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Income Inequalities in Capitalistic and Socialistic Economies: "An Empirical Evidence from Capitalistic and Socialistic Countries"

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ABSTRACT

Income inequality undesirably affects the living standards of the people in the different parts of the world. The main objective of the paper is to find out the intensity of income inequality in capitalistic and socialistic economies in the world. The study helps to explore the empirical evidence that how income inequality impacts the life of the people under the umbrella of concurrent economic systems. The study is based on the panel data set. The Generalized Method of Movements (GMM) is applied and the results depict that Government revenues are inversely associated with income inequality in both economic systems. It happens because government expenditures in an account of social safety nets result in a decline in income inequality. On the other side, economic growth, and employment ratio hold a positive connection with income inequality under the parasol of socialism and capitalism. This research reveals that both systems are deficient to mitigate income inequality and leave the space for a new and balanced economic system.

Keywords: Income inequalities, Government Revenues, Economic growth Capitalism, Socialism

1. INTRODUCTION

The living standard of poor masses is adversely affected the income inequality and it is a complex issue with deep roots, particularly in most of the developing countries of the world. Today every region in the world has different income inequalities and income distributions. Developed nations have a different income distribution pattern than less developed nations. The system of measurement used to determine the dispersion of income is provided by the Income inequality matrix. Perpetually, Income distribution has been the central area for economic theory and economic policy from the beginning of the

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economic system. This study helps us to see the income distribution pattern between socialists and capitalistic economies. Now we look at capitalism and socialism economics how these economic systems work in the economy. Traditional economic stance on Capitalism stems from private possession of the resources of production and their appropriate utilization for profit. The characteristics of the capitalist economy include private property, capital accumulation, market-oriented wages and equilibrium in labor, a system of prices, and competitive markets along with the minimal interference of government. In a capitalist economy, decision-making and investment decisions are always based on the wealth of the owner, property, and production abilities in the financial and capital markets. In a capitalistic economy, goods and services markets competitiveness is the lashing force to determine the prices and the dispersal of goods and services. In a capitalist economy, capital profit goes to the capitalist whereas the remaining which is lower wealth becomes a part of the poor (Milanovic, 2017). Mercantilism, finance capitalism, advanced capitalism, free-market economy, a socialistic market economy, state capitalism, corporate capitalism, and mixed economy are the various types of capitalism economic. Socialism is a mixture of economic and social systems categorized by social ownership and by the democratic control of the means of production and resources. This would mean that the workers in the industry have created a democratic organization, based on their assemblies and elected delegates, so they can discuss and shape, and control the decisions that govern the running of that industry. In socialism, there is a social property that shows the form of public, collective, or cooperative ownership of equity. The socialist economic system can be divided into two main parts that are non-market and market forms. The non-mercantile form of socialism implies the replacement of the factor market and the money produced by an economic mechanism that works in line with economic jurisprudence diversified from those of capitalism. Non-market socialism objectifies to avoid ineptitudes and predicaments and by convention concomitant with capital accretion and the profit structure. Market socialism also explains the usage of monetary prices and factor markets. Specific to certain cases, it explains the reason for profit, as regards the activity of socially owned companies and allocation and distributions of capital

assets/consignment within the industry. The profits generated by these companies would be controlled directly by the labor force of each company or would follow society in general in the form of a social dividend. In modern times (Big Data) there must be a dire need to analyze the macroeconomic indicators more broadly and sensitively (Morozov, 2019). All the socialist economies are experiencing robust policies Ragusa and Birkhead, 2020). A planned economy, self-managed economy, state-led economy, and market socialism economies permit the system that all economic and financial activities are owned and controlled by the government units but then sell their products to consumers through the channel of competitive markets. The main objective of the paper is to explore the association between economic growth and income inequality in the selected countries under the umbrella of socialism and capitalism. This study also examines which system provides more welfare to its general public in line with the channel of the income distribution.

2. LITERATURE REVIEW

For a profound and comprehensive understanding, some theoretical and empirical studies have been taken into account. A massive literature on income inequality and economic growth is classified into two classifications. One believes that the association between income inequality and economic growth is adverse while the second accept positive connection as true. Kuznets (1955) made the finding as parabolic connectivity of income and inequality based on a historical approach. The parabolic relationship indicates that wider inequality is driven by an increase in income up to some extent and results reduction in income inequality thereafter.

It is important to know that the measurement by the Gini index which estimates income inequality in developing countries both socialistic and capitalistic, is found to be substantial and high (WIID, 2019; & World Bank, 2019).

Barro (2000) supported a non-linear relationship between economic growth and inequality and said that economic growth adversely affects less developed countries and positively affects developed countries. The researcher examines the panel data and used dynamic movement techniques to estimate the results. It is worth highlighting here that

people have less chance of getting involved in the labor market particularly when it comes to dealing with a cross country culture which further gives them a feeling of inconvenience (Graeber, 2018 & Soffia, Wood, and Burchell, 2021).McNally (2019) elucidates that some economists endorse several policies under the umbrella of Socialism which lowers the gravity of income inequality. To make the pedigree accountable for reducing income inequality would be confused as it diverts from the modern state policies.

Aiyar and Ebeke (2019) posit that economic growth and income inequality are undesirably conditioned except those countries where economies are witnessing equality of opportunities. Le and Nguyen (2019) also reveal a weak and direct analogy between initial income inequality and economic ensuing growth followed by the unfair demarcation of the resources in the economy. Kennedy et al. (2017) find an adverse impact of income inequality on economic growth. The rise in income inequality depletes the resources to induce economic growth instead are utilized to maintain the life of poor masses below the poverty line.

Alesina and Perotti (1996) and Persson and Tebellini (1994) underscored that economic growth is significantly pushed down by inequality and its presence hinders the adequate, equal, and efficient deployment of available productive resources. As a result, a lower rate of growth further strikes back the magnitude of income inequality. Zhuang et al. (2014), deduced that accelerated growth backed by favorable technological shocks, market-driven restructurings, and globalization would further help develop the south Asian region. Weich et al. (2017) came up with very interesting findings that in British where income inequality is higher, hits the individuals at its worst and leaves the individuals mentally disordered income is adjusted. The study found that higher-income inequality lowers the income of individuals and further adversely affects the health of poor masses as well.

Serven (2004), concluded that soaring economic growth is supported by public infrastructure spending. Resultantly, infrastructure spending plays a vital role in the mitigation of income inequality. This relationship is based on panel data of Latin American countries where the prevalence of income inequality is high. García-Peñalosa

(1999) examined the employment's impact in association with the agriculture sector on income inequality in developed economies and developing economies as well and results indicated a lower level of income inequality in the agrarian sector followed by a high employment ratio in that particular sector, as the benefits through agricultural output assist the lower-income groups to enjoy a rise in income. Chletsos and Fatouros (2016) empirically analyzed the consequence of income inequality on economic development designing panel of 126 countries from 1968 to 2007 and the conclusion revealed a positive consequence in line with government revenues.

Maestri (2012) studied the analogy of inflation and unemployment on income inequality for the Organization for Economic Co-operation and Development (OECD) and came up with the deduction that inflation caused a hike in income inequality in countries like the United States (USA) Germany and Sweden, while Canada experienced a diminishing trend in income inequality. Moreover, the author also explained that a drop in consumption and inequality in the UK and the USA is the consequences of unemployment. Sarel (1997) discussed the association between income inequality and economic growth and also recommend that fiscal and demographic indicators may be articulated for rigorous analysis of income inequality. He also pointed out that the nature of data (from cross-sectional to time series) may have deep insights into the analysis of income inequality and economic growth.

Frobes (2000) reported that economic growth is affected by the level of income inequality for a given county and she also highlighted the fact that quality of data is very much vital for rigorous analysis and without proper compilation of data, one cannot be reached concrete findings. Blades (1991) conferred that the imperativeness of affordability and viability of the data collection because most of the government institution compiles the data under restrictions and manipulation of data, leads to undesirable economic and social analysis.

3. RESEARCH METHODOLOGY

The study is based on the cross-sectional data, which consists of 4 counties from capitalist and socialist economies as well. The sample of socialistic countries comprises

China, Denmark, Sweden, and Norway while Capitalistic countries include the U.S.A, Japan, England, and Germany. This study attempts to explore how the Gini coefficient is influenced by government revenue, economic growth, and employment ratio.

The general form of the model is designed as follows:

$$GINI_t = \delta_0 + \delta_1 GR_t + \delta_1 EG_t + \delta_1 EPR_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots \text{Eq. (1)}$$

In the above models, GINI presents the GINI coefficient and is affected by Government Revenues (GR) economic growth (EG), and Employment Ratio (ER). Argument Dickey-Fuller (Henceforth ADF) tests are applied to test integration order and to the problem of non-stationary variables to be solved.

To investigate the stationarity of the data panel unit root test is applied. It explains the volatility in data over time. Technically speaking, time-series data require to be properly estimated by the appropriate tests because as data holds the issue of stationarity, the results of the (estimations) findings may lead to spurious results. The expression of stationarity is presented as follows:

$$Y_t = \rho Y_{t-1} + u_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where ρ reflects the stationary condition and $|\rho|$ is less than 1 it indicates stationary conditions.

u_t Denotes white noise error term and the unit root problem is presented by Y_t. If the ρ value is lesser than one then series is stationary and vice versa when the $|\rho|$ value is greater than 1.

Generalized Method of Moments (Henceforth GMM) is applied for the empirical findings. To produce the values of estimators of the unknown parameters, considering the condition of population moments of this economic model, the GMM technique assists to combine the observed data. As most economist suggests that to capture the dynamic of panel data, GMM is an appropriate technique. This technique in econometrics holds a certain set of conditions that needs to be satisfied. The model parameters are driven by its moment's conditionality and their expected value is zero at the parameter's true values. It is assumed that data available encompasses T observations $\{Y_t\}_t = 1...$, T. the value of each variable in a given dataset is unidentified. The GMM estimation assists in estimating

the unknown parameter value that is θ. It clamps the assumption that is the data set is assessed through a less strict stochastic process. The deployment of Moment conditions is essential for the GMM process as:

$$m(\theta) \equiv E[g(Y_t, \theta)] = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

E implies the expectation and general observation is presented by Y_t . Further to this, the value of m (θ) must not approach 0. The core concept for applying the GMM is to substitute the expected value for sample average value such as:

$$\hat{m}(\theta) = \frac{1}{T}\sum_{t=1}^{T} g(Y_t, \theta) \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

It reduces the above expression θ. The value of θ is the resultant value of θ_0. The GMM parameters can be stated as

$$\hat{\theta} = \underset{\theta \Sigma \Theta}{\operatorname{argmin}} \, {}^{1}/_{2} \left(\frac{1}{T}\sum_{t=1}^{T} g(Y_t, \theta)\right)^{T} \hat{w}^{-1} \left(\frac{1}{T}\sum_{t=1}^{T} g(Y_t, \theta)\right) \quad \ldots\ldots\ldots\ldots (5)$$

The estimators of GMM also possess the properties of consistent, asymptotic normal, and efficiency.

4. RESULTS AND ANALYSIS

The Panel root results given in Table-1 reveal that the entire variables are stationary at first difference. It is important to estimate the stationarity to avoid spurious results and carried out by conducting Augmented Dickey-Fuller test, Phillips-Perron and IPS as well. The stationarity test increases the rigor of scientific research by selecting the appropriate model. The economists recommend Phillips-Perron and also IPS test for high-frequency data and to check the higher-order serial correlation. The panel root test results are reported in the table above which implies the variables of the model are non-stationary at the level and integrated at order one. Therefore, results lead to the presence of a co-integrating association among the variables.

Table 1. Results of Panel Root Tests

	ADF			PP			IPS		
Variables	**Level**	**1st Difference**	**Result**	**Level**	**1st Difference**	**Result**	**Level**	**1st Difference**	**Result**
GR	**-0.65**	**-4.98**	**I(1)**	**-1.25**	**-5.22**	**I(1)**	**-0.64**	**-5.04**	**I(1)**

EG	**1.69**	**-6.58**	**I(1)**	**1.57**	**-9.05**	**I(1)**	**1.66**	**-7.11**	**I(1)**
UR	**1.97**	**-5.66**	**I(1)**	**2.09**	**-7.68**	**I(1)**	**1.86**	**-5.88**	**I(1)**

Table-2 depicts the findings of the GMM result which probability value further indicates the nullification of the association between the variables. Government revenues hold negative and significant connectivity with income inequality. It means that one-unit change in government revenues results in 69 units decline in income inequality which means government expenditure by the capitalistic economies causes a decline in income inequality Chletsos and Fatouros (2016). On the other side, economic growth indicates a positive and significant relationship with income inequality. The findings reveal one unit rise in economic growth leads to a reduction of 2.07 units in income inequality. It means that in capitalistic economies economic growth is not supporting the poor masses for the betterment of their living standards as concluded by Aiyar and Ebeke (2019), Kennedy et al. (2017), and Baro (2000). The employment ratio also has a positive and significant correlation with income inequality. The results show that a one-unit rise in the unemployment ratio increases the income inequality by 80 units. It further implies that employment in capitalistic countries seems to be a much more sensitive issue that causes an increase in income inequality. One of the profound implications is poor masses are to be exposed to employment opportunities particularly when economies experience a growth regime. García-Peñalosa (1999) and Maestri (2012), in summary, under the umbrella of capitalism, government revenues have inverse whereas economic growth and unemployment ratio possesses a positive relationship with income inequality.

$$GINI_t = \delta_0 + \delta_1 GR_t + \delta_1 EG_t + \delta_1 UR_t + \varepsilon_t$$

Table 2. GMM Results of Capitalistic Economies

Variables	Coefficients	Std. Errors	t-Statistic	Prob.
GR	-0.6955	0.0190	10.2613	0.0000
EG	2.0707	4.7312	4.3707	0.0000
UR	0.8030	0.0704	5.7181	0.0000
C	15.4902	3.8601	4.0128	0.0000

$$GINI_t = \delta_0 + \delta_1 GR_t + \delta_1 EG_t + \delta_1 UR_t + \varepsilon_t$$

Table 3. GMM Results of Socialistic Economies

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GR	-0.8482	2.2411	0.6339	0.0000

EG	0.4221	4.8700	2.9132	0.0000
UR	0.9013	0.1047	8.6052	0.0000
C	-22.231	7.8153	2.8445	0.0000

5. CONCLUSION

The analysis shows that income inequality is adversely influenced by government revenue whereas positively impacted by economic growth in socialistic and as well as capitalistic economic systems. Government expenditures in both capitalistic and socialistic economies result in a decline in income inequality which means that government expenditures, in general, are appropriate to address the poor masses' issues in form of social safety nets. Contrary to this, economic growth and employment ratio result to augment income inequality, which implies that the direction of the economic growth is not pro-poor. Along with this fact, the employment ratio in both systems also positively hit the income inequality. It indicates that the employment ratio is a subtle area of policy in both economies which needs to be appositely managed as the population is increasing and employment is stagnant. It can be deduced from the results that neither capitalism nor socialism has forte to properly deal with income inequality during the growth regime, therefore it provides very thoughtful insights that a new system needs to be introduced with a handsome combination of the private and public sector which will adequately take care of income inequality when economies witness high growth rate.

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