Why are wage shares worsening in a competitive economy? A brief review of pays equality and industrial politics

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Shares worsening competitive

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Abstract

Wage shares have fallen substantially almost all over the world over the past 30 years. This study aims to provide a discussion of the critical elements of wage shares and to undertake a critical review of the empirical papers regarding the issue of the income distribution for labour. This paper investigates the wage share and determinants of 34 countries in 2011. There are two main objectives of this research. Firstly, the paper attempted to analyse the effectiveness of the incentives system, which is more likely to be rigid in the competitive work environment. Secondly, the research has emphasised how workers' behaviour can lead to different incentives payment through a kind of predatory behaviour or later on, we can call it an uncooperative behaviour. These objectives derived from the previous paper result in the adverse selection of worker turnover (Lazear, 1986). The findings confirm that the effect of globalisation through current account balance and the structural policy with tax wedge rate is statistically significant in wage share for those with low wage share (at the 10th per cent quantile) only. However, there is limited evidence that inflation, unemployment, education policy, and unionisation strongly affect the distribution of wages.

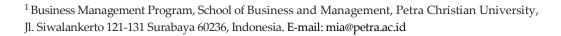
Keywords: Income Distribution, Quantile Regression, Wage Shares

Introduction

Money is only necessary when used to change it to products or services needed for daily life. Hereafter, we called it the value of money. Thus, a change in the monetary unit, which is uniform in its operation and affects all transactions equally, has no consequences. A change in the value of money, in the level of prices, is essential to society only because its incidence is unequal. Such changes have been produced in the past and are now producing extensive social consequences. When the value of money changes, it does not change equally for all persons. Some people might feel that the impact of the change in the value of money would not be as higher as other people. This point of view would lead to an income effect and substitution effect condition. Thus, as measured in money, a change in prices and rewards generally affects different classes unequally (Keynes, 1936; Stiglitz, 1976).

It has been a commonplace economic theory that wages tend to lag prices. The result is that the wage earner's actual earnings are diminished during rising prices. When this income effect happens, then the purchasing power of society tends to decrease. At the same time, a society that is also consumers would have less level of consumption relatively. Inflation redistributes wealth in a manner very injuries to the investor and, probably in the modern industrial conditions, beneficial overall to the earner.

Inflation has diminished the capacity of the investing class to save and has destroyed the atmosphere of confidence, which is a condition of the willingness to save (Keynes, 1936). Therefore, rising prices and falling prices each have their distinct disadvantage.





International Journal of Organizational Behavior and Policy Vol. 1, No. 1, July 2022 pp. 1-14 Department Accounting, UKP eISSN 2961-9548 doi.org/10.9744/ijobp.1.1.1-14 On the one hand, inflation that causes the former means injustice to individuals and classes, particularly to investors, and is therefore unfavourable to saving. On the other hand, deflation that causes falling prices will generate poverty to labour and enterprise by leading entrepreneurs to restrict production to avoid a loss to themselves, and is therefore disastrous to employment (Keynes, 1924; Tobin, 1972, 1986). This condition would probably worsen with the magnitude of the changes in rising and falling prices.

Wage share has declined substantially in all OECD countries and most developing economies since 1980 (Stock-hammer, 2017; Koske et al., 2012; Monnin, 2014). It is crucial to investigate the wage share evolution and the income distribution for labour since it is essential to understand the labour market dynamics in terms of welfare. Wage inequality reflects the structure of wages and the welfare differences among people. The evolution of the wage structure represents how welfare distribution moves over time. If there is an increase in wage inequality, it implies polarisation in the welfare distribution in society (Tansel and Bodur, 2012). The empirical evidence exhibits wage shares worsened in a competitive economy under price stability policy, i.e., inflation-targeting as one of the monetary policy frameworks. Therefore, the evolution of wages and their distribution has been studied extensively and is still relevant to review and evaluate.

This study aims to provide a discussion of the critical elements of wage shares and to undertake a critical review of the empirical papers regarding the issue of the income distribution for labour. This paper investigates the wage shares and their determinants in 34 countries in 2011. The essay will proceed as follows. In section 2, the study elaborates on how theoretical developments have informed these empirical studies. Section 3 reports on the special attention to the empirical methodologies used. Section 4 describes the quantile regression analysis applied to investigate the distribution of wage share and explores how researchers have overcome possible econometric challenges in terms of the quantile regression approach. Section 5 explains the data used in this study. Section 6 provides results and discussion, and section 7 reports the conclusion.

Theoretical Developments

John Maynard Keynes had critically discussed the effects of a change in money wages in his book, The General Theory of Employment Interest and Money in 1936. Keynes (1936) generated two substantial questions to argue Pigou's Theory of Unemployment regarding the changes in money wages and its consequences. Firstly, does a reduction in money-wages have a direct tendency, ceteris paribus, to increase employment," ceteris paribus" being taken to mean that the propensity to consume, the schedule of the marginal efficiency of capital and the rate of interest are the same as before for the community. Secondly, does a reduction in money-wages have a specific or probable tendency to affect employment in a particular direction through its certain or probable effects on these three factors.

Therefore, Keynes (1936) argued that the most critical outcome of those factors is likely to be: Firstly, reducing money wages will somewhat reduce prices. It will involve some redistribution of real income from wage-earners to other factors entering marginal prime cost whose remuneration has not been reduced and from entrepreneurs to rentiers to whom a certain income fixed in terms of money has been guaranteed. Secondly, in an enclosed system, the reduction of money-wages relatively reduces to money wages abroad when both are reduced to a standard unit. The change will be favourable to investment since it will increase the trade balance.

In addition, a reduction in money wages is likely to worsen the terms of trade. Thus, there will be a reduction in real incomes, except in the case of the newly employed, which may tend to increase the propensity to consume. Thirdly, if the reduction of money wages is expected to reduce relatively to money wages in the future, the change will be favourable to investment. It will increase the marginal efficiency of capital, whilst it may be favourable to consumption for the same reason.

Furthermore, the reduction in the wages-bill, accompanied by some reduction in prices and money-incomes generally, will diminish the need for cash for income and business purposes; and it will reduce the schedule of liquidity preference for the community. Lastly, the depressing influence on entrepreneurs on their more significant debt burden may partly offset any reactions from reducing wages. Those entrepreneurs who are heavily indebted may soon reach the point of insolvency. Then, it will create a high risk of bankruptcy. In summary, Keynes (1924, 1936) argued that a flexible wage policy could maintain a state of continuous full employment as one of the policy authority interventions to money-wage. As a classical thought that the economic system cannot be made self-adjusting along the times.

In addition, the role of macroeconomic factors and structural policies such as globalisation, education policy and regulation regarding labour has been considered as the determinants of the income distribution of labour (DiNardo et al., 1996; Schultz and Mwabu, 1998; Machado and Mata, 2005; Robin, 2011; Koske et al., 2012; Monnin, 2014; Agenor, 2016; Stockhammer, 2017). These would be recognised as the role of the policy authority intervention, which is the government. The intervention regarding globalisation, for instance, the level of openness in trade and investment, has played a role in shaping the distribution of labour income. Meanwhile, the higher education policy of workers promotes the accumulation of human capital and is likely to reduce wage dispersion among workers. Structural policies regarding labour such as wage bargaining, minimum wages, employment protection legislation, and a labour union also narrow the gap in workers' wage share.

Underlying Assumptions

As we learned in Economic Theory, individual motivation and preferences are derived from the behaviour in response to any changes in incentives (Fehr & Falk, 2002). Therefore, it will always be interesting to analyse how people's behaviour to achieve economic welfare by optimising their income. An economist, Adam Smith, expounded that the rationality of individual self-interest in such competition can result in economic prosperity. Therefore, this paper is also concerned about how the relationship among workers becomes a significant factor in producing high performance in its company.

Moreover, the interactions between workers in a particular work environment should relate to their relative pay. Thus, it is crucial for both management and labour unions, as the representatives of workers' consideration, to convey an expectation for wage rate policy to become a homogenous treatment. Eventually, the productivity of each worker can be affected by the performance of another worker. Therefore, the company should deliberate the relative compensation structure based on the job description and responsibility. Two thoughts can be summarised:

 The competition encourages increased effort, positively affecting the output (Lazear & Rosen, 1981). In contrast, competition also discourages cooperation among workers and can instantly create sabotage. If the spread between the compensation of the winner and loser received gets more comprehensive, the

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- possibility of sabotage will sprout. Then, the business organisation should alert itself to the potential loss in output growth.
- The different treatment and policies in terms of workers correspond to different hierarchy levels.

The term "sabotage" is defined as the action taken by an individual (workers) that adversely affects another worker's output (Lazear, 1989; Liu, et al., 2016). Accordingly, the effort is sufficiently more significant to make up for the lost output through sabotage (based on relative performance). Suppose the organisation apply on relative performance in assessing each worker's performance. In that case, the difference between the reward that the winner receives, W_1 , and the loser receives, W_2 will occur in two conditions below:

- *The Worker's Problem: Symmetric Players*The main objective of workers is to optimise against their opponents at a given level of incentives. As the derivation occurred, increasing the wage spread increases the level of sabotage and pay equality implies minor sabotage.
- The Firm's Problem: Symmetric Players
 Recall that a competitive firm must maximise the output to gain a maximum level
 of revenue at a given level of input costs. The firm has to intensify workers'
 productivity through a competitive working environment based on the incentives
 payment policies. Moreover, the result confirmed that effort is lower when the
 possibility of sabotage exists. The conclusive evidence would be that net output
 is lower when sabotage exists.

Pay Equality

The argument for equality can be synthesised as follow:

- Incentives are more equitable when workers can affect each other's output.
- Sabotage always results in output reduction, and incentives effects do not offset the lost output that results from uncooperative behaviour, where the other things are equal.
- The firm can decide whether a worker is suitable for a particular job specification. It is typical rational behaviour in managing human resources. Some criteria are defined under personality matters.
- Wage compression and workers' productivity are likely to have a positive relation.

According to the basic economic theory, the firm has to achieve productive efficiency in the long run. Thus, all the production functions should meet the optimisation objectives. Consequently, the marginal resource cost is most likely to equal the marginal revenue product. Therefore, input prices, i.e., wages, incentives, rewards, and bonuses, significantly impact the output maximisation rules. On the other hand, the firm needs to consider how much the workers receive the wage. The equality of payment is also strictly necessary for the workers.

Sainthood

Saintlike behaviour implies the illustration of sabotage which is probably to be very low, even zero. Saint is defined as the individual willing to increase the other worker's output, even though it lowers his chance of winning because it gives him the utility of fellowship (Lazear, 1989). There are several key findings based on Lazear (1989), as follows:

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- Pay compression is efficient: Pay dispersion leads to disharmony is correct and the ability to sabotage one's rival provides an efficient argument for equitable treatment within a firm.
- It is useful when deciding which workers to hire based on workers' personalities.
- Pay by relative performance is more of a problem at the higher level of the job hierarchy.

To further understand the role of money wages regarding Keynes's arguments and the critical findings of Lazear on pay equality and industrial politics, the following section explores the discussion and the empirical evidence of the relationship between wage shares and their determinants. The current debate on wage shares as a representative of the ultimate indicator of economic welfare, which is the distribution of income, identifies an interesting viewpoint on the choice between a policy of allowing prices to fall slowly, e.g., price stability in monetary policy. With the progress of technique and equipment whilst keeping wages stable or allowing wages to rise slowly whilst keeping prices stable. To that, the problem of the trade-off of these macroeconomic indicators would have prevailed.

Empirical Research

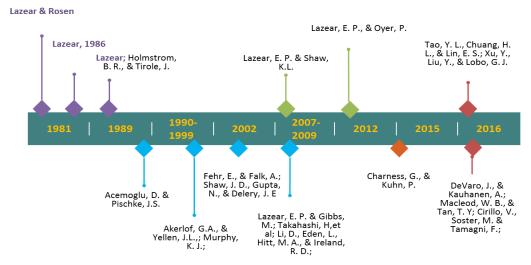


Figure 1. Empirical Research Milestones

Disputes in Literature

A short literature review has been done to have a more comprehensive cognition of this paper. The discussion is based on the critical findings of Lazear (1989). The study found that some researchers fully confirmed Lazear's findings. However, some studies were likely to argue it because the findings are controverted. The details are given below:

Pay compression: less effort and minor sabotage are efficient

Eventually, some research confirmed the result of Lazear's (1989) study. A study by Acemoglu & Pischke (1998), Acemoglu & Pischke (1999), and Akerlof & Yellen (1990) confirmed that wage compression might increase human capital investments, and it is essential to determine the policy of wage compression. A survey made a significant contribution by Prendergast (1999) in which the agents responded to incentives. Meanwhile, Takahashi et al. (2009) evaluated the neurocognitive mechanism of a psychologically rewarding reaction. It means that people who tend to have higher conflict will have a solid, pleasant feeling once relieved.

Similarly, Tao et al. (2015) found that more significant wage disparity is negatively related to team performance. The result confirmed that compensation or incentives play a role in team performance. Finally, Baker (2016) defined that expending resources to control effort will be efficient, and the compensation systems will tend to dominate the performance assessment. On the other hand, some papers argued and found different results than Lazear's (1989) research. A study by Xu et al. (2016); Liu et al. (2016); and Bandiera, Barankay & Rasul (2009) found that there is a negative relationship between pay dispersion and firm performance. Firms rationally consider personality (Baker, 2016; Prendergast, 1999; Akerlof & Kranton, 2005). However, Bandiera, Barankay & Rasul's (2009) study confirmed disagreement. In addition, several studies argued that pay by relative performance is more of a problem at the higher level of the job hierarchy (Tao et al., 2015; DeVaro & Kauhanen, 2016; Shaw & Delery, 2002; Akerlof & Kranton, 2005; Lazear & Shaw, 2007).

Empirical Methodologies

This section briefly discusses the empirical methodologies used in the evolution and the consequences of money wages and wage earners' income distribution. This study has summarised a systematic review as follows:

A panel data analysis is used to estimate labour income distribution as a function of these variables: industrial profit share; nominal lending interest rates; money wage rate; unemployment rate; strike intensity; interest income as a share of GDP; inflation rate; the growth rate of aggregate demand for a closed economy without public sector; compensation of employees as a share of GDP; wage share; sacrifice ratios; unemployment rate; income distribution. Chow and Megdal (1978); Startz (1981); Gordon (1988); DiNardo et al. (1996); Argitis and Pitelis (2001); Brumm and Krashevski (2003); Rochon and Rossi (2006); Atesoglu and Smithin (2006); Argitis (2008); Epstein (2007); Vera (2014); Charpe et al. (2014); Stockhammer (2017).

A mixed-method descriptive qualitative and an econometric approach uses these variables: wage efficiency, surplus labour; income distribution; income inequality; the evidence, the causes and the escape of middle-income traps; inflation; unemployment. Stiglitz (1976); Tobin (1972, 1986); Goldstein (1972); Atkinson and Brandolini (2001); Robin (2011); Kurokawa (2014); Chen et al. (2015); Cowell and Van Kerm (2015); Agenor (2016).

A quantile regression analysis is used to determine wage shares and their distribution. Schultz and Mwabu (1998); Prasad (2002); Yu et al. (2005); Autor et al. (2005); Machado and Mata (2005); Manquilef-B¨achler et al. (2009); Tansel and Bodur (2012); Koske et al. (2012); Azam (2012); Furno (2013); Papapetrou and Tsalaporta (2017). These papers use quantiles to describe the distribution of the wage share as the dependent variable. A quantile regression models the relationship between independent variables and the conditional quantiles of a dependent variable rather than just the conditional mean of independent variables. A quantile regression gives a more comprehensive picture of the effect of the independent variables on the dependent variable.

The Quantile Regression

Koenker and Bassett (1978) introduced a new class of statistics for the linear model called regression quantiles. It appears to have similar properties to the ordinary sample quantiles of the location model. They argued that the regression median is more efficient than the least squares estimator in the linear model for any distribution. The median is more efficient than the mean in the location model. The

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OLS estimates only at the conditional mean of the structural equation, while quantile regression results from more than one point of the conditional distribution. Koenker and Bassett (1978) stated that besides the median, quantile regression also investigates the tails, the lower and the upper quantiles. Eventually, it is now considerably acknowledged that quantile regression can be a handy item for the researcher when analysing income and wage distribution issues. Quantile regression models have also been considered more robust to outliers than mean regression.

Machado and Mata (2005) applied a quantile regression to evaluate the role of changing workforce composition and changing labour market prices in overall changes in the wage distribution over a period. The advantage of Machado and Mata's (2005) technique is that the quantile regressions account for heteroskedasticity, and it partitions the observed difference in wage distributions into price and quantity components. Autor et al. (2005) considered that Machado and Mata's (2005) approach is the most usual.

Therefore, quantile regression helps analyse earnings and assess the impact of the independent variables on income at different points of the wage distribution. Furthermore, calculating the difference between quantiles over time is beneficial to measure changes in income distribution and inequality (Furno, 2013). Koske et al. (2012) also applied a quantile regression analysis to investigate the determinants of labour income inequality.

The model

Based on Koenker and Bassett (1978); Yu et al. (2005); Papapetrou and Tsalaporta (2017), this study estimates the θ th quantile of the conditional distribution of the dependent variable, which is the wage share given the set of independent variables x denoted $Q_{\theta}(y|x) = x'\beta_{\theta}$ given as equation (1) below:

$$Y_i = X'\beta_\theta + u_{\theta i} \tag{1}$$

where $Quant\theta(Y_i|X_i)$ denotes the θ^{th} conditional quantile, $0 < \theta < 1$, of the dependent variable. The quantile, $\theta(0, 1)$ is that value of y which splits the data into proportions θ below and $(1 - \theta)$ above.

Data Description

The analysis in this paper draws on aggregate level data from the Organisation for Economic Cooperation and Development (OECD). This study uses data from the OECD members, which consists of 34 countries¹ in 2011. In analysing the distribution of labour income, the study adopts some variables used in these empirical studies (Rochon and Rossi, 2006; Monnin, 2014; Koske et al., 2012; Stockhammer, 2017). This study estimates the wage share as a function of variables measuring inflation, unemployment, globalisation, education policy, tax and unionisation. The dependent variable is the share of wages proxied by the compensation to employees over GDP. The proxies of the explanatory variables are CPI inflation rate, unemployment rate, current account balance rate, an upper secondary level of employment education rate, tax wedge rate and trade union density rate. The description of each data used in the analysis is given as follows:

¹ Australian, Austria, Belgium, Canada, Switzerland, Chile, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, United Kingdom, Greece, Hungary, Ireland, Iceland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, Netherland, Norway, New Zealand, Poland, Portugal, Slovak Republic, Slovenia, Sweden, Turkey, and United States

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• Wage Share

This study uses wage share based on (Rochon and Rossi's, 2006) definition, obtained by dividing compensation to employees by GDP per capita (constant 2010 in US Dollar). Compensation of employees² (percentage of expense) consists of all payments in cash and in-kind (such as food and housing) to employees in return for services rendered and government contributions to social insurance schemes such as social security and pensions that benefit employees. GDP per capita³ is gross domestic product divided by midyear population. GDP is the sum of 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. Data are in constant 2010 in US Dollar.

• Inflation

This study uses the CPI annual growth rate (percentage) to measure inflation. Inflation⁴ as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.

• Unemployment

Unemployment rate⁵ is the number of unemployed people as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment.

Globalisation

This study uses a current account balance to assess the openness of a country in representing globalisation,⁶. The current account includes all the transactions (other than those in financial items) that involve economic values and occur between resident and non-resident entities. This indicator is measured in a million USD and percentage of GDP.

• Education Policy

This study uses the employment by education level to investigate the effect of the education policy,⁷ an indicator which is an upper secondary non-tertiary level. This indicator measures the percentage of employed 25–64-year-olds among all 25–64-year-olds.

Tax

Tax wedge⁸ is defined as the ratio between the amount of taxes paid by an average single worker (a single person at 100 per cent of average earnings) without children and the corresponding total labour cost for the employer. The average tax wedge measures how a tax on labour income discourages employment. This indicator is measured in the percentage of labour cost.

Unionisation

Trade union density9This definition corresponds to the ratio of wage and

 $^{^2}$ OECD (2017), Employee compensation by activity (indicator). DOI: 10.1787/7 af 78603-en (Accessed on 03 April 2017)

³ OECD (2017), Gross domestic product (GDP) (indicator). DOI: 10.1787/dc2f7aec-en (Accessed on 03 April 2017)

⁴ OECD (2017), Inflation (CPI) (indicator). DOI: 10.1787/eee82e6e-en (Accessed on 03 April 2017)

 $^{^5\,}OECD\ (2017), Unemployment\ rate\ (indicator).\ DOI:\ 10.1787/997c8750-en\ (Accessed\ on\ 03\ April\ 2017)$

 $^{^6\,}OECD\,(2017), Current\,account\,balance\,(indicator).\,DOI:\,10.1787/b2f74f3a-en\,(Accessed\,on\,03\,April\,2017)$

⁷ OECD (2017), Employment by education level (indicator). DOI: 10.1787/26f676c7-en (Accessed on 03 April 2017)

⁸ OECD (2017), Tax wedge (indicator). DOI: 10.1787/cea9eba3-en (Accessed on 03 April 2017)

⁹ OECD (2016), "Trade Unions: Trade union density (Edition 2016)", OECD Employment and Labour Market Statistics (database). DOI: http://dx.doi.org/10.1787/fbf99961-en (Accessed on 03 April 2017)

salary earners that are trade union members, divided by the total number of wage and salary earners (OECD Labour Force Statistics). Density is calculated using survey data, wherever possible, and administrative data adjusted for non-active and self-employed members otherwise. Data are expressed in percentages.

Results and Discussion

Table 1 exhibits the result of the OLS regression and the quantile regression on wage share in 2011 from 34 countries. This essay applies the OLS regression and the quantile regression analysis to estimate the wage share. The advantages of the quantile regressions are makes modelling distribution easy and work like conventional regression. Moreover, it is not sensitive to outlier observations, and it may be more efficient than OLS when normality is violated.

The descriptive statistics of all variables and the data analysis output in detail are given in the appendix. The estimated coefficients also provided for each explanatory variable (inflation, unemployment, current account balance, employment with upper secondary level of education, tax wedge, and the union density). The quantile being estimated uses 5 values: 0.10, 025, 0.50, 0.75, 0.90 quantiles.

Table	1.01	Sand	Simu	ltaneous	Quantile	Regression	on	Wage	Share	2011
Lable	1. OL:	o aniu	JIIIIu	maneous	Quantine	Kegression	o11	vvage	Juaie,	2011

Variables	OLS	Q 10	Q 25	Q 50	Q 75	Q 90
Inflation	0.006	-0.006	0.002	0.009	0.002	0.003
	(0.005)	(0.016)	(0.012)	(0.009)	(0.011)	(0.014)
Unemployment	0.002	0.001	0.001	0.002	0.004	0.006
1	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.005)
Current Account	-0.002	-0.008*	-0.004	-0.002	-9.67E-4	-0.001
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Employment Upper Secondary Level	0.002	0.006	0.004	0.002	9.42E-4	0.005
	(0.002)	(0.003)	(0.003)	(0.002)	(0.004)	(0.005)
Tax Wedge	5.41E-5	0.002*	5.86E-4	6.56E-5	-7.41E-4	1.98E-4
	(0.001)	(0.001)	(4.98E-4)	(5.51E-4)	(6.20E-4)	(0.001)
Union Density	-0.001	-4.86E-4	-5.97E-4	-4.55E-4	-5.08E-4	-0.001
	(3.30E-4)	(4.49E-4)	(2.94E-4)	(2.77E-4)	(2.52E-4)	(6.63E-
						4)
cons	-0.031	-0.429	-0.263	-0.054	0.087	-0.237
	(0.160)	(0.281)	(0.214)	(0.180)	(0.282)	(0.376)
N pseudo R ²	34	34	34	34	34	34

Standard errors in parentheses;

Data Source: OECD, 2017

According to Table 1, none of the independent variables is statistically significant in affecting labour wage share using the OLS regression. Meanwhile, using quantile regression indicates that only at 10th quantile represents two explanatory variables (current account balance and tax wedge) are being statistically significant at a 5 per cent level of significance in affecting the distribution of labour income. This evidence strongly indicates that the OLS regression is statistically over-estimated. The interpretations of the results are given as follows:

At the 10th quantile, a 1 per cent increase in current account balance reduces wage shares by 0.008 per cent. It reveals that if the current account balance of payments, which is a record of a country's international transactions with the rest of the world, is expanding, wage distribution declines among labour. It has probably

^{*} *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001

happened when the expansion of current balance accounts induced by the rise of gross domestic product. It might have occurred when the international market tends to increase its demand. Unfortunately, the speed of adjustment of the employee's compensation tends to lag with the increasing level of GDP. Recall that this condition is one of the implications of wage rigidity arguments by Keynes. In addition, if the compensation of employees by activity as a percentage of GDP remains, then the wage shares decline.

At the 10th quantile, a 1 per cent increase in tax wedge enhances wage share by 0.002 per cent. When an average tax wedge, the ratio between the amount of taxes paid by an average single worker and labour cost, rises, the only argument remains is that an increase in labour cost induces higher tax on labour income. Furthermore, it is essential to determine which critical factors of labour cost that probably cause an accumulation, such as an increase in social insurance schemes (social security and pensions) that provide benefits to employees as stated in the regulation.

Eventually, it promotes an employee's compensation in aggregate at a given level of GDP, and the wage share rises. Keynes argued that those entrepreneurs who are heavily indebted, for instance, to cover the rise of labour costs, may soon reach the point of insolvency. Then, it will create a high risk of bankruptcy. Therefore, this evidence also confirms Keynes's arguments that a flexible wage policy, as one of the policy authority interventions to money-wage, can maintain a state of continuous full employment.

Lazear & Rosen (1981) and Lazear (1989) were one of the earliest researchers who emphasised the existence of the incentives for sabotage activities in the workplace. Therefore many empirical research and extended studies were conducted on this particular topic. It has become a significant contribution to sharpening the labour and incentives theory and practice. It is tough to be firm in controlling workers' efforts when the work environment is uncompetitive. The firm would not be able to predict how much workers' productivity will increase, which affects the output growth, at a certain level of incentives. Therefore, implementing personnel economic theory and practice is beneficial to achieving firm performance, which we later call human resource management.

If the market structure is not as competitive as the paper had elucidated, thus sabotage becomes an issue, which may explain why the management tends to even up incentives or bonuses to their subordinates when the time is due. If so, then the crucial problem that might occur is that the transparency and accountability of the organisation will be questionable. Furthermore, it will affect the more significant potential loss of firm performance in the future.

The effectiveness of relative performance in applying the performance assessment (the workers benefit not only by their successes but also by their rivals' failures) is still needed to be confirmed through case studies. According to Fehr & Falk (2002), workers' morale maximises the benefit of incentives derived from motivation, which is related to the psychological foundations of incentives. Accordingly, the paper of Lazear (1989) was straightforward in elaborating the underlying assumption of worker's behaviour through a case of two different groups (hawks and doves), whereas the representative of aggressive and cooperative behaviour.

Conclusions

Finally, the result describes that the effect of globalisation through current account balance and the structural policy with tax wedge rate is statistically significant in wage share for those with low wage share (at the 10th per cent quantile) only. In other words, there is limited evidence that inflation, unemployment, education level of workers policy, and the trade union density are strongly affecting the distribution of wages. However, the result confirms the study of Koske et al. (2012) that globalisation through the openness of trade and tax wedge is statistically significant in affecting labour income share. However, the primary constraint in this study is the limitation of data. Therefore, the result cannot be summarised graphically since the number of observations is limited and remain in checking whether the coefficients rise or fall across quantile levels.

According to Takahashi et al. (2009), Tao et al. (2015); Xu et al. (2016); and Liu et al. (2016), the results of equal payment and evidence of incentives may vary. Therefore, it will exacerbate many researchers' new perspectives on the extended topic. Perhaps, the pay dispersion and the incentives effect may overcome the significant problems in developing countries regarding the minimum wage rate and its policies. Further research is still needed to develop a complete result of the distribution of labour income analysis. In conclusion, the evolution of the wage share structure representing how welfare distribution moves over time remains to be investigated in further research.

References

- Acemoglu, D. & Pischke, J.S. (1999). Beyond Becker: Training in Imperfect Labour Markets *The Economic Journal*, 109(453), pp. F112-F142. http://www.jstor.org/stable/2565588
- Acemoglu, D., Pischke, J.-S. (1998). The Structure of Wages and investment in general training. *The Journal of Political Economy*, 107(3), 25 p. http://www.jstor.org/stable/2990782
- Agenor, P.-R. (2016). Caught in the middle? The economics of middle-income traps. *Journal of Economic Surveys*,00(00):1–21.
- Akerlof, G. A., & Kranton, R. E. (2005). Identity and the Economics of Organizations. *Journal of Economic Perspectives*, 19(1), 9–32. http://doi.org/10.1257/0895330053147930
- Akerlof, G.A., & Yellen, J.L., (1990). The fair wage-effort hypothesis and unemployment. *Quarterly Journal of Economics*, *CV*(May), 1–29. http://qje.oxfordjournals.org/content/105/2/255.full. pdf+html
- Argitis, G. (2008). Inflation targeting and Keynes's political economy. *Journal of Post Keynesian Economics*, 31(2):249–270.
- Argitis, G. and Pitelis, C. (2001). Monetary policy and the distribution of income: Evidence for the united states and the United Kingdom. *Journal of Post Keynesian Economics*, 23(4):617–638.
- Atesoglu, H. S. and Smithin, J. (2006). Inflation targeting in a simple macroeconomic model. *Journal of Post Keynesian Economics*, 28(4):673–688.
- Atkinson, A. B. and Brandolini, A. (2001). Promise and pitfalls in the use of "secondary" data-sets: Income inequalityin OECD countries as a case study. *Journal of Economic Literature*, 39(3):771–799.
- Autor, D. H., Katz, L. F., and Kearney, M. S. (2005). Rising wage inequality: The role of composition and prices. *NBER Working Paper Series*, page 11628.
- Azam, M. (2012). Changes in wage structure in urban India, 1983–2004: A quantile regression decomposition. *WorldDevelopment*, 40(6):1135 1150.
- Baker, G. P. (2016). Incentive Contracts and Performance Measurement. *The Journal of Political Economy*, 100(3), 598–614. http://www.jstor.org/stable/2138733
- Bandiera, O., Barankay, I., & Rasul, I. (2009). Social Connections and Incentives in the Workplace: Evidence from Personnel Data. *Econometrica*, 77(4), 1047–1094. http://doi.org/10.3982/ECTA6496
- Brumm, H. J. and Krashevski, R. S. (2003). The sacrifice ratio and central bank independence revisited. *OpenEconomies Review*, 14(2):157–168.

- Charness, G., & Kuhn, P. (2013). Lab Labour: what can labor economists learn from the lab? *NBER Working Paper*, 53(4941), 1689–1699. http://doi.org/10.1017/CBO9781107415324.004
- Charpe, M., Lee, S., Arias, D., and Bridji, S. (2014). Does income distribution matter for development? Trends in labour share of income and their economic impacts in developing countries. *World of Work Report*, 2014(1):149–180.
- Chen, Y.-H., Huang, H.-C., and Ku, K.-P. (2015). The effects of inflation and openness on inequality across alternativemonetary regimes. *Applied Economics Letters*, 22(4):291–298.
- Chow, G. C. and Megdal, S. B. (1978). An econometric definition of the inflation-unemployment trade-off. *The American Economic Review*, 68(3):446–453.
- Cirillo, V., Soster, M. & Tamagni, F., (2016). Innovation and within-firm wage inequalities: empirical evidence from major European countries. LEM Working Paper Series, *56*(January), 291–297. http://www.lem.sssup.it/WPLem/files/2016-10.pdf
- Cowell, F. A. and Van Kerm, P. (2015). Wealth inequality: A survey. *Journal of Economic Surveys*, 29(4):671–710.
- DeVaro, J., & Kauhanen, A. (2016). An 'Opposing Responses' Test of Classic Versus Market-Based Promotion Tournaments. *Journal of Labor Economics*, 34(3). http://www.journals.uchicago.edu/doi/pdfplus/10.1086/684911
- DiNardo, J., Fortin, N. M., and Lemieux, T. (1996). Labor market institutions and the distribution of wages, 1973-1992: A semiparametric approach. *Econometrica*, 64(5): 1001–1044.
- Epstein, G. (2007). Central banks, inflation targeting and employment creation, volume 2. International LabourOrganization.
- Fehr, E., & Falk, A. (2002). Psychological foundations of incentives. *European Economic Review*, 46(4–5), 687–724. http://doi.org/10.1016/S0014-2921(01)00208-2
- Furno, M. (2013). Quantile regression and structural change in the Italian wage equation. *Economic Modelling*, 30:420–434.
- Goldstein, M. (1972). The trade-off between inflation and unemployment: A survey of the econometric evidence forselected countries. *Staff Papers (International Monetary Fund)*, 19(3):647–698.
- Gordon, D. M. (1988). The unnatural rate of unemployment: An econometric critique of the NAIRU hypothesis. *The American Economic Review*, 78(2):117–123.
- Holmstrom, B. R., & Tirole, J. (1989). Chapter 2 The theory of the firm. *Handbook of Industrial Organization*, 1(October), 61–133. http://doi.org/10.1016/S1573-448X(89)01005-8
- Holmstrom, B., & Milgrom, P. (1991). Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law Economics, & Organization*, 745(18), 24–52. http://doi.org/10.1093/jleo/7.special_issue.24
- Keynes, J. M. (1924). A Tract on Monetary Reform. Macmillan and Co.Limited.
- Keynes, J. M. (1936). The General Theory of Employment Interest and Money.
- Koske, I., Fournier, J.-M., and Wanner, I. (2012). Less income inequality and more growth are they compatible? Part 2. the distribution of labour income. *OECD Economics Department Working Papers*, (925):5–51.
- Kurokawa, Y. (2014). A survey of trade and wage inequality: Anomalies, resolutions and new trends. *Journal of Economic Surveys*, 28(1):169–193.
- Lazear, E. P. & Gibbs, M. (2007). Personnel Economics for Managers. 2nd Edition. http://facultysobweb.bcit.ca/kevinw/4800/documents/Person-econ-ch_1to6.pdf
- Lazear, E. P. & Shaw, K.L. (2007). Personnel Economics: The Economist's View of Human Resources. *Journal of Economic Perspectives*, 21(4): 91-114. http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.21.4.91
- Lazear, E. P. (1989). Pay Equality and Industrial Politics. *The Journal of Political Economy*, 97(3), 561–580. http://www.jstor.org/stable/1830455
- Lazear, E. P., & Oyer, P. (2012). Personnel Economics. *The Handbook of Organizational Economics*, (July), 479–517.

Shares worsening

- Li, D., Eden, L., Hitt, M. A., & Ireland, R. D. (2008). Friends, acquaintances, or strangers? Partner selection in R&D alliances. *Academy of Management Journal*, 51(2), 315–334. http://doi.org/10.1002/smj
- Liu, H., Lu, J., & Riyanto, Y. E. (2016). Rank Order Contests with Sabotage: Equilibrium Analysis and Optimal Design. SSRN Papers. http://dx.doi.org/10.2139/ssrn.2776868
- Machado, J. A. F. and Mata, J. (2005). Counterfactual decomposition of changes in wage distributions using quantileregression. *Journal of Applied Econometrics*, 20(4):445–465.
- Macleod, W. B., & Tan, T. Y. (2016). Optimal contracting with subjective evaluation: the effects of timing, malfeasance, and guile, NBER Working Paper Series, Working Paper 22156. http://www.nber.org/papers/w22156. 1–70.
- Macmillan and Co.Limited.Koenker, R. and Bassett, G. (1978). Regression quantiles. *Econometrica*, 46(1):33–50.
- Manquilef-Bächler, Alejandra, A., Arulampalam, W., and Smith, J. C. (2009). Differences in decline: Quantile regression analysis of union wage differentials in the United Kingdom, 1991-2003. *IDEAS Working Paper Series from RePEc*.
- Monnin, P. (2014). Inflation and income inequality in developed economies. *CEP Working Paper Series*.
- Murphy, K. J. (1999). Chapter 38 Executive compensation. *Handbook of Labor Economics*, 3 *PART* (2), 2485–2563. http://doi.org/10.1016/S1573-4463(99)30024-9
- Papapetrou, E. and Tsalaporta, P. (2017). Inter-industry wage differentials in Greece: Evidence from quantile regressionanalysis. *International Economic Journal*, 31(1):51–67.
- Prasad, E. S. (2002). Wage inequality in the United Kingdom, 1975-99. *IMF Staff Papers*, 49(3):339–363.
- Prendergast, C. (1999). The provision of incentives in firms. *Journal of Economic Literature*, 97, March (1), 7–63. http://doi.org/10.1257/jel.37.1.7
- Robin, J.-M. (2011). On the dynamics of unemployment and wage distributions. *Econometrica*, 79(5):1327–1355.
- Rochon, L.-P. and Rossi, S. (2006). Inflation targeting, economic performance, and income distribution: A monetary macroeconomics analysis. *Journal of Post Keynesian Economics*, 28(4):615–638.
- Schultz, T. P. and Mwabu, G. (1998). Labor unions and the distribution of wages and employment in South Africa. *Industrial and Labor Relations Review*, 51(4):680–703.
- Shaw, J. D., Gupta, N., & Delery, J. E. (2002). Pay dispersion and workforce performance: Moderating effects of incentives and interdependence. *Strategic Management Journal*, 23(6), 491–512. http://doi.org/10.1002/smj.235
- Startz, R. (1981). Unemployment and real interest rates: Econometric testing of inflation neutrality. *The American Economic Review*, 71(5):969–977.
- Stiglitz, J. E. (1976). The efficiency wage hypothesis, surplus labour, and the distribution of income in l.d.c.s. *OxfordEconomic Papers*, 28(2):185–207.
- Stockhammer, E. (2017). Determinants of the wage share: A panel analysis of advanced and developing economies. *British Journal of Industrial Relations*, 55(1):3–33.
- Takahashi, H., Kato, M., Matsuura, M., Mobbs, D., Suhara, T., & Yoshiro Okubo. (2009). When Your Gain Is My Pain and Your. *Science*, 323(February), 937–939. http://doi.org/10.1126/science.1165604
- Tansel, A. and Bodur, F. B. (2012). Wage inequality and returns to education in turkey: A quantile regression analysis. *Review of Development Economics*, 16(1):107–121.
- Tao, Y. L., Chuang, H. L., & Lin, E. S. (2016). Compensation and performance in Major League Baseball: Evidence from salary dispersion and team performance. *International Review of Economics and Finance*, 43, 151–159. http://doi.org/10.1016/j.iref.2015.10.037
- Tobin, J. (1972). Inflation and unemployment. The American Economic Review, 62(1/2):1–18.
- Tobin, J. (1986). Inflation and unemployment in the shared economy. *Journal of Comparative Economics*, 10(4):460 –463.

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- Vera, L. (2014). The simple post-Keynesian monetary policy model: An open economy approach. *Review of PoliticalEconomy*, 26(4):526–548.
- Xu, Y., Liu, Y., & Lobo, G. J. (2016). Troubled by unequal pay rather than low pay: The incentive effects of a top management team pay gap. *China Journal of Accounting Research*, 9(2), 115–135. http://doi.org/10.1016/j.cjar.2016.01.001
- Yu, K., van Kerm, P., and Zhang, J. (2005). Bayesian quantile regression: An application to the wage distribution in1990s Britain. *Sankhyā: The Indian Journal of Statistics* (2003-2007), 67(2):359–377.