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COMPARATIVE ANALYSIS OF WORLD OUTPUT WITH REAL GDP FROM ADVANCED TO DEVELOPING COUNTRIES

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Abstract

The main objectives of this paper are to test whether there is any significant difference regarding median growth rate, world output and per capita output and also examine the relationship between each other along with a suitable suggestion to ameliorate the world output. The data collected from the world economic outlook of International Monetary Fund of October 2015 of PP: 168. The SPSS 16.0 versions was applied to derive the results through the paired samples statistics, paired sample correlations and paired samples tests. The study found that world output in terms of annual percentage was higher regarding low income developing countries followed by the emerging market and developing economies and the advanced economies and also identified that statistically there was a significant difference between each other except emerging market and developing economies to the low income developing countries. The higher median growth rate had taken place regarding low income developing countries followed by the emerging market and developing economies and advanced economies and statistically there was a significant difference between each other. The study also observed that per capita of output was higher regarding the emerging market and developing economies followed by the low income developing countries and advanced economies and also found that statistically there was a significant difference between each other except emerging market and developing economies to the low income developing countries. It is suggested that world output as well as per capita of output should be increased and maintain equality amongst the countries by taking the necessary steps

Introduction

The global growth in the first half of 2015 was 2.9 percent, about 0.3 percentage point weaker than predicted in April of this year. Growth was below forecast for both advanced economies and emerging markets. Growth in the United States was weaker than expected. The unemployment rate declined to 5.1 percent at the end of August, 0.4 percentage points below its February level (and 1 percentage point below the level a year ago). Lower capital expenditures in the oil sector were also a major contributor to the slowdown in Canada, where economic activity contracted modestly during the first two quarters of 2015. The recovery was broadly in line with the April forecast in the euro area, with stronger-than-expected growth in Italy and especially in Ireland and Spain .offsetting weaker-than-expected growth in Germany. In the United Kingdom, GDP expanded at an annualized rate of 2¼ percent in the first half of 2015, with the unemployment rate now back near its pre crisis average of about 5½ percent.

Review of Literature

Ansari 1995 said that high government expenditure on certain services led to high growth of services. Bhagwati 1984, Gordan and Gupta 2003 and Hansda 2001 opined that rise in demand for services from the developing market cause of the increase in GDP. Bhattacharya and Mitra 1990 and Gordan and Gupta 2003) exhibits that high income elasticity of demand for services resulted a high growth of GDP. Chanda 2002 pointed out that

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technological progress and availability of high skilled manpower were the cause of growth of services like information technology. McKinsey & Company 2007 argued that .there is a change in demand pattern from necessary to discretionary consumptions and these are definitely influence on the GDP.

Objectives of the Study
1. To test whether there is any significant difference between world output, median growth rate of advanced economies, low income developing countries and emerging market and developing economies.
2. To examine the relationship between from one country to another country in terms of the per capita output, median growth rate and world output.
3. To offer a suitable suggestions to strengthen the world output in terms of annual percent change.

Methodology of the Study
The data collected from the websites and Journals. The statistics of world output, median growth rate, per capita of output were acquired from the world economic outlook of international monetary fund of October 2015 of PP: 168. The SPSS 16.0 version was applied to infer the results. The paired samples statistics, paired sample correlation; paired samples tests were applied to derive the results.

Input Table 1: Summary of World Out Put or Real GDP (Annual Per cent Change)

Year	Advanced Economies	Emerging Market and Developing Economies	Low Income Developing Countries
2007	2.8	8.7	7.4
2008	0.2	5.8	5.9
2009	-3.4	3.1	5.9
2010	3.1	7.5	7.1
2011	1.7	6.3	5.3
2012	1.2	5.2	5.2
2013	1.1	5.0	6.1
2014	1.8	4.6	6.0

Input Table- : This table shows the summary of world output or real GDP in terms of the annual percent change from the year 2007 to 2014 of advanced economies, emerging market and developing economies and low income developing countries.

Output Table 1: Paired Samples Statistics World Out Put or Real GDP(Annual Per cent Change)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Advanced Economies	1.0625	8	2.02833	.71712
	Emerging Market and Developing Economies	5.7750	8	1.74335	.61637
Pair 2	Emerging Market and Developing Economies	5.7750	8	1.74335	.61637
	Low Income Developing Countries	6.1125	8	.77724	.27480
Pair 3	Low Income Developing Countries	6.1125	8	.77724	.27480
	Advanced Economies	1.0625	8	2.02833	.71712

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Output Table-1: This table describes the paired samples statistics of the advanced economies, emerging markets and developing economies and low income developing countries. The world output in annual percent change was higher regarding emerging market and developing economies rather than the advanced economies, low income developing countries exceeds the emerging market and developing economies as well as the advanced economies. Hence, it can be concluded that the more world output was witnessed regarding the low income developing countries followed by the emerging market and developing economies and advanced economies and identified that advanced economies did not include the countries of the United States, Euro Area, Japan and other advanced economies.

Out Put Table 2: Paired Samples Correlations World Out Put or Real GDP(Annual Per cent Change)

		N	Correlation	Sig.
Pair 1	Advanced Economies & Emerging Market and Developing Economies	8	.803	.016
Pair 2	Emerging Market and Developing Economies & Low Income Developing Countries	8	.661	.074
Pair 3	Low Income Developing Countries & Advanced Economies	8	.422	.298

Output Table-2: This table narrates the paired samples correlations of different countries. There was a very strong relationship established between advanced economies to the emerging market and developing economies and they had a strong relationship between emerging market and developing economies to the low income developing countries and there was a moderate relationship between outputs of low income developing countries to the output of advanced economies.

Out Put Table 3: Paired Samples Test World Out Put or Real GDP(Annual Per cent Change)

		Paired Differences							Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	
					Lower	Upper			
Pair 1	Advanced Economies - Emerging Market and Developing Economies	-4.71250	1.21472	.42947	-5.72803	-3.69697	-10.973	7	.000
Pair 2	Emerging Market and Developing Economies - Low Income Developing Countries	-.33750	1.36061	.48105	-1.47500	.80000	-.702	7	.506
Pair 3	Low Income Developing Countries - Advanced Economies	5.05000	1.84081	.65082	3.51105	6.58895	7.759	7	.000

Output Table-3:

Hypothesis-1:
Null Hypothesis (H0): There is no significant difference between output of advanced economies to the emerging market and developing economies.

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Alternative Hypothesis (Ha): There is a significant difference between output of advanced economies to the output of emerging market and developing economies.

Analysis : The value of mean was the -4.71250, at 95 percent confidence interval with a lower difference was the -5.72803 and upper difference was the 3.696 at value t was the -10.973, with a df was 7, and significance value was the 0.000, hence, it can be concluded that the proposed null hypothesis was rejected and alternative hypothesis was accepted and came to knew that there was a significant difference between the world output (annual percent change) from the advanced economies to the emerging market and developing economies.

Hypothesis-2:
Null Hypothesis (H0): There is no significant difference between the world output (annual percent change) of Emerging Market and developing Economies to the World output (annual percent change) of low income developing countries.

Alternative Hypothesis (Ha): There is a significant difference between the world output (annual percent change) of Emerging Market and developing Economies to the World output (annual percent change) of low income developing countries.

Analysis : The value of mean was the -0.33750, at 95 percent confidence interval with a lower difference was the -1.475 and a upper difference was the 0.800 and a value of t was the -0.702, at df was 7, with a significance value was the 0.506, hence, it is inferred that the proposed null hypothesis was accepted and alternative hypothesis was rejected and came to concluded that there was a significant difference between the world output (percent change) of emerging market and developing countries to the world output (percent change) of low income developing countries.

Hypothesis-3:
Null Hypothesis (H0): There is no significant difference between the world output (percent change) of low income developing countries to the world output (percent change) of advanced economies.

Alternative Hypothesis (Ha): There is a significant difference between the world output (percent change) of low income developing countries to the world output (percent change) of advanced economies.

Analysis : The value of mean was the 5.05, at 95 percent confidence interval with a lower difference was the 3.511 and a upper difference was the 6.588 at t value was the 7.759 at df was the 7, with a significance value was 0.000, hence, it can be knew that the proposed null hypothesis was rejected and alternative hypothesis was accepted and concluded that there was a significant difference between the world output (percent change) of low income developing countries to the world output (percent change) of advanced economies.

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Input Table 2: Median Growth Rate of Advanced Economies to Emerging Market and Developing Economies and Low Income Developing Countries.

Year	Advanced Economies	Emerging Market and Developing Economies	Low Income Developing Countries
2007	4.2	6.2	5.2
2008	1.0	5.0	5.6
2009	-3.8	1.8	3.9
2010	2.3	4.8	6.2
2011	2.1	4.5	5.8
2012	0.8	4.1	5.2
2013	1.4	3.9	5.4
2014	2.3	3.6	5.4

Input Table-2: This table describes the world economic outlook of median growth rate of advanced economies, emerging market and developing economies and the low income developing countries.

Out Put Table 4: Paired Samples Statistics of Median Growth Rate of Various Countries

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Advanced Economies	1.2875	8	2.31173	.81732
	Emerging Market and Developing Economies	4.2375	8	1.27048	.44918
Pair 2	Emerging Market and Developing Economies	4.2375	8	1.27048	.44918
	Low Income Developing Countries	5.3375	8	.66962	.23675
Pair 3	Low Income Developing Countries	5.3375	8	.66962	.23675
	Advanced Economies	1.2875	8	2.31173	.81732

Output Table-4: This table explains the paired samples statistics of various economic countries. The median growth rate of emerging market and developing economies was higher than that of the median growth rate of advanced economies, and median growth rate of low income developing countries exceeds the growth rate of emerging market and developing economies and growth rate of low income developing countries exceeds the median growth rate of advanced economies. Hence, it can be concluded that the higher median growth rate was witnessed regarding the low income developing countries followed by the emerging market and developing economies and advanced economies.

Output Table 5: Paired Samples Correlations of Median Growth Rate of Various Countries

		N	Correlation	Sig.
Pair 1	Advanced Economies & Emerging Market and Developing Economies	8	.879	.004
Pair 2	Emerging Market and Developing Economies & Low Income Developing Countries	8	.671	.068
Pair 3	Low Income Developing Countries & Advanced Economies	8	.759	.029

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Output Table-5: This table indicates that there was a very strong relationship existed between the median growth rate of advanced economies to the median growth rate of emerging market and developing economies and had a strong relationship between low income developing countries to the advanced economies and also between the emerging market and developing economies to the low income developing countries.

Out Put Table 6: Paired Samples Test of Median Growth Rate of Various Countries

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Advanced Economies - Emerging Market and Developing Economies	-2.95000	1.34058	.47397	-4.07075	-1.82925	-6.224	7	.000
Pair 2	Emerging Market and Developing Economies - Low Income Developing Countries	-1.10000	.95917	.33912	-1.90188	-.29812	-3.244	7	.014
Pair 3	Low Income Developing Countries - Advanced Economies	4.05000	1.85549	.65602	2.49877	5.60123	6.174	7	.000

Output Table-6:
Hypothesis-1:
Null Hypothesis (H0): There is no significant difference regarding median growth rate from advanced economies to the emerging market and developing economies.

Alternative Hypothesis (Ha): There is a significant difference regarding median growth rate from advanced economies to the emerging market and developing economies.

Analysis : The value of mean was the -2.95 at 95 percent confidence interval of the lower difference was the -4.07075 and upper difference was the -1.829 and value of t was the -6.224 at df was the 7 and a significance value was the 0.000, hence, it can be inferred that the proposed null hypothesis was rejected and alternative hypothesis was accepted and came to knew that there was a significant difference regarding median growth rate from advanced economies to the emerging market and developing economies.

Hypothesis-2:
Null Hypothesis (H0): There is no significant difference between median growth rate of emerging market and developing economies to the growth rate of low income developing economies.

Alternative Hypothesis (Ha): There is a significant difference between median growth rate of emerging market and developing economies to the growth rate of low income developing economies.

Analysis: The value of mean was the -1.10 with a 95 per cent confidence interval of the lower difference was the -1.90188 and upper difference was the -0.29812 and value of t was the -3.244 at df was the 7 with a significance value was the 0.000 and confirmed that the proposed null hypothesis was rejected and alternative hypothesis was accepted and came to knew that there was a significant difference between median growth rate of emerging market and developing economies to the median growth rate of the low income developing economies.

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Hypothesis-3:

Null Hypothesis (H0): There is no significant difference between median growth rate of low income developing countries to the median growth rate of advanced economies.

Alternative Hypothesis (Ha): There is a significant difference between median growth rate of low income developing countries to the median growth rate of advanced economies.

Analysis: The value of mean was the 4.05 at 95 percent confidence interval with a lower difference was the 2.498 and upper difference was the 5.601 at t value was the 6.174 at df was 7 with a significance value was the 0.000, hence, it is inferred that the proposed null hypothesis was rejected and alternative hypothesis was accepted and concluded that there was a significant difference between median growth rate of low income developing countries to the median growth rate of advanced economies.

Out Put Table 7: Paired Samples Statistics of Out –Put Per Capita

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Advanced Economies	.4250	8	2.05548	.72672
	Emerging Market and Developing Economies	3.8750	8	.92543	.32719
Pair 2	Emerging Market and Developing Economies	3.8750	8	.92543	.32719
	Low Income Developing Countries	3.8500	8	.46599	.16475
Pair 3	Low Income Developing Countries	3.8500	8	.46599	.16475
	Advanced Economies	.4250	8	2.05548	.72672

Output Table-7: The per capita of output of emerging market and developing economies exceeds the per capita of output of advanced economies, as well as the low income developing countries and low income developing countries exceeds the advanced economies, finally it can be concluded that the per capita of output of emerging market and developing economies followed by the low income developing countries and advanced economies.

Output Table 8: Paired Samples Correlations of Out –Put Per Capita

		N	Correlation	Sig.
Pair 1	Advanced Economies & Emerging Market and Developing Economies	8	.738	.037
Pair 2	Emerging Market and Developing Economies & Low Income Developing Countries	8	.298	.473
Pair 3	Low Income Developing Countries & Advanced Economies	8	.322	.436

Output Table-8 : There was a moderate relationship between advanced economies to the emerging market and developing economies and had a weak relationship between emerging market and developing economies to the low income developing countries and between low income developing countries and advanced economies and statistically, there was a significant difference between each other.

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Out Put Table 9: Paired Samples Test of Out Put Per Capita

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Advanced Economies - Emerging Market and Developing Economies	-3.45000	1.50807	.53318	-4.71078	-2.18922	-6.471	7	.000
Pair 2	Emerging Market and Developing Economies - Low Income Developing Countries	.02500	.90356	.31946	-.73040	.78040	.078	7	.940
Pair 3	Low Income Developing Countries - Advanced Economies	3.42500	1.95576	.69147	1.78994	5.06006	4.953	7	.002

Findings of the Study

1. The study found that annual percent change of world output of low income developing countries were higher than the emerging market and developing economies and advanced economies, because of advanced economies did not include the countries of the United States, Euro Area, Japan and other advanced economies.
2. The study found very strong relationship between advanced economies to emerging market and developing economies, strong relationship between emerging market and developing economies to the low income developing countries and moderate relationship between low income developing countries to advanced economies regarding the annual percent change of world output and also found that statistically there was a significant difference between each other in a pair except emerging market and developing economies to the low income developing countries regarding annual percent change of world output.
3. The study also identified that the higher median growth rate occurred regarding the low income developing countries followed by the emerging market and developing economies and the advanced economies.
4. The study also identified that there was a positive relationship regarding median growth rate from advanced economies to the emerging market and developing economies, emerging market and developing economies to low income developing countries and from low income developing countries to advanced economies and statistically, there was a significant difference between each other.
5. The study also observed that more output per capita witnessed regarding emerging market and developing economies followed by the low income developing countries and advanced economies and also found that statistically there was a significant difference with each other except emerging market and developing economies to low income developing countries.

Conclusion and Suggestions

Finally, it can be concluded that the higher median growth rate occurred regarding the low income developing countries followed by the emerging market and developing economies and the advanced economies and also identified that there was a positive relationship regarding median growth rate from one economy to another economy with significant difference between each other , more output per capital witnessed regarding emerging market and developing economies followed by the low income developing countries and advanced economies and also found that statistically there was a significant difference with each other except emerging market and

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developing economies to low income developing countries. . It is suggested that world output as well as per capita of output should be increased and maintain equality amongst the countries by taking the necessary steps

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