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Wage shares and demand regimes in Central America: An empirical analysis 1970-2016

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Wage shares and demand regimes in Central America: An empirical analysis for Costa Rica, El Salvador, Honduras, Nicaragua, and Panama, 1970-2016

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Abstract
This paper analyzes the relationship between functional income distribution aggregate demand and economic growth in five Central American countries; Costa Rica, El Salvador, Honduras, Nicaragua, and Panama for the period 1970-2016. It estimates the effects of a change in the wage share on aggregate demand based on a post-Kaleckian model, which allows for either profit- or wage-led demand. The results show that the domestic demand is wage-led in the five countries. The same applies for total demand with the exception of Panama, whose domestically wage-led demand turns profit-led when including the effect of distribution on net exports. Finally, it is argued that there is room for a wage-led recovery in Central America.

Keywords: distribution, aggregate demand, wage share, demand regimes, consumption, investment, net exports, developing countries, Central America

JEL codes: E12, E22, E23, E25, E61, F41

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1. Introduction

The continuous social, political, and economic struggles in Central America, have inhibited a sustainable pattern of growth and social cohesion. Paradoxically, the current neoliberal paradigm, adopted by Central American countries under the guise of export diversification model in the 1980s, was supposed to enhance economic growth and development. The Structural Adjustment Programs (SAPs) were presented as the best alternative to promote private investment and exports and the associated employment generation process (Isaza Castro, 2006). Unfortunately, almost four decades after the implementation of the SAPs, unemployment, informality, and inequality have increased in most of these countries. Additionally, with the exception of Panama, economic performance has been rather poor, and even in Panama, where the measures have been accompanied by an important economic growth process, distribution has been very uneven. That way, although this country leads in terms of economic growth, it also leads in terms of inequality.

Given that this region is characterized by weak economic performance and uneven income distribution, this paper concentrates on one aspect that has awoken a lot of interest since the 2008 crisis; the relationship between functional income distribution and economic growth. In this paper, such a relationship is studied from a heterodox perspective, as heterodox economists have persistently emphasized the two important roles of wages; they are a cost of production and a source of demand. Hence, they consider not only the positive effects that higher profits may have on investment and net exports, but also the negative effects on consumption. Since there are differences between the marginal propensities to consume out of profits and out of wages (where the latter is higher than the former), the overall effect of a decrease in the wage share on aggregate demand depends on the relative reaction of its components: consumption, investment, and net exports. When the total effect is positive, the demand regime is called profit-led and when it is negative, wage-led (Onaran and Obst, 2016, p.2).

The purpose of studying the link between functional income distribution and economic growth in Central American countries is to verify empirically whether the negative effect of a lower wage share on consumption is bigger than a potentially positive effect on investment and net exports. This question has already been addressed for several Latin American countries (Tomio, 2020; Reyes, 2019; Alarco, 2016; Araújo, Gala, and Bruno, 2012; Onaran and Galanis, 2014). First estimations for Central American countries are presented by Alarco (2016), who considers 16 Latin American countries.

This study aims at expanding and complementing the existing empirical evidence for Central American counties by analyzing the period 1970-2016. The estimation method followed is the most commonly used in the demand regimes literature, which is the structural approach. The countries considered are Costa Rica, El Salvador, Honduras, Nicaragua, and Panama. Unfortunately, due to fragmented data, Guatemala and Belize could not be included. Our results suggest that domestic demand is wage-led in the five countries. The same applies

for total demand with the exception of Panama, whose domestically wage-led demand turns profit-led when including the effect of distribution on net exports.

The paper is organized as follows; section two concentrates on the theoretical framework, i.e. on the post-Kaleckian distribution and growth model. In section three, previous literature dedicated to the empirical determination of demand regimes is reviewed. Section four presents the data used to do such evaluation for Central American countries as well as some stylized facts. In section five, the methodology and the empirical estimations are presented. Finally, based on such results, policy implications and conclusions are discussed in section six.

2. Open-economy post-Kaleckian Distribution and Growth Model

This analysis is based on the open economy version of the post-Kaleckian distribution and growth model developed by Bhaduri and Marglin (1990), and presented in detail in Hein and Vogel (2008). In this model, with no activity from the state, labor productivity and the capital-potential output ratio are assumed as constant. The prices of imported inputs and of foreign final output are exogenously given, as well as the nominal exchange rate and foreign economic activity.

The real exchange rate (e^r), shown in equation (1), is taken as an indicator for international price competitiveness (Bhaduri and Marglin, 1990, p.385). Thus, an increase in the real exchange rate leads to an increase in international competitiveness, which would be the case if there is an increase in the nominal exchange rate (e), an increase in foreign prices (p_f) or a decrease in domestic prices (p).

$$e^r = \frac{ep_f}{p} \tag{1}$$

Moreover, changes in distribution have an effect on international competitiveness. Such an effect can be positive or negative depending on the cause of the distributional change. Specifically, if the source of the distributional change is a change in the mark-up, the relationship between the profit share and international competitiveness is negative. But, if the distributional change comes from a change in the nominal wage or in the nominal exchange rate, then the relationship between the profit share and international competitiveness is positive. Hence, changes in the profit share can be associated with both an increase or decrease in international competitiveness (Hein and Vogel, 2008, p.5-6).

We can now analyze the effects of changes in distribution on aggregate demand and growth. The starting point is the goods market equilibrium, given by equation (2). As can be seen, saving (S) must equal investment (I) plus net exports, which is equal to the difference between exports and imports (NX = X - M).

$$S = I + X - M = I + NX \tag{2}$$

Normalizing equation (2) by the capital stock (K), we get that the saving rate ($\sigma = S/K$) equals the accumulation rate ($g = I/K$) plus the net exports rate ($b = NX/K$):

$$\sigma = g + b \tag{3}$$

Savings include saving out of profits (S_Π), and out of wages (S_W). It is assumed that the propensity to save out of profits (s_Π) is higher than the propensity to save out of wages (s_W), since the latter includes retained earnings of firms. As seen in equation (4), the saving rate is composed of the profit share ($h = \Pi/ Y$, where Π are the profits and Y is output), the rate of capacity utilization ($u = Y/Y^p$, where Y^p is potential output), and the capital-potential-output ratio ($v = K/Y^p$).

$$\sigma = \frac{S_\Pi + S_W}{K} = \frac{s_\Pi \Pi + s_W(Y - \Pi)}{K} = [s_W + (s_\Pi - s_W)h]\frac{u}{v} \tag{4}$$

Capital accumulation (g) is taken as a positive function of animal spirits (α), the profit share, and capacity utilization:

$$g = \frac{I}{K} = \alpha + \beta u + \tau h, \qquad \alpha, \beta, \tau > 0. \tag{5}$$

The net exports rate depends positively on international competitiveness, provided that the Marshall-Lerner condition holds. Additionally, net exports depend on both foreign and domestic demand. When foreign demand increases, net exports will increase. The opposite is expected if internal demand increases. Thus, net exports depend on the real exchange rate and as proxies for domestic and foreign demand, on domestic capacity utilization and foreign capacity utilization (u_f), where the latter is an exogenous variable:

$$b = \psi e^r(h) - \phi u + \vartheta u_f, \qquad \psi, \phi, \vartheta > 0 \tag{6}$$

The equilibrium values for capacity utilization and capital accumulation, can be obtained by plugging equations (4), (5) and (6) into equation (3):

$$u^* = \frac{\alpha + \tau h + \psi e^r(h) + \vartheta u_f}{[s_W + (s_\Pi - s_W)h]\frac{1}{v} - \beta + \phi} \tag{7}$$

$$g^* = \frac{(\alpha + \tau h)\left\{[s_W + (s_\Pi - s_W)h]\frac{1}{v} + \phi\right\} + \beta[\psi e^r(h) + \vartheta u_f]}{[s_W + (s_\Pi - s_W)h]\frac{1}{v} - \beta + \phi} \tag{8}$$

For these equilibrium values to be stable, it is required that saving responds more elastically to a change in the rate of capacity utilization than investment plus net exports do:

$$\frac{\partial \sigma}{\partial u} - \frac{\partial g}{\partial u} - \frac{\partial b}{\partial u} > 0 \tag{9}$$

The effect of a change in functional income distribution on the equilibrium values of capacity utilization and capital accumulation can be obtained from equations (7) and (8) by taking the derivative with respect to the profit share:

$$\frac{\partial u^*}{\partial h} = \frac{\tau - (s_\Pi - s_W)\frac{u}{v} + \psi \frac{\partial e^r}{\partial h}}{[s_W + (s_\Pi - s_W)h]\frac{1}{v} - \beta + \phi} \tag{10}$$

$$\frac{\partial g^*}{\partial h} = \frac{\tau\left\{[s_W + (s_\Pi - s_W)h]\frac{1}{v} + \phi\right\} - \beta(s_\Pi - s_W)\frac{u}{v} + \beta\psi\frac{\partial e^r}{\partial h}}{[s_W + (s_\Pi - s_W)h]\frac{1}{v} - \beta + \phi} \tag{11}$$

As seen in equation (10), an increase in the profit share has an ambiguous effect on capacity utilization. The numerator shows that there is a positive effect from investment demand, a negative one coming from consumption demand and finally, there is an undetermined effect coming from net exports. Whether this last effect is positive or negative depends on the source of the distributional change, as previously explained. Similarly, as can be seen in equation (11), an increase in the profit share has an ambiguous effect on capital accumulation (Hein, 2014, p.292).

3. Review of empirical estimations based on the post-Kaleckian model

The post-Kaleckian distribution and growth model by Bhaduri and Marglin (1990) has triggered several empirical studies which seek to reveal the type of demand and growth regime for a broad set of countries. The most common methodologies to do so can be grouped into two estimation strategies; 'structural' and 'aggregative' (Blecker, 2016). To clarify the differences between both, consider the following aggregate demand equation:

$$Y = AD = C(Y, h, Z_C) + I(Y, h, Z_I) + NX(Y, h, Z_{NX}) + G, \tag{12}$$

where Y is output, AD is aggregate demand, C is consumption, I is investment, NX is net exports, G are exogenous real government expenditures, and Z_j are the control variables of each component of AD. The effect of a change in the profit share on output, holding the exogenous terms Z_j constant, is given by:

$$\frac{\partial Y}{\partial h} = \frac{\frac{\partial AD}{\partial h}}{1 - \frac{\partial AD}{\partial Y}} \tag{13}$$

Assuming that the term $\partial AD/\partial Y$ in the denominator of equation (13) is smaller than one, for Keynesian (goods market) stability, the sign of $\partial Y/\partial h$ depends exclusively on the sign of the term in the numerator, $\partial AD/\partial h$ (Blecker, 2016, p.377).

In the structural approach, the effects of changes in the profit share are estimated on each aggregate demand component separately. Thus, this approach estimates the effect of redistribution on private excess demand, i.e. "the change in demand caused by a change income distribution given a certain level of income" (Stockhammer, 2017, p.27). The aggregative approach, is an alternative method which relies on the estimation of the reduced form solution for output Y, where the latter is regressed on various lags of the dependent variable itself, the profit share (or wage share), and the control variables Z_j :

$$Y = Y\left(h, Z_C, Z_I, Z_{NX,} Z_p\right) \tag{14}$$

Notice that both the aggregative and the structural approach only estimate the slope of the aggregate demand relationship in equation (12). Therefore, the estimates are subject to simultaneity bias if the profit share is endogenous and is a function of output through another channel, as for example, wage- or price-setting behavior on the supply side (Blecker, 2016, p.377). The latter can be avoided by including an equation expressing the opposite direction of the causality, i.e. the distributional relationship. Thus, whenever a model includes equation (14) and (15), it can be considered not only an aggregative approach but also a 'systems' approach.

$$h = h(Y, Z_h) \tag{15}$$

In this line, Onaran and Stockhammer (2005), find that demand and accumulation regimes in South Korea and Turkey are wage-led. De Jesus et al. (2017) found that the accumulation and demand regimes in Brazil are profit-led. Furthermore, the systems approach has been typically followed by authors coming from the Goodwin tradition, such as Barbosa-Filho and Taylor (2006) and Carvalho and Rezai (2016), as they are specially interested in the interaction between the demand and distribution equations.

The downside of the aggregative approach however, is that it does not allow for detection of the specific economic relationships that lead to changes in demand due to changes in distribution. Moreover, using this approach requires a simplification of the model given that the amount of endogenous variables which can be included is rather limited, which may lead to problems of misspecification (Onaran and Obst, 2016, p.10).

These problems can be avoided under the structural approach, which has been commonly used by authors coming from the Kaleckian tradition (Blecker, 2016). However, this estimation method comes with its own problems, as it does not consider the interaction of the GDP components consumption, investment and net exports. Furthermore, income distribution is

taken as an exogenous variable, which as mentioned could lead to simultaneity bias. However, as noted by Onaran and Galanis (2014, p.2495) and Onaran and Obst (2016, p.11), endogenizing income distribution would be econometrically challenging in the absence of good instrumental variables and long data samples, which according to the authors could allow for the use of lags of the distribution variables as instruments.

Despite the latter, this study follows the structural approach, as it has the advantage of allowing differentiation between the domestic and the total economy effects. Nevertheless, it is recognized that following this approach "may come at the price of possible bias due to ignoring the system dimension and endogeneity" (Onaran and Obst, 2016,p.11). The majority of empirical studies using this approach have concentrated on advanced capitalist economies. There is especially a vast amount of research for the US, the UK, Germany, and France (see Hein (2014, p,302-303) for an overview table). Recently, however, there have been important efforts to include emerging market economies in empirical analyses. Table 1 summarizes the empirical evidence for such countries.

As can be seen in Table 1, most studies find that domestic demand is wage-led. The latter is because usually, increases in the profit share have contractive effects on consumption demand. Additionally, some studies do not find any statistically significant influence of the profit share or other profitability proxies on investment. Yet, whenever there is a significant effect, the positive marginal effect is usually lower than the negative marginal effect on consumption, which implies a wage-led domestic demand. These common findings also apply to advanced capitalist economies (see Hein, 2014, p. 302-303).

Furthermore, when considering the effects of distribution on net exports, sometimes a wage-led domestic demand turns into a profit-led total demand. The latter has been more common for small open economies and emerging market economies than for advanced capitalist countries. However, notice in Table 1 that results are mixed and even contradictory. For example, Alarco (2016) and Reyes (2019) find Argentina's and Mexico's total demand to be wage-led, contradicting the previous study by Onaran and Galanis (2014). Similarly, Tomio (2020) and Alarco (2016) find a wage-led total demand for Brazil, contracting the findings by Araújo et al (2012) and Reyes (2019).

When it comes to Central American countries, Alarco (2016) finds that the domestic and total demand of Costa Rica and El Salvador are wage-led, while for Panama, Honduras, and Nicaragua, his findings suggest that both domestic and total demand are profit-led. These last findings are in contradiction with those found in the current study, as will be discussed in section five. However, it must be considered that in general, contradictory results have been common in the literature as econometric results are quite sensitive to the technicalities of the specifications, such as the estimation method, the period considered, the data frequency, the lag structure, the variable definition, the control variables included (such as finance control variables or personal income inequality), and the functional forms (Stockhammer, 2017, p.39; Blecker, 2016, p.378).

Table 1

Summary of the results on the demand regimes for selected developing countries

Country	Domestic Demand		Total Demand	
	Wage-led	Profit-led	Wage-led	Profit-led
Argentina	Onaran & Galanis (2014):1960s-2007 Reyes (2019):1970-2017 Alarco (2016):1950-2012		Reyes (2019):1970-2016 Alarco (2016):1950-2012	Onaran & Galanis (2014):1960s-2007
Bolivia		Alarco (2016):1960-2012		Alarco (2016):1960-2012
Brasil	Araujo, Gala & Bruno (2012) 2002-2008 Tomio (2020):1956-2008 Reyes (2019):1970-2016 Alarco (2016):1950-2012		Tomio (2020):1956-2008 Alarco (2016):1950-2012	Araujo, Gala & Bruno (2012) 2002-2008 Reyes (2019):1970-2017
Chile	Reyes (2019):1970-2016 Alarco (2016):1950-2012		Reyes (2019):1970-2016	Alarco (2016):1950-2012
China	Onaran & Galanis (2014):1960s-2007 Jetin & Ortiz (2020):1982-2016 Molero Simarro (2011):1978-2011. At the mean & 1979 level	Molero Simarro (2011):1978-2011. At the 2007 level	Jetin & Ortiz (2020):1982-2016	Onaran & Galanis (2014):1960s-2007 Molero Simarro (2011):1978-2011
Colombia	Reyes (2019):1970-2016 Alarco (2016):1950-2012		Reyes (2019):1970-2016 Alarco (2016):1950-2012	
Costa Rica	Alarco (2016):1953-2012		Alarco (2016):1953-2012	
Ecuador	Alarco (2016):1950-2012		Alarco (2016):1950-2012	
El Salvador	Alarco (2016):1960-2012		Alarco (2016):1960-2012	
Honduras		Alarco (2016):1960-2012		Alarco (2016):1960-2012

Table 1 Continued

Summary of the results on the demand regimes for selected developing countries

Country	Domestic Demand		Total Demand	
	Wage-led	Profit-led	Wage-led	Profit-led
India	Onaran & Galanis (2014):1960s-2007			Onaran & Galanis (2014):1960s-2007
Korea	Onaran & Galanis (2014):1960s-2007		Onaran & Galanis (2014):1960s-2007	
Mexico	Onaran & Galanis (2014):1960s-2007 Reyes (2019):1970-2017 Alarco (2016):1950-2012		Reyes (2019):1970-2017 Alarco (2016):1950-2012	Onaran & Galanis (2014):1960s-2007
Nicaragua		Alarco (2016):1960-2012		Alarco (2016):1960-2012
Panama		Alarco (2016):1950-2012		Alarco (2016):1960-2012
Paraguay	Alarco (2016):1962-2012		Alarco (2016):1962-2012	
Peru	Reyes (2019):1970-2016 Alarco (2016): 1950-2012		Reyes (2019):1970-2016 Alarco (2016): 1950-2012	
South Africa	Onaran & Galanis (2014):1960s-2007			Onaran & Galanis (2014):1960s-2007
Thailand		Jetin & Kurt (2016): 1970-2011		Jetin & Kurt (2016): 1970-2011
Turkey	Onaran & Galanis (2014):1960s-2007		Onaran & Galanis (2014):1960s-2007	
Uruguay	Alarco (2016):1955-2012		Alarco (2016):1955-2012	
Venezuela	Alarco (2016):1957-2012		Alarco (2016):1957-2012	

Source: own elaboration

4. Data and stylized facts for Central America

The necessary annual data for the econometric analysis was obtained from the World Bank, the Economic Commission for Latin America and the Caribbean (ECLAC), and Central Banks, Table 1.A, in Appendix A, describes the data sources and the calculation of additional variables. The analysis covers the most extended period for which data was available, which is 1970-2016. The countries considered are Costa Rica, El Salvador, Honduras, Nicaragua, and Panama. C, I, NX, Y, W, and Π are real consumption expenditures, real private investment expenditures, net exports in real terms, real GDP, real wages, and real profits, respectively. For econometric reasons, all variables, with the exception of net exports, are in logarithmic form. Wages are labor compensation, which was obtained from ECLAC and calculated as real compensation per employee multiplied by total employment. Profits are the difference between real GDP and wages.

It is crucial to mention that due to the informal nature of employment, developing countries have a significant share of self-employment. As a way to deal with this problem, some studies have adjusted the wage share by allocating a labor compensation for each self-employed person equal to the average labor income of the salaried workers. Abeles et al (2014) warn that not adjusting the wage share for Latin American countries would mean a sub-estimation of the wage share. However, they also recognize that the conventional method in the literature, which assumes that independent workers earn the average of the salaried workers, is not an adequate way to adjust the wage share. They propose a second more rigorous method to adjust the wage share by simulating the wage of an independent worker by considering the worker's characteristics and the economic sector the person works in, instead of taking the average wage for all. The authors do such an estimation using household survey information from 1990 onwards. For all the Latin American countries they consider, among which are Costa Rica, Honduras, and Panama, they find that the adjustment done under the traditional way leads to a considerable overestimation of the wage share. For countries like Honduras, such an adjustment leads to a wage share as high as 93%, which, according to the authors, would be misleading.

Thus, despite the risk of underestimating the wage share, but considering that we are interested in evaluating the effects of a change in the wage share and not in the levels, the arbitrary assumption that independent workers earn the average labor income of the salaried workers will be left out. That is, this study considers the unadjusted wage share for the empirical analysis as has been done by a few authors in the past, such as Hein and Vogel (2007).

Figure 1-5 show the wage share for each country for the period 1970-2016. As can be seen, the 1980s crisis meant a significant drop in the wage share in all Central American countries, except for Honduras. Costa Rica is the only country which recovers to pre-crisis levels quickly and which shows an upward trend ever since. During the 1970s, the wage share in El Salvador increased considerably; after the crisis, however, the wage share shows a decreasing trend, and it never returns to pre-crisis levels; instead, the wage share in 2016 was similar to what it used to be in 1970.

In contrast to the other countries, the wage share in Honduras does not decrease in the early 1980s. It shows an increasing trend until the late-80s, then it shows a sharp decrease until the mid-90s. From the late-90s until 2010, it displays a rising trend, and decreases slightly after the recent crisis. In Nicaragua, the wage share remains stable during the 1970s at virtually the same level. Then, it drops considerably in the 1980s and enters a very volatile period from the mid-80s until the mid-90s. Since the early 2000s, however, the wage share increases slightly, but it remains at much lower levels than in the 1970s.

Lastly, Panama shows the most drastic decline in the wage share. This trend is evident for the whole period, and it is especially striking since the late 1980s. However, it must be considered that Panama has an important particularity, which is that this country has been a well-established tax haven since the 1980s. As explained by Tørsløv et at (2018), it is usual for tax havens to show extraordinary high profit shares and in general, macroeconomic statistics such as GDP, corporate profits, and trade balances are overestimated for these countries. Tørsløv et al (2018), who correct some macroeconomic statistics for the effect of profit shifting, estimate that the profit share in Panama in 2015 would decrease by 36.3% (Tørsløv et al., 2018, Appendix C5). It must be therefore considered that there is likely an overestimation of Panama's profit share for the period analyzed, which leads to a potential bias in the regression analysis. Nevertheless, correcting the data for the period of study would be very complex due to data availability and it is outside the scope of this paper.

Figure 1

Wage Share Costa Rica

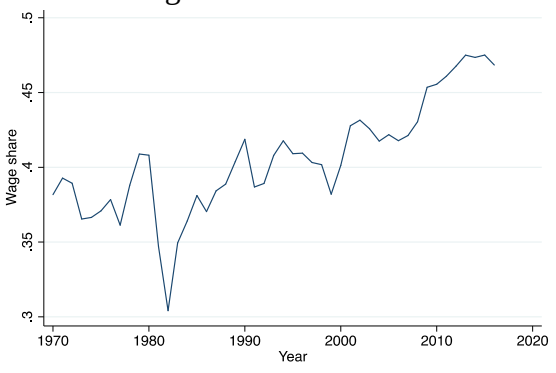


Figure 2

Wage Share El Salvador

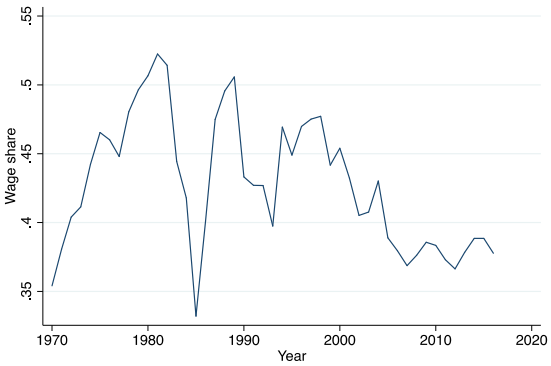


Figure 3

Wage Share Honduras

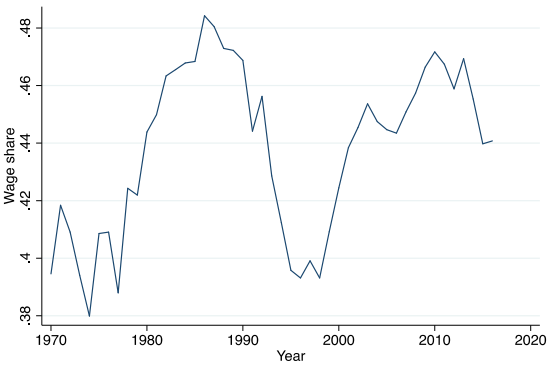


Figure 4

Wage Share Nicaragua

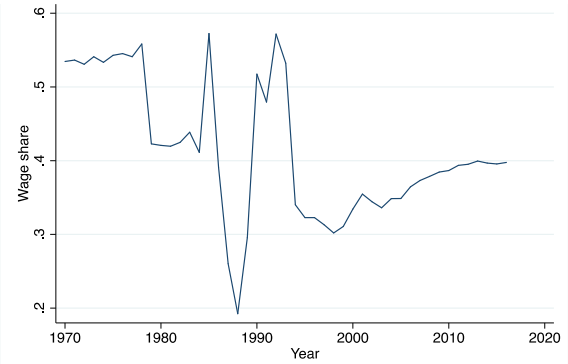
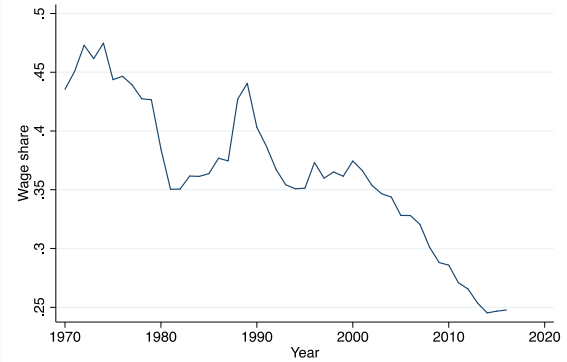


Figure 5

Wage Share Panama



Source: Own calculations based on data from ECLAC (2019).

When it comes to the average growth rates, as shown in Table 2, in countries such as El Salvador, the decline in the wage share came hand in hand with weaker economic growth. During the 1970s, when the wage share showed an increasing trend, we also had the highest average growth in GDP. Similarly, in Honduras, during the decade of 2000-2010, when there was a stable increase in the wage share, economic growth was higher than in the previous two decades and the subsequent one. In Nicaragua, the wage share, after a period of high volatility, has shown a slow but steady growth since the mid-2000s, at the same time, economic growth finally picked up after four tumultuous decades of poor economic performance.

In Costa Rica and Panama, the wage share and average economic growth show opposite trends. In Costa Rica, the wage share shows an increasing trend since the early 1980s and is now well above the 1970s levels. The average GDP growth, however, remains below the 1970s levels, and instead of catching up, growth rates have been decreasing on average. On the contrary, Panama shows the region's highest growth rates since the 1990s, which has come hand in hand with a marked decrease in the wage share.

Table 2

Average growth of GDP (%)

	1970-1979	1980-1989	1990-1999	2000-2009	2010-2016
Costa Rica	6.22	2.22	4.84	4.22	3.96
El Salvador	4.01	-1.95	3.74	1.50	2.57
Honduras	5.67	2.66	2.78	4.52	3.61
Nicaragua	0.58	-0.78	3.01	2.93	5.18
Panama	4.54	2.07	5.76	5.62	7.08

Source: Own calculations with data from the World Bank (2020)

From this analysis, we can conclude that sometimes the relationship between the wage share and the growth performance appears to be positive, other times negative, and sometimes it is somewhat unclear. The following sections will be dedicated to the empirical analysis which will reveal the effect of a 1% increase in the profit share (or in other words a 1% decrease in the wage share) on private aggregate demand.

5. Empirical Method and results

To determine if aggregate demand in Central American countries is wage-led or profit-led, this study follows the structural approach. Thus, each component on the right-hand side of equation (16) is estimated separately.

$$\frac{\partial Y/Y}{\partial h} = \frac{\partial C/Y}{\partial h} + \frac{\partial I/Y}{\partial h} + \frac{\partial NX/Y}{\partial h} \tag{16}$$

Subsequently, the partial effects are calculated and added up in order to obtain the domestic and total effect. The expected signs according to the theoretical model are the following:

$$\frac{\partial C/Y}{\partial h} < 0, \frac{\partial I/Y}{\partial h} > 0, \frac{\partial NX/Y}{\partial h} = ? \tag{17a}$$

The first step in the empirical analysis was to test for unit roots applying an Augmented Dickey–Fuller test (ADF). Most variables resulted in being integrated of order one [I(1)] as can be seen in Table B1 in Appendix B. Subsequently, a Johansen cointegration test was used to evaluate if the series in question were cointegrated. Whenever feasible, error correction models (ECM) were applied. If there was no indication of cointegration, the specification is estimated in first differences.

The regressions included the contemporaneous values and first lags of both the regressors and the dependent variable. Following Onaran and Galanis (2014), only the significant variables were chosen unless there were autocorrelation problems. If so, the lagged dependent variable is kept, even if it is not significant, but treated as statistically zero when calculating the marginal effects. Dummy variables are also included in the regressions whenever necessary. These are often used in regression analysis to isolate certain periods that may be systematically different from other periods covered in a database (Wooldridge, 2002, p. 354). Also, when necessary, the estimations were corrected for outliers to avoid heteroskedasticity. The regressions were tested for serial correlation using the Breusch-Godfrey test, and for heteroskedasticity using the White Test. There is no indication of autocorrelation or heteroskedasticity in any of the final regressions.

For the difference specifications, long term elasticities are calculated by adding up the coefficient of the contemporaneous variable and the lagged one if the latter resulted as statistically significant and subsequently dividing it by one minus the coefficient of the lagged dependent variable, if statistically significant. Whenever applying an ECM, to calculate the long-term elasticities, the statistically significant coefficient of the explanatory variable must be divided by the negation of the speed of adjustment coefficient.

5.1 Consumption

The first estimation is for consumption, which is taken as a function of wages and profits. The three series in equation (17) are expressed in constant 2010 US dollars, and in logarithms, which means that elasticities instead of direct partial effects are estimated.

$$C_t = a_0 + a_1 \Pi_t + a_2 W_t + a_3 C_{t-1} \quad (17)$$

According to the ADF Test, the series in equation (17) are I(1), for all countries. The ECM specification has statistically significant cointegration coefficients for the long-run effects only for El Salvador. For the rest of the countries, the regressions are estimated using first differences. Additionally, the estimation for Nicaragua includes two dummy variables, one for 1988, and one for 1990, both of them linked to the civil conflict in the country. The regression for El Salvador also includes a dummy variable, not for a single year, but for the period 1989-2016, to account for a structural break associated with the end of the armed conflict in 1989. The date of the break was detected using the Gregory-Hansen test for cointegration with regime shifts. In order to avoid first order autocorrelation in the residuals, the regressions include a lagged dependent variable. The estimation results are shown in Tables 3 and 4. These show that both wages and profits have a positive and significant effect on consumption. In most cases, significance levels are high, and autocorrelation or heteroskedasticity could be rejected for each of the estimations.

Once with the estimation results and the long-run coefficients of Π and W, the marginal effects are calculated by multiplying the long-run coefficients of Π and W by the elasticities at the mean of the sample, C/ Π and C/W, respectively:

$$\frac{\partial C/Y}{\partial h} = c_1\left(\frac{C}{\Pi}\right) - c_2\left(\frac{C}{W}\right) \quad (18)$$

As shown in Table 5, this study confirms the hypothesis that the propensity to consume out of wages is higher than that out of profits; an increase in the profit share results in a reduction of consumption in the five countries. The country where an increase of 1 percentage point in the profit share reduces private consumption the most is El Salvador, where the reduction in consumption is 0.481% of GDP. On the contrary, the country where consumption shrinks the least is Panama, specifically by 0.223% of GDP.

Table 3

Estimation results for the consumption function. Dependent variable dln(C_t). Error Correction Model

Country	c	$dln(W_t)$	$dln(\Pi_t)$	$ln(C_{t-1})$	$ln(W_{t-1})$	$ln(\Pi_{t-1})$	d89_16[a]	R^2	Breusch Godfrey (P)	White test (P)
El Salvador	0.184	0.228***	0.522***	-0.388**	0.478**	0.519***	0.133**	0.804	0.241	0.195
	(0.733)	(0.083)	(0.118)	(0.107)	(0.104)	(0.759)	(0.039)			

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. Standard errors are in parentheses. [a]d89_16=1 if year > 1989.

Table 4

Estimation results for the consumption function. Dependent variable dln(C_t). Estimation in first difference

Country	c	$dln(C_{t-1})$	$dln(W_t)$	$dln(\Pi_t)$	d88 [a]	d90[b]	R^2	Breusch Godfrey (P)	White test (P)
Costa Rica	-0.004	0.096	0.484***	0.422***			0.809	0.23	0.162
	(0.005)	(0.074)	(0.044)	(0.077)					
Honduras	0.015*	-0.014	0.401***	0.231*			0.396	0.11	0.89
	(0.008)	(0.123)	(0.096)	(0.099)					
Nicaragua	-0.007	0.001	0.413***	0.424***	0.567***	-0.229***	0.711	0.91	0.998
	(0.01)	(0.103)	(0.066)	(0.094)	(0.065)	(0.07)			
Panama	0 .017	-0.283*	0.467*	0.436*			0.267	0.783	0.139
	(0.018)	(0.153)	(0.263)	(0.183)					

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. Standard errors are in parentheses. [a] d88=1 if year =1988 and =0 otherwise. [b] d90=1 if year=1990 and =0 otherwise.

Table 5

The marginal effect of a 1 per cent-point increase in the profit share on C/Y

Country	$\frac{C}{\Pi}$	$\frac{C}{W}$	c_1	c_2	$(\partial C/Y)/\partial$h
Costa Rica	1.207	1.790	0.422	0.484	-0.357
El Salvador	1.479	1.997	1.338	1.232	-0.481
Honduras	1.293	1.655	0.207	0.422	-0.432
Nicaragua	1.266	1.856	0.424	0.413	-0.230
Panama	0.911	1.631	0.364	0.340	-0.223

5.2 Investment

The second equation estimated is the one for private investment. As shown in equation (19), investment is modelled as a positive function of output, as a proxy for capacity utilization, and as a positive function of the profit share, as a proxy of expected profitability. Although it would be appropriate to include the rate of interest, this was not possible for Central American countries because of fragmented data for the period analyzed.

$$I = a_0 + a_1 Y_t + a_2 h \tag{19}$$

All series from equation (19) are integrated of order one [I(1)]. The Johansen Cointegration Test suggests that there is cointegration between the variables for Panama, El Salvador, and Nicaragua. For these countries, the ECM specification gives statistically significant cointegration coefficients for the long-run effects. For Costa Rica and Honduras, first difference specifications are estimated. Tables 6, and 7 show the estimation results. The regression for Nicaragua, includes a dummy variable for the period 1993-2016. The date of the structural break was identified using the Gregory-Hansen Test. Furthermore, the regression for Costa Rica includes the two dummy variables to account for considerable decreases in investment during the economic recessions of 1981 and 2009.

As shown in Table 6 and 7, GDP has a strong and very significant effect on investment in all countries. The profit share, however, does not have a significant effect on investment in any of the countries, as has been the case in several previous studies considering developing economies, such as Onaran and Galanis (2014), and Tomio (2020).

Table 6

Estimation results for the investment function. Dependent variable dln(I_t). Error Correction Model

Country	c	$dln(Y_t)$	$dln(h_t)$	$ln(I_{t-1})$	ln(Y)	ln(h)	d93_16 [a]	R^2	Breusch Godfrey (P)	White test (P)
El Salvador	0.221	2.588***	-0.073	-0.213**	0.870**	0.459		0.7	0.87	0.153
	(1.835	(0.339)	(0.193)	(0.073)	(0.365)	(0.909)				
Nicaragua	-0.759	3.532***	-0.367	-0.375***	0.984*	0.181	0.698**	0.7422	0.573	0.253
	(3.30)	(0.457)	(0.456)	(0.090)	(0.388)	(0.636)	(0.214)			
Panama	-5.16	2.099**	-0.149	- 0.327**	1.753***	-2.438		0.401	0.256	0.281
	(4.251)	(0.802)	(1.234)	(0.104	(0.413)	(2.517)				

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level.*** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. Standard errors are in parentheses. [a] d93_16=1 if year>1993

Table 7

Estimation results for the investment function. Dependent variable dln(I_t). Estimation in first differences

Country	c	$dln(Y_t)$	$dln(h_t)$	$dln(I_{t-1})$	d1981[a]	d2009[b]	R^2	Breusch Godfrey (P)	White test (P)
Costa Rica	-0.008	2.146***	-0.323	0.442	-0.340**	-0.287**	0.700	0.599	0.449
	(0.021	(0.466)	(0.465)	(0.044)	(0.093)	(0.082)			
Honduras	-0.0741*	2.965***	1.097	0.232*			0.384	0.571	0.297
	(0.033)	(0.682)	(0.895)	(0.125)					

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. Standard errors are in parentheses. d1981=1 if year=1981 and =0 otherwise. bd2009=1 if year=2009 and =0 otherwise

Due to missing data, the estimations for Costa Rica are for total investment instead of private investment. For the rest of the countries, the reported results are for private investment. Same significance if obtained if total investment is taken as dependent variable for all countries.

Table 8

The marginal effect of a 1%-point increase in the profit share on I/Y

Country	I/**Π**	a_2	$(\partial$I/Y$)/\partial$h
Costa Rica	0.186	-	0
El Salvador	0.204	-	0
Honduras	0.285	-	0
Nicaragua	0.226	-	0
Panama	0.248	-	0

5.3 Net exports

The final equation estimated is the one for net exports. Although different specifications were considered, the one with the most satisfactory results is shown in equation (20). Authors such as Hein and Vogel (2008), and more recently Tomio (2020) also consider a similar specification, where the dependent variable is net exports as a ratio to GDP and it is expressed as a function of the profit share, domestic income, and foreign income.

$$\frac{NX_t}{Y_t} = a_0 + a_1 \mathrm{Y}_t + a_2 Y_t^{row} + a_3 h_t + a_4 \frac{NX_{t-1}}{Y_{t-1}} + a_5 h_{t-1} \qquad (20)$$

The dependent variable was not always stationary in level, but in order to avoid first order autocorrelation, the regression includes the first lag of the dependent variable. Some of the regressions also include dummy variables. Specifically, the regressions for Panama, Costa Rica, and Honduras include a dummy for 2009, in order to account for the economic crisis. The regression for Costa Rica also includes a dummy for the period 2000-2014, period during which the company INTEL operated in the country. As can be seen in Table 8, the latter had a significant effect over net exports to GDP. Finally, the regression for Nicaragua includes a dummy for the period 1986-1992, once again related to the civil conflict during those years.

The results are shown in Table 9 and 10. As expected, the relationship between dependent variable and domestic GDP is negative for all countries[1]. Furthermore, with the exception of El Salvador, there is a significant and positive relationship between the dependent variable and foreign GDP. For simplicity reasons, the GDP of the OECD and/or the CAFTA members was taken as a proxy of foreign GDP. Both options were tested for each country and only the significant coefficient was kept. Thus, for Panama, Nicaragua and Honduras, the proxy for Y_t^f is sum of the GDP of the OECD and Central American countries, while for Costa Rica, it is

[1] An important caveat is that although an increase in domestic GDP is expected to affect net exports negatively due to an increase in demand for imports, it must also be considered that increases in Y will always lead to a decrease in the dependent variable, NX/Y, because of how it is defined. However, alternative specifications were not possible due to missing data or because unsatisfactory results were obtained.

only the GDP of the CAFTA members. For El Salvador, neither of these possibilities resulted significant.

The long-run partial effect is equal to the sum of the coefficients a_3 and a_5, corrected for the effect of the lagged endogenous variable:

$$\frac{\frac{\partial NX}{Y}}{\partial h} = \frac{a_3 + a_5}{1 - a_4} \tag{21}$$

As can be seen in Table 11, the effect of an increase in the profit share on net exports is positive in Costa Rica, El Salvador, and Panama. For Nicaragua and Honduras, the effect is negative, which following section two, implies that changes in the profit share in these two countries are driven by changes in the mark-up and the associated determinants, such as the degree of price competition, the power of trade unions, and overhead costs, and not by changes in the nominal exchange rate, or in the nominal wages.

5.4 Total effect

To obtain the total effect of an increase in the profit share on aggregate demand, it is necessary to add up the estimated marginal effects in Tables 5, 8, and 11. Doing so allows to classify the demand regimes in Central American countries. As summarized in Table 11, domestic demand in Central American countries is wage-led. The same applies for total demand in Costa Rica, El Salvador, Honduras, and Nicaragua. The only exception is Panama, whose total demand is profit-led. The latter is due to a strong positive effect of an increase in the profit share on net exports, which surpasses the negative effects on consumption. Thus, an increase of 1 percentage point in the profit share in Panama increases aggregate demand by 0.110 percentage points of GDP. On the other hand, in Honduras, aggregate demand decreases the most, by 0.535 percentage points of GDP.

Table 9

Estimation results for the net exports function Costa Rica, El Salvador and Panama. Dependent variable $\frac{NX_t}{Y_t}$

Country	c	$\frac{NX_{t-1}}{Y_{t-1}}$	dln(Y_{row})	dln(Y)	h_t	h_{t-1}	d2009[a]	d2000-2014[b]	R^2	Breusch Godfrey (P)	White test (P)
Costa Rica	-0.054	0.600***	0.279*	-0.358***	0.471*	-0.411*	0.042*	0.021**	0.822	0.184	0.315
	(0.047)	(0.086)	(0.152)	(0.094)	(0.134)	(0.132)	(0.047)	(0.007)			
El Salvador	0.002	0.952***	-0.440	-0.228*	-0.264*	0.267*			0.922	0.977	0.596
	(0.060)	(0.053)	(0.334)	(0.115)	(0.143)	(0.119)					
Panama	-0.125*	0.594***	1.013**	-0.654**	1.656**	-1.521**	0.081*		0.618	0.793	0.248
	(0.069)	(0.094)	(0.574)	(0.176)	(0.517)	(0.501)	(0.046)				

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. Standard errors are in parentheses. [a]d2009=1 if year=2009 and =0 otherwise. [b]d2000_2014=1 if 2000<year<2014 and =0 otherwise.

Table 10

Estimation results for the net exports function. Nicaragua and Honduras. Dependent variable $\frac{NX_t}{Y_t}$

Country	c	$\frac{NX_{t-1}}{Y_{t-1}}$	dln(Y_{row})	dln(Y)	h_t	h_{t-1}	d1986-1992[a]	d2009-2016[b]		R^2	Breusch Godfrey (P)	White test (P)
Nicaragua	-0.159	0.097	2.096*	-0.773**	0.575*	-0.791**	-0.227***	0.126**		0.784	0.181	0.121
	(0.121)	(0.121)	(1.15)	(0.244)	(0.242)	(0.237)	(0.05)	(0.045)				
	c	$\frac{NX_{t-1}}{Y_{t-1}}$	dln(Y_{row})	dln(Y)	h_t	h_{t-1}	d82	d99	d09	R^2	Breusch Godfrey	White test
Honduras	-0.028	0.681***	1.594*	-0.702*	-1.575**	1.513*	0.109*	-0.148**	0.116*	0.726	0.578	0.178
	(0.15)	(0.12)	(0.826)	(0.355)	(0.614)	(0.611)	(0.054)	(0.054)	(0.061)			

Note: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level. [a] d2009=1 if year=2009 and =0 otherwise. [b]d2000_2014=1 if 2000<year<2014 and =0 otherwise.

Table 11

The marginal effect of a 1%-point increase in the profit share on net exports

Country	a_3	a_4	a_5	$(\partial \text{NX/Y})/\partial h$
Costa Rica	0.472	0.600	-0.410	0.155
El Salvador	-0.264	0.952	0.267	0.063
Honduras	-1.547	0.653	1.511	-0.104
Nicaragua	0.575	0.097	-0.791	-0.239
Panama	1.656	0.594	-1.521	0.333

Interestingly, there are two important aspects which distinguish Panama from the other countries considered. The first one is that Panama's openness, proxied as the export/GDP ratio is the highest in the region, as seen in Figure 6. The second one, which was previously mentioned, is the tax haven status of Panama, which implies that there is a risk of overestimation of the data such as net exports, GDP, and the profit share.

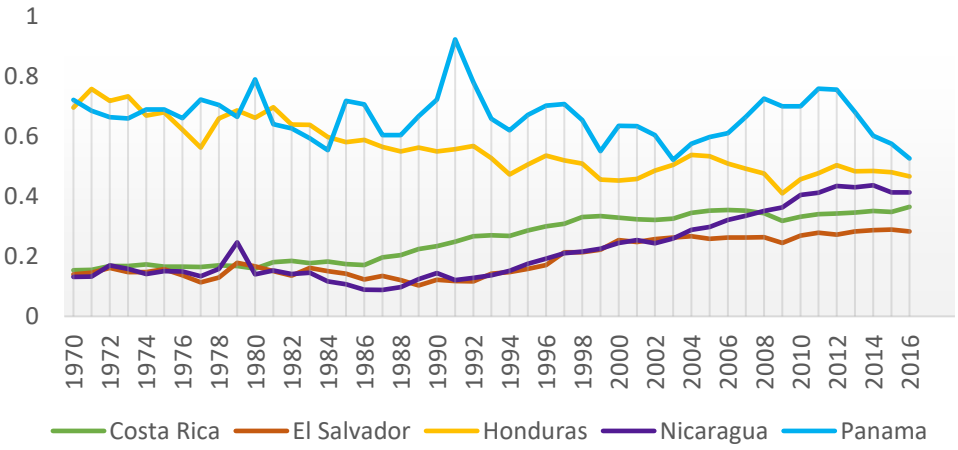
The findings for Costa Rica and El Salvador are in line with those in Alarco (2016); both studies suggest that domestic and total demand are wage-led, where the total positive effect is higher in El Salvador than in Costa Rica. However, when it comes to Panama, Honduras, and Nicaragua, our findings differ from Alarco's (2016). This author finds that both domestic and total demand are profit-led in these three countries. The latter is due to a strong positive effect of the profit share on private investment, which is higher than the negative effect on consumption. However this is a rather unconventional finding. As seen in section three, most studies have found domestic demand to be wage-led and usually, profit-led total demands are the result of a strong negative effect on net exports. However, Alarco (2016), who only considers the effect of the wage share on exports (instead of net exports), does not find a statistically significant effect of such distributional variable on exports. Furthermore, his results may suffer from econometric problems such as unit root issues, as the author does not do an ADF test and does not apply difference or error correction models.

Table 12

The total effect of a 1%-point increase in the profit share on the percentage change of real GDP

Country	$(\partial C/Y)/\partial h$	$(\partial \text{I/Y}/\partial \Pi)/h$	$(\partial \text{NX/Y})/\partial h$	$(\partial \text{Y/Y})/\partial h$
Costa Rica	-0.357	-	0.155	-0.103
El Salvador	-0.481	-	0.063	-0.418
Honduras	-0.432	-	-0.103	-0.535
Nicaragua	-0.230	-	-0.216	-0.446
Panama	-0.223	-	0.333	0.110

Figure 6
Export/GDP ratio



Source: own elaboration with data from WDI (2020)

6. Conclusion

The model by Bhaduri and Marglin (1990) shows that an increase in the wage share has several effects on demand, and whether a country's demand regime is wage-led or profit-led depends on the specific characteristics of the economy under consideration. Therefore, it is an empirical question which has inspired a lot of studies for a broad set countries. Although this model was originally devised for developed capitalist economies, it has been increasingly used to classify demand regimes in developing countries, as there are good reasons to believe that changes in the labor policies and employment structure in these countries have influenced the dynamics of national demand in a negative way. Thus, using this model allows one to test how changes in the labor income share would affect economic growth. Recent efforts have done such a study for Latin American countries. This study contributes to this body of literature by concentrating on five Central American countries. For the empirical analysis, the structural approach is followed, i.e. an estimation was done for each aggregate demand component separately using annual data for the period 1970-2016.

The results suggest that domestic demand is wage-led for all Central American countries considered. With the exception of Panama, the same applies for total demand. These empirical findings suggest that Central American countries should follow a strategy based on pro-labor distributional policies. Following Lavoie and Stockhammer's (2013) policy oriented framework, the implementation of such policies makes a wage-led growth process more likely, as distributional policies would be consistent with the economic structures of most Central American countries. Even in a seemingly profit-led country such as Panama, high levels of inequality can be addressed without harming aggregate demand. An alternative and more inclusive strategy for a profit-led economy would be to reduce wage inequality for given wage and profit shares, as Palley (2015) has argued.

Our findings imply that the predominant policies of the last decades have been misguided. The claim that wage moderation, labor market flexibility, and laws favoring employers, i.e. pro-capital policies, will ultimately lead to higher growth rates has not been true in Central American reality. Instead, the adoption of pro-capital distributional policies in the context of the structural adjustment programs of the 1980s and 1990s has given rise to a process of increased social and economic inequality and the impoverishment of the working class – and it contradicted the wage-led nature of domestic demand in all five countries, and of total demand in all countries, but Panama.

Even in countries like Costa Rica, where some pro-labor policies were kept throughout the whole period considered, the average growth rates of the last decades have been moderate and below the 1970s levels. Despite showing increases in the wage share, Costa Rica, just like the other Central American countries, has concentrated on stimulating the export sectors (though mechanisms such as tax incentives), which has not been the growth booster it was expected to be because it has meant rising wage inequality accompanying the increase in the aggregate wage share (Valverde, 2017, p.97).

All of the above suggests that policy makers should reconsider income distribution and aggregate demand. In that sense, pro-labor distributional policies would play a crucial role in the strengthening of internal markets and in promoting a sustainable growth path, which will ultimately favor all economic agents involved. Furthermore, it is now evident that pursuing the same competitive advantage strategy of cutting wages or offering tax incentives has not been successful in the promotion of economic growth, as such competitive gains often cancel each other out (Blecker, 1989, p.407). Instead, there is room for coordinated policy; if all countries pursue pro-labor distributional policies at the same time. As shown by Onaran and Galanis (2014), such a coordinated strategy may even turn countries wage-led, which have been profit-led in isolation. In that sense there is the requirement for future research to consider the potentials of coordinated wage-led policy in Central, or more generally, Latin American countries.

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Appendix A

Table A1: *Data sources and definitions*

Time series data	Variable	Definition	Source or Variable construction
Wage share	w	Compensation to salaried workers as a percentage of GDP	ECLAC (2019)
Profit share	π		π=1−ws
GDP in market prices (real)	Y	Gross domestic product at 2010 market prices	World Bank World Development Indicators-WDI (2020)
GDP at current prices	Ycurr	GDP at current prices	WDI (2020)
Private consumption (real)	C	Private final consumption expenditure at 2010 market prices	WDI (2020)
Compensation employees (real)	W		W=ws∗Y
Gross operating surplus (real)	Π		Π = π*Y
Total Investment (real)	It	Gross fixed capital formation at constant prices; total economy	WDI (2020)
Private investment (real)	I	I: Private investment at constant 2010 prices (Y*Ips where Ips=Ipr/Ycurr, where Ipr= private investment at current prices	1970-1990: ECLAC (2020) (except Panama which was from WDI) 1990-2016: Honduran Central Bank (2020a;2020b), El Salvador Central Bank (2020), Nicaraguan Central Bank (2020), WDI Panama (2020).
Export (real)	X	Exports of goods and services at constant prices	WDI (2020)
Import (real)	M	Imports of goods and services at constant prices	WDI (2020)
Net Exports (real)	NX	Net exports at constant 2010 price	X-M
Foreign GDP (real)	Y_f	GDP of the rest of the world	WDI (2020)

Appendix B

Table B1: *Augmented Dickey Fuller test for unit root*

Country	Variable	ADF (t- Statistics)
Costa Rica	ln_c	-3.293
	ln_wages	-1.214
	ln_profits	-3.094
	ln_c_D1	-4.935***
	ln_wages_D1	-6.181***
	ln_profits_D1	-5.117***
	ln_y	-2.725
	ln_inv	-2.699
	ln_h	-1.457*
	ln_y_D1	-4.705***
	ln_inv_D1	-4.681***
	ln_h_D1	-6.546***
	nx_y	-3.881**
	ln_y_f	-1.265
	ln_y_f_D1	-5.315***
El Salvador	ln_c	-2.665
	ln_wages	-2.613
	ln_profits	-2.454
	ln_c_D1	-3.665**
	ln_wages_D1	-3.635**
	ln_profits_D1	-4.227***
	ln_y	-2.926
	ln_inv	-2.507
	ln_h	-1.638*
	ln_y_D1	-3.678***
	ln_inv_D1	-4.312***
	ln_h_D1	-4.31***
	nx_y	-1.807
	ln_y_f	-1.57
	ln_y_f_D1	-5.218***

Honduras	ln_c	-2.968
	ln_wages	-1.841
	ln_profits	-3.029
	ln_c_D1	-4.812***
	ln_wages_D1	-3.932**
	ln_profits_D1	-4.618***
	ln_y	-3.307
	ln_inv	-2.694
	ln_h	-1.638
	ln_y_D1	-4.634***
	ln_inv_D1	-5.853***
	ln_h_D1	-3.907**
	nx_y	-3.501
	ln_y_f	-1.268
	ln_y_f_D1	-5.316***
Nicaragua	ln_c	-0.707
	ln_wages	-2.249
	ln_profits	-2.402
	ln_c_D1	-5.688***
	ln_wages_D1	-5.377***
	ln_profits_D1	-4.983***
	ln_y	-0.95
	ln_inv	-3.264*
	ln_h	-3.477*
	ln_y_D1	-4.916***
	ln_inv_D1	-7.728***
	ln_h_D1	-5.049***
	nx_y	-3.18
	ln_y_f	-1.268
	ln_y_f_D1	-5.316***

Panama	ln_c	-2.108
	ln_wages	-1.737
	ln_profits	-1.96
	ln_c_D1	-5.162***
	ln_wages_D1	-5.5***
	ln_profits_D1	-4.341***
	ln_y	-1.675
	ln_inv	-2.47
	ln_h	-2.6
	ln_y_D1	-4.556***
	ln_inv_D1	-6.107***
	ln_h_D1	-4.472***
	nx_y	-2.338
	ln_y_f	-1.268
	ln_y_f_D1	-5.316***

Notes: *** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level

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