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Article

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Does Macroeconomic Performance Leads to Human Development: An Empirical Evidence from Asian Economies

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Abstract

The main objective of this study is to empirically investigate whether economic performance in Asian economies is helpful for human development or not. For this purpose, data of 40 Asian economies has been taken from various international sources. Empirical investigation has been done by two-stage least square and validity of estimations have been verified by various diagnostic tests. The analysis has been divided into three parts, i.e. for overall Asian economies, economies with high HDI (above the median HDI) and economies with low HDI (below the median HDI). Results show that credit to private sector and urbanization are the most important and influential macroeconomic indicators for promotion of human development (overall economies, high HDI economies and low HDI economies). Capital formation contributed in human development only in overall economies. The performance of monetary and fiscal sectors proxied by supply of M2 and collection of taxes respectively are not leading to human development but results show that monetary indicator is negatively influencing human development in overall analysis of Asian countries as well as high HDI and low HDI economies. However fiscal indicator has shown insignificant effect in overall economies, positive effect in above the median economies and negative effect in below the median economies.

Keywords: capital formation, quality of life, urbanization, monetary policy, fiscal policy.

1. Introduction

The GDP growth of a nation is meaningful if it is accompanied by an enhancement in quality of human life. No matter what the level of GDP growth is, the improvement in the standard of human life has been the core issue of academic researchers, policy makers,

national and international organizations along with public and social debaters. The theme of UNDP's Human Development Report (2010) is "people are the real wealth of any nation" and every development strategy should be focused on wellbeing of human life. However, for many years, since the start of industrial capitalism, economic growth has remained the major goal of political leaders and policy makers. They believed that to bring large quantity of production of goods and services is the only path through which they can enhance the quality of human life. The innovative techniques of production created tremendous wealth. Political leaders and policy makers viewed this increment as a tool for combating poverty and scarcity of necessities and ultimately enhancing the human welfare. But the reality is different as the wealth may be centered in the hands of some elite groups of societies. It hurts human wellbeing as totality.

In late 1960's and early 1970's, the ideas of economic growth and human development were treated as similar and were alternatively used with each other. It was considered that an increase in GDP ultimately trickle down toward general human development in terms of standard of living and opportunities of health and education. Streeten (1994) opined that it is not necessary that economic upheavals lead to human development in terms of sustainable development. If an economy grows with high rate but health and education status, along with standard of living remain unaffected, it means that economic growth is not sustainable. Many countries experienced such type of phenomenon in their economic history. In the era of globalization none of the studies provided empirical support to trickle down theorem. Empirical investigations on this issue show a different pattern of progress in attaining growth and converting it into human development. The concept has been changed and it put people at the front position of all aspects of the development processes. It becomes people centered rather than goods centered approach towards sustainable development. In this way human development becomes a key factor of sustainable development and it attracted the focus of the research literature in economics.

The emphasis of researchers, development economists and policy makers is that what promotes human development. Another relevant question is, does and to what extent GDP affect standard of living? It is not easy to answer these questions because there are many empirical evidences showing that per-capita income is not only the single factor of human development but access to social services, security, public utilities, opportunities of choice and environment have a significant role in standard of living.

In addition to them, there are a number of national and regional factors of human development. These specific factors vary for economies and contribute differently in determining human development. They are fiscal policy tools, trade openness, foreign aid, privatization, financial development, governance, globalization, natural resources, technology, urbanization and indicators of monetary policy, etc. They may determine the level and direction of human development through per-capita GDP or indirectly via public expenditures for provision of social services. In this background, the analysis for linking the performance of such type of macroeconomic indicators with human development becomes research agenda of the policy makers and researchers particularly of development economists.

The national economic managers in the developed and developing economies are doing hectic efforts for making the macroeconomic indicators favorable. Some of them are supply of money, credit to private sector, tax imposition, exchange rate, terms of trade, foreign reserves, budget deficit, market capitalization and stock market stability, etc.

They are also making efforts for social sector development in terms of education, health and social security. The objective of the current study is to empirically investigate the impact of macroeconomic performance through macroeconomic indicators on human development in Asian economies. To make a comparison of impact of macroeconomic performance on human development among above and below median HDI countries is also an objective of the current study.

2. Theoretical Linkages

The promotion of human development is viewed as the major objective of all type of economic developments. However, the association between human development and economic growth has been remained a critical and debatable issue for policy makers. Moreover, improvement in human development is not only the major objective of economic growth but is a crucial factor for sustainable development. The theoretical linkage between economic growth and human development is shown in figure 1.

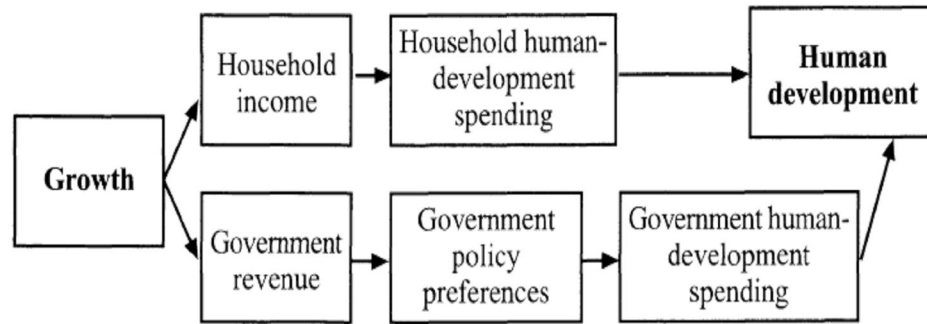


Figure 1: The Linkage between Economic Growth and Human Development

The GDP growth contributes to human development through household income and government spending. At the household level a rise in income of the households due to national economic growth results into an increase in expenditures on human development (Behrman 1993; 1996). At the national level it is generally observed that within economies of same level of GDP per-capita there are different levels of human development. It is attributed to resource allocation within the economy. The expenditures on education and health directly promote human development and quality of life. Income disparity also matters, for instance, it is evidenced that if the income distribution of Brazil would have been equal to Malaysia, the gross school enrolment ratio among the poor children in Brazil would be 40 percent higher (Birdsall, et al. 1995).

The resource allocation for human development is a function of public sector spending. How much of the expenditures flow to the human development, and in which way they are allocated within the sectors are expressed in the form of three ratios, i.e. the social allocation ratio, the public expenditure ratio and the priority ratio (UNDP, 1991). The expenditures which are more productive and worthwhile than others in terms of achieving advancement in human wellbeing are defined as priorities. For instance, primary education is generally considered to make a larger impact on human development as compared to tertiary education so primary education would be the priority. The priority varies according to country's stage of development, rendering this third ratio more

arbitrary than the other two ones. The large variations in each of these ratios exist across countries, which mean that the same level of GDP may be associated with different levels of government spending on human development (UNDP, 1991, 1996). Regarding the way by which expenditures are allocated, it is evidenced that local governments, *ceteris paribus*, tends to favour human development allocations relative to central governments (Klugman, 1994; Ranis and Stewart, 1994; and Habibi, et al. 2003).

The amount and the way of public sector expenditure for improvement in human development may be illustrated by a comparison of Kenya and Malawi through the earlier mentioned three ratios. In the 1980's, almost same proportion of GDP went to public expenditures in both countries (27% in Kenya and 30% in Malawi), but Kenya had a significantly higher social allocation ratio than Malawi (47% as compared to 35%) along with priority ratio (34% as compared to 14%), so the proportion of GDP spent on human development promotion priorities in Kenya was almost over three times than that of Malawi (5.1% as compared to 1.5%) (UNDP, 1996).

The macroeconomic indicators are directly related with how much of the expenditures are being spent on human development and the way they are allocated. For instance, the tax revenue determines the amount available for expenditures on human development. Tax revenue is a component of fiscal policy, so fiscal policy of an economy becomes substantial for human development. Similarly, the monetary policy keeps the general price level smooth in an economy which enhances the effectiveness of the development projects. Same is the case of capital formation which enhances the household income and ultimately the probability of human development at the household level. Urbanization is the socioeconomic indicator related with human development in a multidimensional way. In the urban areas the households have comparatively higher level of income. Furthermore, all the ingredients for human development remain available in urban localities. In this way urbanization may increase the human development. In our analysis we will see whether economic performance through such type of economic indicators affects the human development in Asian economies or not.

3. Model Specifications

To investigate the impact of macroeconomic indicators on human development, annual time series data of 40 Asian economies (for the years 1990 to 2012) has been utilized. The empirical estimations are done in two steps. In first step, data of all selected Asian countries is used for estimation and in the second step, these countries are divided in two groups (group one consists of countries with above median HDI and group two comprised of countries with below median HDI) and estimation is done for each group. For simplicity we call it as overall analysis and high HDI and low HDI countries analysis. Median is most appropriate technique for comparative purposes because it divides the sample in to two equal parts. Above and below median HDI countries are segregated on the basis of HDI value of 2011 for each country.

The sources of data are International Financial Statistics of IMF, World Development Indicators of World Bank, International Labor Organization and Bureau of Statistics. The functional form of the model is shown in equation 1.

$$\text{HDI}_{it} = \beta_0 + \beta_1 \text{PSC}_{it} + \beta_2 \text{GFCF}_{it} + \beta_3 \text{URBAN}_{it} + \beta_4 \text{M2}_{it} + \beta_5 \text{TAX}_{it} + \epsilon_{it} \dots\dots\dots (1)$$

Where

- HDI = Human Development Index of UNDP
- PSC = Credit to Private Sector as % of GDP
- GFCF = Gross Fixed Capital Formation as % of GDP
- URBAN = Urban Population (Percentage of urban population in total)
- M2 = Supply of Money (M2 supply of money \$ million)
- TAX = Total Collection of Taxes as % of GDP
- The control variables have also been included in the model to check robustness of the findings. The control variables are as under:
- REMT = Worker's Remittances Inflow as % of GDP
- ODA = Official Development Assistance as % of GDP
- CAB = Current Account Balance
- GCONS = Government Consumption Expenditures
- POPU = Population Growth Rate
- MCAPT = Market Capitalization of Listed Companies as % of GDP

After compilation of data the diagnostic tests are applied for methodological purpose to have valid and reliable estimations. In the first step, Durbin-Wu-Hausman test is applied for endogeneity. The instrument variable (IV) technique is the appropriate technique to tackle with this issue in absence of heteroscedasticity but if heteroscedasticity exists with endogeneity then generalized method of moments (GMM) is the best estimator for empirical findings.

Pagan-Hall (P-H) test is used for detection of heteroscedasticity in the models and if it is absent then instrument variable IV technique is most suitable for analysis and F value is used to check validity of instruments.

4. Results and Discussion

4.1 Descriptive Analysis

This sub-section covers the descriptive analysis of all the variables used in this study.

Table 1: Descriptive Statistics for Overall Panel of 40 Asian Countries

| Variable | Mean | Std. Dev. | Min | Max | Observations |
|----------|----------|-----------|---------------|----------|--------------|
| HDI | | | | | |
| overall | 66.58603 | 13.95745 | 28.1369 | 89.3597 | N = 880 |
| between | | 13.62444 | 36.37085 | 87.26069 | n = 40 |
| within | | 3.690488 | 54.86804 | 75.24433 | T = 22 |
| PSC | | | | | |
| overall | 51.15183 | 49.80332 | .9629 | 298.4005 | N = 880 |
| between | | 47.51068 | 5.661345 | 193.1586 | n = 40 |
| within | | 16.64434 | - 37.95792 | 161.8178 | T = 22 |
| GFCF | | | | | |
| overall | 23.51055 | 7.221161 | 2.6466 | 57.7091 | N = 880 |
| between | | 5.107422 | 14.91491 | 36.78458 | n = 40 |
| within | | 5.165522 | 6.17808 | 53.90606 | T = 22 |
| URBAN | | | | | |
| overall | 55.63614 | 25.65067 | 8.9 | 100 | N = 880 |
| between | | 25.79196 | 13.62208 | 99.92938 | n = 40 |
| within | | 2.936726 | 43.45642 | 66.85632 | T = 22 |
| M2 | | | | | |
| overall | 63.89228 | 55.69277 | 5.5279 | 323.5771 | N = 880 |
| between | | 52.95872 | 9.488545 | 222.5079 | n = 40 |
| within | | 19.08045 | - 16.42016 | 175.8243 | T = 22 |
| TAX | | | | | |
| overall | 12.39045 | 8.15456 | 0 | 55.7074 | N = 880 |
| between | | 7.888784 | 0 | 39.68205 | n = 40 |
| within | | 2.398067 | 1.729896 | 28.4158 | T = 22 |

Table 1 gives descriptive analysis of all the variables expressing macroeconomic performance. It shows mean of variables, range of variables and standard deviation. In the first step we exclude all variables that have zero standard deviation at any level (overall, between or within) and include variables that have some deviations. The types of standard deviation statistics used are “overall”, “between” and “within”. The “overall” statistics are ordinary statistics that is based on 880 observations. The “between” statistics are calculated on the basis of summary statistics of 40 selected Asian countries regardless of time period, while “within” statistics by summary statistics of 22 time periods regardless of country.

The descriptive analysis given in Table 1 shows the trend, limits and standard deviation. The descriptive analysis of variables shows 66.59 as mean of all 880 observations from 40 Asian countries along with standard deviation of 13.96. The mean value of 51.15 of private sector credit (PSC) indicates that 51 percent of GDP is given to private sector as credit for competitive environment in the economy. Capital formation (GFCF) is 23.51 percent of GDP in overall sample of Asian countries with 7.22 standard deviation and its range lies between 2.65 and 57.71. The 56 percent of population lives in urban areas of selected economies on average with minimum of 8.9 and maximum of 100 percent. M2 is used as proxy for supply of money and it represents monetary sector performance in the

economy. Tax to GDP ratio is very low, that is only 12 percent (tax collection as percentage of GDP) in Asian countries with 8 percent deviation and maximum of 56 percent but there are economies having zero tax collection. The descriptive analysis gives us detailed picture of the variables under investigation and it would be helpful for discussion on empirical findings.

4.2 Results of Overall Analysis of Asian Economies

The objective of this study is to empirically investigate the impact of macroeconomic performance on human development in Asian countries. For this purpose, we have used different indicators of the economy. They are credit to private sector (PSC) for private sector involvement in the economy which indicates government efforts for providing competitive environment within the economy, gross fixed capital formation (GFCF) for capital formation in the economy, urban population (URBAN) showing overall provision of public utilities in an economy, M2 supply of money which indicates performance of monetary policy, and total collection of taxes (TAX) for fiscal sector performance which explains role of fiscal policy and its efficiency.

The study made an empirical analysis at overall level for Asian countries along with comparison of above median HDI countries and below median HDI countries. The results of overall analysis of impact of macroeconomic indicators along with control variables on human development are shown in table 2.

Table 2: Macroeconomic Performance and HDI in the Panel of 40 Asian Countries

| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| PSC | 0.172 (0.001) | 0.166 (0.000) | 0.185 (0.000) | 0.158 (0.000) | 0.173 (0.001) | 0.173 (0.000) | 0.163 (0.000) | 0.184 (0.000) |
| GFCF | 0.084 (0.043) | 0.119 (0.008) | 0.084 (0.047) | 0.085 (0.047) | 0.080 (0.061) | 0.101 (0.027) | 0.062 (0.130) | 0.117 (0.023) |
| URBAN | 0.686 (0.000) | 0.717 (0.000) | 0.696 (0.000) | 0.707 (0.000) | 0.689 (0.000) | 0.756 (0.000) | 0.699 (0.000) | 0.820 (0.000) |
| M2 | -0.149 (0.000) | -0.146 (0.001) | -0.160 (0.000) | -0.146 (0.000) | -0.150 (0.000) | -0.166 (0.000) | -0.141 (0.000) | -0.131 (0.000) |
| TAX | -0.056 (0.169) | -0.052 (0.232) | -0.073 (0.081) | 0.014 (0.755) | -0.062 (0.150) | -0.081 (0.071) | -0.027 (0.519) | -0.129 (0.010) |
| FDI | | -0.217 (0.001) | | | | | | |
| REMT | | | 0.124 (0.030) | | | | | |
| ODA | | | | -0.25 (0.000) | | | | |
| CAB | | | | | -0.011 (0.693) | | | |
| POPU | | | | | | -1.329 (0.000) | | |
| G.CON | | | | | | | -0.351 (0.000) | |
| MCAPT | | | | | | | | -0.067 (0.000) |
| C | 27.899 | 26.191 | 27.100 | 27.262 | 27.887 | 27.476 | 32.286 | 21.686 |
| R-Square | 0.627 | 0.586 | 0.615 | 0.606 | 0.623 | 0.554 | 0.636 | 0.459 |
| DWH Test, p-value | 0.000 | 0.001 | 0.000 | 0.001 | 0.023 | 0.000 | 0.001 | 0.000 |
| F-Value | 145.43 | 128.77 | 131.91 | 131.48 | 125.44 | 114.34 | 166.24 | 89.11 |
| P-H Test, p-value | 0.102 | 0.078 | 0.156 | 0.184 | 0.214 | 0.270 | 0.176 | 0.610 |

Note: i) p-values are given in parenthesis

ii) DWH Test indicates Durbin-Wu-Hausman Test which indicates that if p-value is less than 0.05 there is existence of endogeneity.

iii) F-value indicates Cragg-Donald Wald F statistic in which Staiger and Stock (1997) and Stock and Yogo (2005) suggested that instruments used are weak if the F-statistic value is less than ten.

iv) P-H test is Pagen-Hall test for detection of heteroscedasticity in the data and if P-H Statistics value is less than 0.05 it indicates existence of heteroscedasticity.

The results of overall analysis of impact of macroeconomic indicators (model 1) along with control variables on human development in 40 Asian countries show that private sector credit has been emerged as major contributor for human development. When

government provides credit for private sector promotion it generates competitive environment for industry, agriculture, services and international trade. It leads to quality of products at competitive cost. The growth of the private sector in all economic sectors contributes towards human development in two ways. Firstly if the sector is services of education and health, the human development will directly be enhanced. Secondly, growth of the private sector in all economic sectors results into increased employment and income. It may also enhance the human development. The capital formation also positively influences the human capital but the effect is comparatively weak.

The urbanization is the most dominating indicator for promotion of human development. It explains that when there is an increase in urbanization it leads to provision of education and health services along with quality of life. Urbanization also increases opportunities of employment and skill development which further contributes in human development in terms of health and education.

The performance of monetary and fiscal indicators has no contribution in human development. The M2 supply of money is important macroeconomic indicator of monetary policy. It affects the human development negatively which explains that increase in supply of money is not human development oriented in Asian countries. The explanation may be that in these economies, the central banks are not autonomous but they work under the political influence of the governments. Majority of the governments increase the supply of money for the political purposes and it is utilized for non-development expenditures. On the other hand excessive and lacking target-oriented supply of money creates inflation. Inflation ultimately affects the cost of public sector projects and household's expenditures on food, education, nutrition, health, etc. So supply of money has inverse impact on human development.

The coefficient of collection of tax is negative although insignificant which indicates that fiscal sector in Asian countries is not influencing human development. The reason may be that major portion of tax collection is from industry and external sector and a lot of amount collected by tax is allocated for non-development expenditures in the economies. Taxes are generally considered as price or penalty on citizens and they reduce purchasing power of people. As a result, households have to cut in spending on education and health which lowers human development.

We have also attempted to check the impact of some other variables which may affect human development in presence of macroeconomic indicators under discussion. For this purpose, models 2 to 8 are used by including 7 control variables. The results show consistency in findings of models. The credit to private sector positively contributes in human development in all 8 models. In all models capital formation and urbanization are influencing human development positively but their effects become weaker by inclusion of government consumption. When government spends major portion of expenditures on consumption, limited resources are left for capital formation. So contribution of capital formation becomes insignificant.

At the end, all models are checked by diagnostics to ensure validity of estimations. Durbin-Wu-Hausman (DWH) is used for endogeneity and it is resolved by IV/2SLS estimations. All estimates are found valid with the help of F value. Pagan-Hall (PH) test is used for heteroscedasticity and there is found no heteroscedasticity in all models.

4.3 Results of High HDI Countries

The results of high HDI countries, i.e. Asian countries having HDI above median are shown in table 3.

Table 3: Macroeconomic Performance and HDI in Above Median HDI Asian Countries

| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| PSC | 0.194 (0.000) | 0.190 (0.000) | 0.217 (0.000) | 0.159 (0.000) | 0.188 (0.000) | 0.296 (0.001) | 0.364 (0.005) | 0.171 (0.000) |
| GFCF | 0.082 (0.382) | 0.178 (0.120) | 0.073 (0.453) | 0.011 (0.902) | 0.088 (0.334) | 0.331 (0.158) | 0.561 (0.120) | -0.001 (0.992) |
| URBAN | 1.124 (0.000) | 1.266 (0.000) | 1.171 (0.000) | 1.174 (0.000) | 1.101 (0.000) | 1.912 (0.011) | 2.533 (0.025) | 0.997 (0.000) |
| M2 | -0.185 (0.000) | -0.187 (0.001) | -0.208 (0.001) | -0.174 (0.000) | -0.180 (0.000) | -0.341 (0.013) | -0.294 (0.026) | -0.160 (0.000) |
| TAX | 0.157 (0.119) | 0.194 (0.093) | 0.144 (0.155) | 0.325 (0.021) | 0.163 (0.092) | 0.205 (0.263) | 0.128 (0.556) | 0.144 (0.090) |
| FDI | | -0.317 (0.011) | | | | | | |
| REMT | | | 0.179 (0.444) | | | | | |
| ODA | | | | -0.051 (0.003) | | | | |
| CAB | | | | | 0.017 (0.694) | | | |
| POPU | | | | | | -3.036 (0.054) | | |
| G.CON | | | | | | | -0.171 (0.040) | |
| MCAPT | | | | | | | | -0.285 (0.007) |
| C | 9.732 | 21.391 | 12.932 | 10.704 | 8.322 | 6.362 | 11.889 | 6.285 |
| R-Square | 0.630 | 0.596 | 0.626 | 0.625 | 0.656 | 0.595 | 0.665 | 0.542 |
| DWH p-value | 0.000 | 0.002 | 0.008 | 0.000 | 0.000 | 0.005 | 0.001 | 0.003 |
| F-Value | 19.88 | 17.80 | 15.10 | 19.22 | 16.05 | 5.51 | 4.20 | 33.86 |
| P-H Test p-value | 0.236 | 0.120 | 0.278 | 0.183 | 0.256 | 0.578 | 0.902 | 0.110 |

Note: i) p-values are given in parenthesis

ii) DWH Test indicates Durbin-Wu-Hausman Test which indicates that if p-value is less than 0.05 there is existence of endogeneity.

iii) F-value indicates Cragg-Donald Wald F statistic in which Staiger and Stock (1997) and Stock and Yogo (2005) suggested that instruments used are weak if the F-statistic value is less than ten.

iv) P-H test is Pagan-Hall test for detection of heteroscedasticity in the data and if P-H Statistics value is less than 0.05 it indicates existence of heteroscedasticity.

The results in model 1 of macroeconomic performance and human development show that credit to private sector positively affects the human development and it is consistent

with the findings of overall analysis of Asian countries. Capital formation has shown insignificant effect in all 8 models. The urbanization has been emerged as a major contributor in human development in high HDI countries and intensity of the effect is greater than overall Asian countries.

The indicator of monetary policy, i.e. M2 supply of money is showing negative effect on human development. It is similar to that in overall Asian countries. In overall Asian countries tax collection has no contribution in human development but in high HDI countries it is positively contributing in human development, though the coefficients have a mix of significant and insignificant value.

By introducing control variables the findings of all 8 models become more consistent which express stability of estimations. All models are checked for diagnostics to ensure validity of estimations. Durbin-Wu-Hausman is used for endogeneity and it is resolved by IV/2SLS estimations. All instruments are found valid with the help of F value. Finally Pagen-Hall test is used for heteroscedasticity and there has been found no heteroscedasticity in all models.

4.4 Results of Low HDI countries

The results of impact of macroeconomic indicators along with control variables on human development in low HDI countries, i.e. the countries having HDI below the median are shown in table 4.

Table 4: Macroeconomic Performance and HDI in Below Median HDI Asian Countries

| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| PSC | 0.354 (0.000) | 0.530 (0.006) | 0.371 (0.000) | 0.456 (0.000) | 0.340 (0.000) | 0.311 (0.004) | 0.366 (0.000) | 0.370 (0.000) |
| GFCF | 0.140 (0.214) | 0.184 (0.299) | 0.069 (0.613) | 0.237 (0.170) | 0.166 (0.201) | 0.125 (0.222) | 0.161 (0.201) | 0.113 (0.331) |
| URBAN | 1.126 (0.000) | 1.925 (0.015) | 1.396 (0.000) | 1.887 (0.002) | 1.425 (0.000) | 1.167 (0.001) | 1.437 (0.000) | 1.293 (0.000) |
| M2 | -0.390 (0.000) | -0.624 (0.016) | -0.413 (0.000) | -0.582 (0.003) | -0.468 (0.000) | -0.339 (0.015) | -0.411 (0.000) | -0.347 (0.000) |
| TAX | -1.199 (0.002) | -2.007 (0.057) | -1.371 (0.006) | -1.636 (0.027) | -1.381 (0.004) | -1.059 (0.042) | -1.130 (0.007) | -1.111 (0.003) |
| FDI | | -1.244 (0.124) | | | | | | |
| REMT | | | -0.266 (0.069) | | | | | |
| ODA | | | | -0.113 (0.021) | | | | |
| CAB | | | | | 0.233 (0.098) | | | |
| POPU | | | | | | -0.933 (0.049) | | |
| G.CON | | | | | | | -0.794 (0.010) | |
| MCAPT | | | | | | | | -0.092 (0.025) |
| C | 27.752 | 21.035 | 28.569 | 17.889 | 26.030 | 30.309 | 30.222 | 25.435 |
| R-Square | 0.662 | 0.568 | 0.663 | 0.653 | 0.735 | 0.619 | 0.698 | 0.665 |
| DWH p-value | 0.003 | 0.001 | 0.021 | 0.000 | 0.001 | 0.001 | 0.000 | 0.002 |
| F-Value | 15.02 | 4.27 | 11.02 | 6.40 | 11.83 | 7.35 | 11.11 | 14.36 |
| P-H Test, p-value | 0.231 | 0.705 | 0.451 | 0.696 | 0.117 | 0.723 | 0.352 | 0.380 |

Note: i) p-values are given in parenthesis

ii) DWH Test indicates Durbin-Wu-Hausman Test which indicates that if p-value is less than 0.05 there is existence of endogeneity.

iii) F-value indicates Cragg-Donald Wald F statistic in which Staiger and Stock (1997) and Stock and Yogo (2005) suggested that instruments used are weak if the F-statistic value is less than ten (Stock, Wright and Yogo).

iv) P-H test is Pagen-Hall test for detection of heteroscedasticity in the data and if P-H Statistics value is less than 0.05 it indicates existence of heteroscedasticity.

The results explain how performance of different macroeconomic indicators is affecting human development in 20 low HDI Asian countries. The results of model 1 in table 4 shows that credit to private sector positively influence the human development like the findings of 20 Asian countries with high HDI. Capital formation has shown insignificant

effect in all 8 models. The results have shown that urbanization is a major contributor in human development.

It is also found that monetary and fiscal policy indicators have not played a good role for human development. The coefficients of supply of money and tax collection are negative in all the 8 models for low HDI countries. It explains that they are restricting the promotion of human development. For the indicators of monetary policy the supply of money has negative effect on human development in overall Asian economies as well as above and below median HDI countries. By comparing the findings of both groups (above and below median HDI countries) it is observed that tax collection has positive effect on human development in high HDI countries but negative effect in low HDI countries. In low HDI countries the fiscal policy create hurdle in human development in two ways. Firstly, major portion of the tax collection is done from investors, industrialists and multinational corporations and secondly tax revenue is spent on most of the non-development projects.

By introducing control variables the findings of all 8 models become more consistent which show stability of estimations. All models are checked for diagnostics to ensure validity of estimations. Durbin-Wu-Hausman is used for endogeneity and it has been resolved by IV/2SLS estimations. All estimations are found valid with the help of F value. The Pagan-Hall test is used for heteroscedasticity and it is found in none of the models.

5. Conclusion and Policy Implications

The objective of the current study was to see the impact of performance of macroeconomic indicators on human development in Asian economies. All Asian countries under analysis were divided into two groups, i.e. above median HDI and below median HDI economies. The analysis was done for overall economies, high HDI economies and low HDI economies.

It is found that urbanization is the most important and influential factor for promotion of human development in overall Asian countries and in both groups of economies, i.e. above and below median HDI economies. Urbanization provides access to quality health, nutrition, and education services, along with healthy living environment and skill development opportunities. As a policy proposal it is recommended to enhance the urban utilities to maximum of the population of the country for up-gradation of human development.

Private sector credit for promotion of private sector and market competition in the economy is the second major contributor in human development in overall Asian economies as well as above and below median HDI countries. The development of private sector enhances competitive environment in all the economic sectors and it makes favorable environment for health, education, food and income generation.

Capital formation is contributing in human development in overall Asian economies only. The fiscal and monetary sectors are contributing in human development in a mixed pattern. Tax is negatively affecting the human development in below median HDI countries. It explains the poor fiscal management in Asian economies particularly in low HDI economies. Monetary policy proxied by supply of money is negatively affecting HDI in overall economies as well as above and below median HDI countries. So supply of money by central banks should be carefully managed.

REFERENCES

- Behrman, J. R., (1993). The economic rationale for investing in nutrition in developing countries. *World Development*, 21(11), 1749-1771.
- Behrman, J. R., (1996). Measuring the effectiveness of schooling policies in developing countries: Revisiting issues of methodology. *Economics of Education Review*, 15(4), 345-364.
- Birdsall, W. F., (1995). A Political Economy of Librarianship? *Hermes: revue critique*, 6, [Online] Available at: <http://pages.globetrotter.net/charro/HERMES6/birdsall.htm>.
- Habibi, N., Huang, C., Miranda, D., Murillo, V., Ranis, G., Sarkar, M., & Stewart, F. (2003). Decentralization and human development in Argentina. *Journal of Human Development*, 4(1), 73-101.
- Klugman, J. (1994). Decentralization: A survey of literature from a human development perspective. *UNDP Human Development Report Office*.
- Ranis, G. and F. Stewart, (1994). Decentralization in Indonesia. *Bulletin of Indonesian Economic Studies*, 30(3), 41-72.
- Ranis, G., & Stewart, F. (2000). Strategies for success in human development. *Journal of human development*, 1(1), 49-69.
- Staiger, D., & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica*, 65, 557-586.
- Stock, J. H., & Yogo, M. (2005). *Testing for weak instruments in linear IV regression*. NBER Technical Working Paper No. 284.
- Streeten, P. (1994). Human development: means and ends. *The American Economic Review*, 84(2), 232-237.
- Streeten, P. (1994). Human development: means and ends. *The American Economic Review*, 84 (2), 232-237.
- UNDP, (1991). Human Development Report. Oxford University Press, Oxford.
- UNDP, (1996). Human Development Report. Oxford University Press, Oxford.