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A WAGE-LED OR PROFIT-LED DEMAND REGIME: THE CASE OF JORDAN (1990 – 2020)

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ABSTRACT

Purpose- Recently, the Jordanian economy has been finding it increasingly challenging to create sufficient job opportunities and absorb the new labor market entrants and hence, reduce unemployment. The economy must achieve healthy and persistent economic growth. Within this context, this paper looks at the relationship between income distribution of labor and capital on economic growth. In other words, the overall purpose of this paper is to examine whether the Jordanian economy is profit-led or wage-led.

Methodology- To examine the functional distribution of income in Jordan, the paper uses the period 1990-2020 (annual data) and time series techniques including stationarity test, lag length selection criteria, and augmented autoregressive distributed lag (ARDL) bounds test for cointegration.

Findings- Based on the period 1990 –2020, the results indicate that the demand regime in Jordan is wage-led and not profit-led. In more specific terms, a one-percentage-point increase in the profit share decreases output by 0.08 percent.

Conclusion- To rise-up to the growth and unemployment challenges that face the Jordanian economy, the government would be well-advised if it ensures that nominal wages increase in line with inflation as well as productivity. In addition, the government should adopt a wage-led strategy that rests on labour market policies whose aims are to pre-distribute income (such as minimum wage and better education and health policies) and redistribute income through progressive taxes.

Keywords: Jordan, demand-led growth, wage-led, profit-led, investment, ARDL, net exports.
JEL Codes: B50, E11, E12

1. INTRODUCTION

Jordan is classified by the World Bank as an upper middle-income country. Relatively speaking, the size of the Jordanian economy is small. In 2021, for example, nominal Gross Domestic Product (GDP) was worth 45.2 billion US dollars. GDP per capita is equal to 4,406 dollars. When converted to international dollars using Purchasing power parity (PPP) rates, Jordan's GDP per capita is equal to 10,952 US dollars.

Following any look at the recent performance of the Jordanian economy, one can conclude that the economy has been suffering from several socio-economic challenges. The national economy could only achieve modest if not weak real economic growth rates, and as a result, unemployment has been increasing to unprecedented levels. In addition, the status of public finance has been poor.

During the decade 2010–2019, real GDP increased by annual average of 2.4 percent. As a result of COVID-19, the economy shrank by -1.6 percent in 2020 and then grew by 2.2 percent in 2021. The overall unemployment rate, which stood at 12.5 percent in 2010, increased to 19.1 percent in 2019, and to 24.1 percent in 2021 (Department of Statistics). In addition, these two challenges (growth and unemployment) are underlined by persistent budget deficits and rising public debt. For example, public debt to GDP ratio, which was equal to 65.4 percent in 2010, increased to 90.8 percent in 2015, 95.2 percent in 2019, and to more than 106.0 percent in 2021 (Ministry of Finance, General Government Finance Bulletin).

Based on the above-mentioned brief account of the challenges that face the Jordanian economy, one can argue that the only way to significantly reduce unemployment and improve the status of public finance, is to realize strong and sustainable economic growth in future years to come. Within this context, one can also ask one basic, though important, question: What type of stimulus is necessary to produce the much-needed economic growth to redress the dangerous rise in unemployment?

To answer this question, one should remember that any long-term growth strategy should consider a myriad of factors including the overall economic regime of the economy. The functional income distribution of the economy should be understood. In other words, the fact that national income is the sum of all income available to the residents of a given country in a year, the division of income between labor and capital becomes important. For example, if an increase in the profit share has a positive and expansionary impact on the economy, the economy is profit-led. If an increase in the wage share, on the other hand, that creates the expansionary impact, the economy is wage-led.

The overall objective of this paper is to examine whether the Jordanian economy is wage-led or profit-led. The rest of the paper is organized as follows. In section 2, we briefly review the relevant literature about wage-led and profit-led regimes. In section 3, the data and methodology are discussed. In section 4, we present and discuss the estimated results. Finally, section 5 summarizes and concludes the paper.

2. WAGE-LED VERSUS PROFIT-LED REGIMES: LITERETURE REVIEW

It is probably accurate to state that the distribution of income in any economy is the result of complex social and economic processes. However, it is also fair to argue that governments can use tax policy, spending programs, and labour policies to affect the distribution of income. In other words, governments can adopt pro-capital policies to reduce the wage share in national income. Governments can also adopt pro-labour policies to increase the wage share in national income.

Pro-capital policies promote flexibility in the labour market. These policies include, for example, weakening the collective bargaining of unions, lowering minimum wages, adoption of capital gain tax exemption, and a reduction in the overall corporate tax rate. The end-result of such policies (pro-capital) is to moderate wage increases in national income.

Table 1: Pro-Labour and Pro-Capital Distributional Policies

Policy	Policies	Results / Impact
Pro-Capital	Abolish minimum wages, weaken collective bargaining, and impose wage moderation.	Weak increase in wages, higher wage dispersion, and falling wage share in national income.
Pro-Labour	Strengthen collective bargaining, increase minimum wages, lower corporate taxes.	Increasing real wages, lower wage dispersion, and stable or increasing wage share in national income.
Other Factors	Trade policy, changes in technology, globalization, financial development, and others.	

Source: Lavoie and Stockhammer (2013).

Pro-labour policies strengthen labour unions and their collective bargaining position. In addition, pro-labour policies tend to have more unemployment benefits, higher minimum wages relative to the median wage (Lavoie and Stockhammer, 2013). The end-result of such policies (pro-labour) is to maintain the wage share in national income or increase it in the long run, especially when real wages increase in tandem with labour productivity or even exceed productivity.

The impact of public policy on income distribution notwithstanding, the issue that must be settled is the impact of any shift in income distribution on economic growth. In other words, will income shift in favour of profit recipients have a favourable consequence on aggregate demand in the short term and / or long term? Indeed, if a shift towards profits has favourable repercussions on the economy, then it is said to be a profit-led economic regime. If, however, such a shift has negative repercussions on the economy, then it is said to be one of a wage-led regime. In other words, one can argue that a shift in income in favour of wages increases consumption when the marginal propensity to consume (MPC) of employees (wages) is higher than that of profits. However, the higher cost of labour might diminish competitiveness and as a result, net exports. In addition, such a shift might diminish private investment as well. Based on this, one can state that demand is wage-led if the positive impact of a shift in income in favour of wages on consumption is greater than on net exports and private investment. Naturally, if the opposite case prevails, then the economy if profit-led (Blecker 2002, Lavoie and Stockhammer 2013, and Hein 2014).

The works of Rowthorn (1981), Dutt (1984), Blecker (1989,2011) and Bhaduri and Marglin (1990) have all extended the post-Keynesian/ Kaleckian model. The total effect of wage share decrease on aggregate demand depends on the relative size of the interactions of consumption, investment, and net exports to changes in income distribution. Therefore, to assess which type of regime that any economy is in, one needs to consider all four components of GDP or all four components of aggregate demand (AD). These are private consumption (C), private investment (I), government expenditure (G), and net exports (NX / exports minus imports).

$$AD = C + I + G + NX \quad (1)$$

Based on the above expression, one can state that the economy is a wage-led demand regime if an increase in the wage share, or a decrease in the profit share, leads to an increase in the sum of the four components of aggregate demand. On the other hand, the economy is a profit-led demand regime if an increase in the profit share, or a decrease in the wage share, leads to an increase in the sum of the four components of aggregate demand.

Table 2: Features of Economic Structures: Wage-Led and Demand-Led Regimes

	Demand Regime	
	Profit-led	**Wage-led**
Economic Structure	Small differentials in propensities to consume. Investment is highly sensitive to profits. The effect of accelerator is low. Very open economy. High export price elasticity. High import price elasticity. High import income elasticity. Low excess capacity. Low rates of profits.	Propensity to consume out of wages is considerably higher than that of propensity to consume out of profits. Investment is non-sensitive to profits. The accelerator effect is high. Relatively closed economy. Low export price elasticity. Low import price elasticity. Low import income elasticity. High excess capacity. High rates of profits.
Other Factors	Fiscal and monetary policies. Financial development. Changes in world demand, exchange rates and commodity prices.	

Source: constructed *by the author* using discussions in Lavoie and Stockhammer (2013).

Since the publication of the seminal article by Bhaduri and Marglin's (1990), many economists have investigated many economies in terms of the wage-led and profit-led arguments. This literature uses two approaches.

The first approach analyzes consumption, investment, exports, and imports (or net exports) separately using single equations. The paper by Bowles and Boyer (1995) was the first to apply this methodology on developed counties. Hein and Vogel (2008) conclude that France, Germany, the UK, the USA, and the Netherlands (without including external trade) are profit-led, while Austria changes from a wage-led economy to a profit-led one when the impact of distribution on external trade is included in the analysis. Within the same spirit, Naastepad and Storm (2006) and Stockhammer et al. (2009) analyzed eight member countries of the Organization for Economic Cooperation and Development (OECD) and the euro area respectively.

The second approach considers the interactions amongst the various variables and use vector autoregressive modelling (VAR). Stockhammer and Onaran (2004) applied this approach on the French, American, and the British economies. Onaran and Stckhammer (2005) used a similar approach for South Korea and Turkey.

On average, the empirical literature shows that most economies are wage-led (Onaran 2013). Within this context, Galanis and Onaran's (2012) looked at the impact of a change in the wage share on economic growth in several countries from 1960 to 2007. Their results show that a decrease in the wage share leads to lower growth in the Eurozone countries and ihigher growth in Canada, Australia, Argentina, Mexico, China, India, and South Africa.

In a comprehensive analysis of cross-country panel data which is composed of 41 economies, Oyvat et al. (2020), show that countries with a higher level of openness to trade are more likely to be profit-led, and countries with lower wage inequality are mostly wage-led. In addition, Oyvat et al. (2020) show that countries with higher private credit GDP ratio are more likely to be profit-led. In a more recent paper, Ntshwant (2022) examines the South African economy. Based on the period 1975-2019, a Keynesian aggregate demand model, and the ARDL approach, the results indicate that the economy is profit-led.

3. THE DATA, METHODOLOGY, AND EMPIRICAL RESULTS

To assess the impact of the functional income distribution on economic growth in Jordan, this paper relies on the relevant data from the World Bank, Department of Statistics – Jordan, and the Central Bank of Jordan. The data set covers the period 1990 - 2020. The definitions of the data are as follows.

Y: Real GDP. GDP is the sum of the gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. The data are in constant local currency (Jordanian Dinar). The source of this variable is the World Bank.

Y^f : Real World GDP in 2015 constant prices in billion US Dollars. The source of this variable is the World bank.

Y_n: Nominal GDP in local currency (Jordanian Dinar) calculated by the expenditure approach. The source of this variable is the Department of Statistics – Jordan.

C: Nominal consumption expressed in local currency (Jordanian Dinar). Final consumption expenditure (formerly total consumption) is the sum of household final consumption expenditure (formerly private consumption) and general government final consumption expenditure (formerly general government consumption). The source of this variable is the World Bank.

I: Nominal gross fixed capital formation in local currency (Jordanian Dinar). Formerly gross domestic fixed investment, which includes land improvements (fences, ditches, drains, and so on), plant, machinery, and equipment purchase, and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. The source of this variable is the World Bank.

NX: Nominal net export volume, in thousands of local currency (Jordanian Dinar). The source of this variable is the World Bank.

Π: Operating surplus in constant local currency (Jordanian Dinar in thousands). The source of this variable is the Department of Statistics – Jordan.

W: Compensation of employees in constant local currency (Jordanian Dinar in thousands). The source of this variable is the Department of Statistics – Jordan.

w: Wage share. This is calculated by the ratio of compensation of employees to Gross Domestic Product (both nominal in local currency).

h: profit share. This is calculated by 1- wage share at local market price.

GDP Deflator: The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency (base year is 2016). Source: World Bank database.

The Theoretical Model - The estimation model follows that of Hein and Vogel (2007), which is based on the seminal work of Bhaduri and Marglin (1990) and that of Bowles and Boyer (1995). Theoretically, capital utilization is defined as the main indicator of economic growth. However, domestic gross product (GDP) is used as a proxy measure for capital utilization due to insufficient data. All variables are defined in real terms, deflated by the Consumer Price Index (CPI), the base year being 2010. The period covers the years 1990-2020.

The total direct partial effect of change in the profit share on GDP components; consumption, investment and net exports is evaluated. Then, the partial effects are added up in order to obtain the total effect of change in the profit share on the components of GDP.

$$\frac{\frac{\partial Y}{Y}}{\partial h} = \frac{\frac{\partial C}{Y}}{\partial h} + \frac{\frac{\partial I}{Y}}{\partial h} + \frac{\frac{\partial NX}{Y}}{\partial h} \quad (2)$$

The Consumption Function - The effect of change in distribution on aggregate consumption (C) is estimated according to the expression:

$$C = f(\Pi, W) \quad (3)$$

where W and (Π) are compensation of employees and gross operating surplus respectively. All three variables are in their logarithmic forms.

The Investment Function

The investment function is defined by the below expression:

$$I = f(Y, h) \quad (4)$$

where, capacity utilization (u) and profit share (h) are the main variables affecting capital accumulation. Here, we use Y as a proxy for capacity utilization. All three variables are in their logarithmic forms.

The Net Export Function

The net export function is defined by the below expression:

$$\frac{NX_n}{Y_n} = f\left(h, Y, \mathrm{Y}^{\mathrm{foreign}}\right) \quad (5)$$

where, net exports is a function of the profit share, income, and income of main trading partners ($Y^{foreign}$).

To estimate the above-mentioned functions, we first test all the variables for stationarity using both the standard Augmented Dickey – Fuller (ADF) and the Phillips-Perron unit root tests. We then determine the optimal lag for each of the three equations using the Akaike information criterion or Schwartz's criterion. We then proceed by estimating the long-run relationships using the Bounds test of Pesaran et al. (2001). The main advantages of using the Bounds test methodology, compared to multiple equation methodologies, is that it does not require that the variables entering the estimation have the same order of integration (although at most they must be of integrated of order one). Another advantage is that it works for a limited number of annual observations. In other words, it yields unbiased estimates of the long-run coefficients even when some of the regressors are endogenous, Pesaran and Shin (1998), a condition which affects all macro series. The long-run and short-run errors can also be estimated in single stage (including their natural logarithms).

First, we look into the autoregressive distributed lag (ARDL) model as Pesaran et al. (2001) suggest. The general Error Correction Model is written below, as an example for the first part of the analysis (the consumption function):

$$\Delta C_t = \sum_{j=1}^{n=2} a_j \Delta C_{t-j} + \sum_{j=0}^{n=2} b_{\prod,j} \Delta \prod_{t-j} + \sum_{j=0}^{n=3} b_{W,j} \Delta W_{t-j} + \sigma C_{t-1} + d_{\prod} \prod_{t-1} d_W W_{t-1} + e_t \quad (6)$$

Second, Pesaran at al. (2001) suggest that one should compare the results of the t-test (which tests the significance of the speed of adjustment coefficient), and the F-test. If the t or F- statistic fall above the upper critical value (for a given significance level), then the null of no long run relationship can be rejected (i.e., cointegration is present). If, however, the statistics lie below the lower bounds, then the null cannot be rejected. It is also worth mentioning that the statistics lie between the upper and lower bounds, then the results are said to be inconclusive. Third, the lag structure of the equation above is simplified by eliminating the longest insignificant lags. In other words, the over- parameterised model is a 'parsimonious' model.

Before we present and discuss the estimated results, it is useful, at this stage, to note that Jordan's wage share in national income (Figure 1) has been fluctuating around 37 percent (Department of Statistics). In addition, this share (Table 1) is relatively low (World Bank Database). On average, it is the oil exporting Arab countries that have equally low wage shares. Naturally, this is the result of their oil exports which positively impact the size of their economies, and at the expense of their wages. In other words, this oil producing sector generates economic output without having to employ large numbers of individuals.

Figure 1: Jordan's Wage Share of National Income

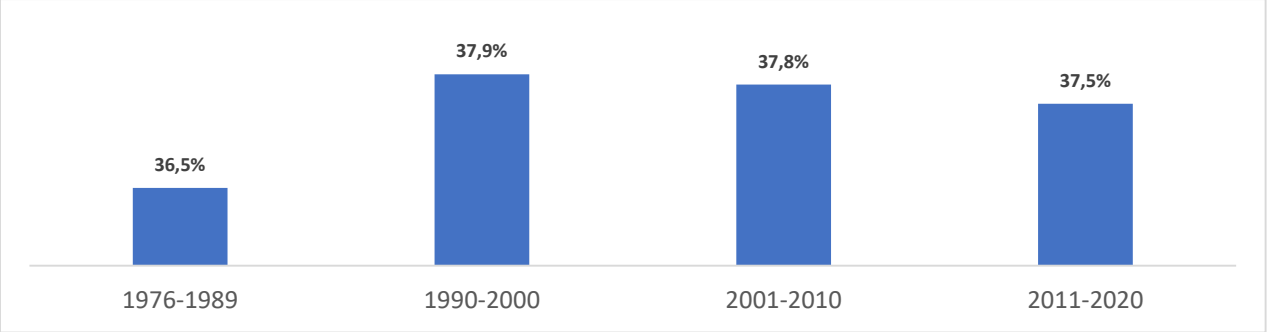

Table 1: Wage Share of National Income: Regional and International (2016 – 2019)

Economy	Wage Share	Economy	Wage Share
Qatar	27.5%	China	51.6%
Saudi Arabia	30.6%	Finland	54.6%
Jordan	37.5%	Sweden	54.8%
Turkey	39.3%	Great Britain	56.8%
Kuwait	39.5%	Denmark	56.9%
Egypt	42.6%	United States	58.3%
Morocco	44.5%	Australia	59.7%
Tunisia	47.7%	France	60.3%
Singapore	49.6%	Canada	60.6%

The consumption equation estimations regression results are presented in Table 2 below.

Table 2: Consumption Equation Estimations (1990 – 2022)

Estimated equation: $\Delta lnC = \alpha_1 \Delta ln\prod + \alpha_2 \Delta lnW$		
Regressors	**Coefficient**	**t-ratio**
$\Delta ln\prod$	0.363***	5.035
ΔlnW	0.841***	9.692
D_{2008}	-0.266***	-7.980
Diagnostics		
R^2	0.998	
Adjusted R^2	0.997	
DW statistics	1.938	
Breusch-Pagan-Godfrey heteroskedasticity test[a]	0.158	
Normality test[a]	0.729	
F-test[a]	0.000	
RESET test (with squares) [a]	0.000	

Source: Author's own calculations. ***, ** and * represent 1, 5 and 10% significance levels, respectively. *a* Probability values of the corresponding tests.

It should be noted that a dummy variable was employed to control for the sharp rise, as a result of the change in the Department of Statistics' methodology, in operating surplus ($\prod$) in 2007. Prior to year 2006, the expenditure approach of measuring GDP did not include "mixed income".

The coefficients of lnΠ(0.363) and lnW (0.841) are found to be statistically significant at the 1% significance level.

The bounds test is carried forward to test statistically the significance of the coefficient of the error correction term (σ). As expected, the sign of the speed of error term coefficient is negative (-1.088) and is found to be statistically significant at 1 %.

It can be confirmed that long term coefficients are confirmed by calculating:

$$a_{\Pi} = -\frac{d_{\Pi}}{\sigma} = -\frac{0.395}{(-1.088)} = 0.363$$

$$a_{\mathrm{W}} = -\frac{d_{\mathrm{W}}}{\sigma} = -\frac{0.915}{(-1.088)} = 0.841$$

Estimates of the elasticity of consumption with respect to wages were significantly higher than those with respect to profits. To calculate the direct partial effects of a change in the profit share on the GDP growth contribution of consumption, the elasticities were converted according to equation (6) below, using average values over the whole period for (C/ π) and (C/W) as derived from the equations below.

$$c = f(\Pi, W)$$

$$\frac{\partial c}{\partial h} = \frac{\partial c}{\partial \Pi} \cdot \frac{\partial \Pi}{\partial h} + \frac{\partial c}{\partial W} \cdot \frac{\partial W}{\partial h}$$

$$= \frac{\partial c}{\partial \Pi}(y) + \frac{\partial c}{dW}(-y)$$

$$\frac{\frac{\partial c}{y}}{\partial h} = \frac{\partial c}{\partial \Pi} - \frac{\partial c}{\partial W}$$

$$= \frac{\frac{\partial c}{c}}{\frac{\partial \Pi}{\Pi}} \cdot \frac{c}{\Pi} - \frac{\frac{\partial c}{c}}{\frac{\partial W}{W}} \cdot \frac{c}{W}$$

$$= \quad a_{\Pi} \frac{C}{\Pi} - a_{\mathrm{W}} \frac{C}{W}$$

(7)

$$\frac{\frac{\partial C}{Y}}{\partial h} = a_{\Pi} \frac{C}{\Pi} - a_W \frac{C}{W} = (0.3631) \frac{186.75}{82.45} - (0.8410) \frac{186.75}{71.551}$$

$$\frac{\frac{\partial C}{Y}}{\partial h} = 0.8224 \quad - 2.1950 = \mathbf{-1.37}$$

Table 3: Estimation Result of a Change in the Profit Share on the Growth Contribution of Consumption in ECM Form

	a_{Π}	a_W	C/π	C/W	$(\delta C/Y)/\delta h$
Jordan	0.3631	0.8410	2.265	2.610	-1.37

The long -term elasticities must be converted into marginal effect of a change in profit (h) share on the consumption. Using Eq. (6) and the mean values of the variables C,Π,W from the data set. The overall impact of profit share on consumption is negative (-1.37).

The Investment Function - In theory, capacity utilization (u) and the profit share (h) are the main variables that affect capital accumulation. Following this and using GDP (Y) as a proxy for capacity utilization, the investment function is defined as below.

$$I = f(Y, h)$$

The stationarity of both variables (Y and h) are tested by the Augmented Dickey – Fuller (ADF) and Phillips-Perron unit root tests. The results confirm that all the variables are integrated of order one, I (1) at the 1% significance level. Therefore, the bounds testing approach by Pesaran et al (2001) is applied to find out whether there is a long term cointegration between the variables in an error correction model. The bounds testing results do in fact confirm a long-term relationship between the variables. Consequently, we estimate the following error correction model:

$$d[log(I_t)] = c + a_1 \log(I_{t-1}) + a_2 log(Y_{t-1}) + a_3 h_{t-1} + \sum_{i=0}^{n=3} b_i \;\; d[\log(Y_{t-i})] + \sum_{i=0}^{n=3} c_i d(h_{t-i}) +$$

$$\sum_{i=1}^{n=3} d_i d[\log(I_{t-i})]$$

(8)

Table 4: Investment Equation Estimations (1990 – 2022)

Partial effect of the profit share on growth contribution of investment from equation (8)

a_1	a_2	a_3	Adj.R^2	D-W Statistic	Wald test (F statistic) [a]	Q statistics (P for lag =1)	Breusch-Pagan-Godfrey heteroskedasticity test (P)
-2.584*** (0.465)	8.935*** (1.638)	1.279 (3.144)	0.787	2.518	10.340	0.141	0.359

Note: (***) Significant at the 1% level, (**) significant at the 5% level, (*) significant at the 10% level. Standard errors are in parentheses, t statistics in square parentheses. [a]Bounds testing for H_0: $a_1 = a_2 = a_3 = 0$ to test for the existence of a long-run relationship between the variables.

To obtain the partial effect of a change in distribution on the growth contribution of investment, the estimates of the long-run elasticity of investment with respect to the profit share were multiplied by the average investment share in GDP over the whole period.

$$a_{\mathrm{I}} = \left(\frac{a_3}{-a_1}\right)\left(\frac{I}{Y}\right)$$

(9)

$$= \left(\frac{1.278934}{-(-2.584639)}\right)\left(\frac{17.50435}{23.58338}\right)$$

$$(\mathbf{0.49482})(\mathbf{0.7422}) = \mathbf{0.36727}$$

Table 5: Partial effect of the Profit Share on the Growth Contribution of Investment from Equation (9)

	a_3/ -a_1	I/Y	(ΔI/Y)/δh
Jordan	0.4948	0.7422	0.3672

Thus, the impact of profit share on investment is positive (0.3672).

The Net Export Function - Net exports in the model (Hein 1990) are positively affected by real exchange rate as a proxy measure of international competitiveness, and negatively affected by domestic activity. IN other words, the real exchange rate will have a positive effect on net exports. But net exports also depend on the relative developments of foreign and domestic demand. If domestic demand grows at a faster rate than foreign demand, net exports will decline. If domestic demand grows at a faster rate than foreign demand, net exports will decline, ceteris peritus. With foreign demand given, the domestic rate of capacity utilization moving in step with domestic demand will have a negative impact on net exports. As described earlier, this effect is ambiguous and dependent upon the cause of change in profit share. Therefore, the sign of effect of change in the profit share on net exports is not clear in prior. For the estimation of the nominal share of effects of distribution on the net exports in nominal GDP of the main trading partners ($Y^{foreign}$), as indicators of domestic and foreign demand, as exogenous variables.

$$\frac{NX_n}{Y_n} = f\left(h, Y, \mathrm{Y}^{\mathrm{foreign}}\right)$$

(10)

The sign of the effect of change in profit share on net exports is not clear in prior, we expect domestic GDP to have a negative influence on net exports, since higher domestic demand will result in higher imports and decrease in net exports. In contrast, a higher GDP in trading partner countries will cause an increase of exports and will thus increase net exports. Domestic and foreign GDP are portraited in logarithm form for simplicity reasons and foreign GDP is generally assumed to be that of the rest of the world. All the variables in the time series are integrated in order of one I (1) at the 5% significance level.

Using profit share (h) as one of the variables, the bounds test reflected statistically insignificant coefficients. Thus, the gross operating share (Π) as a proxy for profit share (h) has been replaced and the bounds test of Pesaran et al. (2001) upper critical values are sustained.

The long- term elasticities are converted into marginal effect of a change in profit share (in this case gross operating surplus, (Π) on the net exports (NX) component of gross domestic product (Y).

$$a_{NX} = -\frac{d_i}{\sigma} = -\frac{(-0.7940)}{(-2.0083)} = -0.3953$$

$$\frac{\frac{\partial NX}{Y}}{\partial h} = a_{NX}\left(\frac{NX}{\Pi}\right)$$

$$= (-0.3953)\left(\frac{-0.2477}{18.0915}\right) = \mathbf{0.0540}$$

The Total Effect - The total effect of a change in the profit share on aggregate demand and therefore on the growth of output can be calculated by adding up the direct partial effects of the growth contributions of consumption, investment, and net exports according to equation. The results of the total effect are shown in Table (6) below. In Jordan's wage-led regime a one-percentage-point increase in the profit share will decrease output by 0.08 percent. The Jordanian economy is wage-led and not profit led.

Table 6: Total effect of a change in the profit share on the percentage of real GDP

	$\frac{\frac{\delta C}{Y}}{\delta h}$	$\frac{\frac{\delta I}{Y}}{\delta h}$	$\frac{\frac{\delta NX}{Y}}{\delta h}$	$\frac{\frac{\delta Y}{Y}}{\delta h}$
Jordan (1990 -2021)	**-1.37**	**0.367**	**0.054**	**-0.94**

The Multiplier - The total effect presented above, is again said to be the summation of the components of demand (C,I and NX) with respect to changes in profit share (h), is also called 'private excess demand'.
In respect to the analysis conducted above, it is also worth investigating the economic multiplier with the aid of the paper by Onaran and Galanis (2012).

Thus, taking into consideration the multiplier mechanism in regards to equation (2), we derive the following equation:

$$\frac{\frac{\partial Y}{Y}}{\partial h} = \frac{\frac{\frac{\partial C}{Y}}{\partial h} + \frac{\frac{\partial I}{Y}}{\partial h} + \frac{\frac{\partial NX}{Y}}{\partial h}}{1 - \left(\frac{\frac{\partial C}{Y}}{\partial Y} + \frac{\frac{\partial I}{Y}}{\partial Y} + \frac{\frac{\partial NX}{Y}}{\partial Y}\right)} \qquad (11)$$

$$m = \frac{\frac{\partial C}{Y}}{\partial Y} + \frac{\frac{\partial I}{Y}}{\partial Y} + \frac{\frac{\partial NX}{Y}}{\partial Y}$$

$$= a_{Cy}\frac{C}{Y} + a_{Iy}\frac{I}{Y} + a_{NXy}\frac{NX}{Y} \qquad (12)$$

Where the elasticity of consumption with respect to output (a_{Cy}) is calculated as the weighted average of the consumption elasticities of profit and wages, a_{Π} and a_W respectively.

$$a_{Cy} = a_{\Pi}\ h\ + a_W\ (1-h) \qquad (13)$$

Table 7: Results of Multiplier Calculation	
Elasticities	
Elasticity of consumption with respect to profit, a_{Π}	0.3625
Elasticity of consumption with respect to wages, a_W	0.8413
Weighted elasticity of consumption with respect to output, a_{Cy}	0.8392
Elasticity of investment with respect to output, a_{Iy}	0.4948
Elasticity of net export with respect to output, a_{NXy}	-0.3954
Sample means	
Output,Y	18964
Consumption, C	186.75
Investment, I	42.731
Net Exports, NX	-0.247
Profit share, $h = \frac{\Pi}{Y}$	0.0043
$1/(1-m)$	0.9906
$\frac{\partial Y}{\partial h} = \frac{\frac{\partial C}{\partial h} + \frac{\partial I}{\partial h} + \frac{\partial NX}{\partial h}}{1 - \left(\frac{\partial C}{\partial Y} + \frac{\partial I}{\partial Y} + \frac{\partial NX}{\partial Y}\right)} =$	-0.95

The multiplier effect has a significant effect on the overall change in gross domestic product, giving more precise calculations. It can be deduced that the multiplier carries private excess demand from -0.94 to a -0.95. The strong consumption elasticities carry the overall Jordanian economy even further as a wage led regime.

4. SUMMARY AND CONCLUSIONS

For more than a decade, the Jordanian economy could not create sufficient job opportunities and reduce unemployment. Indeed, the onslaught of COVID-19 and the resultant closures have made this challenge even more compelling. The Jordanian government, together with the private sector, should work tirelessly and achieve strong and persistent economic growth. This is the only way to reduce unemployment.

Within the context of Jordan's growth and employment challenges, this paper looked at the relationship between income inequality and economic growth. In more specific terms, this paper used the Keynesian aggregate demand model, conducted an autoregressive distributed lag (ARDL) approach to examine the presence, if any, of a long-run relationship between changes in income distribution and aggregate demand.

Based on the period 1990–2020, the results indicate that the demand regime in Jordan is wage-led and not profit-led. Based on this conclusion and given that the wage share in Jordan has been around the 37 percent of the national economy, one can argue that the government would be well-advised if it ensures that nominal wages increase in line with inflation as well as productivity. In addition, the government should adopt a wage-led strategy that rests on labour market policies whose aims are to pre-distribute income (such as minimum wage and better education and health policies) and redistribute income through progressive taxes.

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