)	(0.026)	(0.108)	(0.016)
Inward FDI[c]		−0.040*	−0.038	−0.083*	−0.016
		(0.024)	(0.027)	(0.046)	(0.020)
Capital intensity			0.447	8.069**	−6.730***
			(1.498)	(3.325)	(1.561)
TFP			−5.543	−14.928	−13.281***
			(6.553)	(9.430)	(3.852)
Industry share[d]			0.169	0.251	0.021
			(0.239)	(0.233)	(0.184)
Observations	505	388	315	147	166
R-squared	0.087	0.104	0.094	0.313	0.475

[a] Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

[b] Country dummies are included.

[c] FDI and trade variables are measured as percentage of GDP.

[d] Industry share is defined as the share of manufacturing value-added over GDP.

[e] Columns (1) to (3) report results for the whole sample.

[f] Columns (4) and (5) report results for developed countries and developing countries, respectively.

Source: Authors' calculations.

Table 6: Globalization and Labor Share of Income, 2SLS Estimation

Variables	Labor Share[ab]				
	(1)[e]	(2)[e]	(3)[e]	(4)[f]	(5)[f]
Export	−0.183***	−0.311***	−0.202***	−0.369***	−0.194***
	(0.023)	(0.029)	(0.032)	(0.050)	(0.045)
Import	0.078***	0.127***	0.079**	0.289***	0.000
	(0.026)	(0.028)	(0.032)	(0.058)	(0.036)
Outward FDI[c]		0.009*	0.008*	0.008	0.011**
		(0.005)	(0.005)	(0.023)	(0.005)
Inward FDI[c]		−0.008	−0.004	−0.031***	−0.000
		(0.007)	(0.007)	(0.011)	(0.008)
Capital intensity			1.880**	15.843***	−3.922***
			(0.919)	(1.396)	(1.237)
TFP			−13.805***	−6.139***	−11.454***
			(1.087)	(1.844)	(1.399)
Industry share[d]			−0.230***	−0.146*	−0.087
			(0.055)	(0.086)	(0.076)
Observations	1,714	1,155	908	423	478

[a] Clustered robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

[b] Country dummies are included.

[c] FDI and trade variables are measured as percentage of GDP.

[d] Industry share is defined as the share of manufacturing value-added over GDP.

[e] Columns (1) to (3) report results for the whole sample.

[f] Columns (4) and (5) report results for developed countries and developing countries, respectively.

Source: Authors' calculations.

5. CONCLUSION

This study set out to investigate the impacts of globalization on labor share, using data from 87 countries over a 31-year period from 1980 to 2010. These were its three major findings.

First, export was an important and statistically significant factor driving the decline of labor share over the last three decades. The effects differed between developed and developing countries. The magnitude was larger for advanced economies.

Second, import exerted positive impact on the labor share, although the significance varied across models.

Third, there was little empirical evidence on FDI's influence on labor share.

The study implies that globalization is a driving factor behind income inequality, as it is negatively correlated with the labor share. Therefore, globalization, especially trade channel, deserves serious consideration from policy makers dealing with declining labor share. While increasing trade is a nonreversible trend as a stimulus for growth, remedies to improve labor market conditions, better investment in education and training to upgrade workers' skills would be possible options to pursue.

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