



Szent István University
Management and Business Administration
Ph. D. School

Ph.D. Dissertation

**CORRELATIONS BETWEEN THE STATE DEBT AND ECONOMIC
STABILITY IN ASIAN AND AFRICAN DEVELOPING COUNTRIES**

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Gödöllő - HUNGARY

2017

Szent István University
Doctoral School of Management and Business Administration

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1. INTRODUCTION

The researching study in my Dissertation would like to analyse some economic and financial aspects, approaches of some main 30 selected developing countries of which half are 15 Arab countries and 7 from these once are Arab OPEC member states. This study compares the Arab countries with main other non-Arab developing countries, of which have somehow emerging important role in the world economy, for example China, India, Iran and Nigeria. Because of the Arab Countries are lying in the continents, Africa and Asia, therefore the objective of the Dissertation focuses on analysing to compare Arab countries and with mainly most important Asian countries. Nigeria is not Arab and Asian country, but this is an important OPEC crude oil exporting country, therefore Nigeria is also analysed in the Dissertation.

The analyses the developing economic trends of the selected Asian and African countries by comparing their economic and financial issues and characters, in which are emphasized between 2006 and 2016.

The main Object of the study is the *government debt in selected Asian and African developing countries*. The aim of the study analyses the **government debt** growing rate of in selected Asian and African developing countries comparing with debt trend of the other developing economies. Also the study clears the main economic, *political and world economic reasons for creating the intensive increasing rate for the government debt*. The management process or political *financial strategies are to avoid of more increasing debt* of this country-group.

Actual economic situation is concerning with decreasing the domestic consumption, which can lead to decreasing the import of countries, therefore restructuring economic sectors should increase the export with those products having competitiveness possibilities of in selected Asian and African developing countries on the world market. The selected developing economies made considerable force to manage the *element of government debts and financial arrangement to decrease debt* by changing the *rates of national currencies and decrease the share of the government debt in percent of GDP*. Data base is set up on *financial reports* of national financial institutions in selected Asian and African developing countries.

The object of the study is important because this can focus on the main important correlations among different variances as elements of economic activities and performance of different selected countries. The different variances of this study are labour productivity, consumption, government debt in GDP, Tax revenues of the governmental budget, GDP per employed people, GDP growth rate, growing rate of the Balance of the Payment, Balance of Payment in % of GDP, FDI Inward flow and FDI Outward flow (10 variances).

The study focuses on the comparing different economic conditions of different selected developing economies in Asia and Africa, which are as follows: Algeria, Bahrain, Bangladesh, China, Egypt, India, Indonesia, Iran, Iraq, Jordan, Korea, Republic (South Korea), Kuwait, Lao People's Democratic Republic, Lebanon, Malaysia, Morocco, Myanmar, Nigeria, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Sudan, Thailand, Tunisia, Turkey, United Arab Emirates, Vietnam and Yemen. This list of selected countries includes some main important countries of Africa, Asia and Middle East and North- Africa. Some of them are newly industrialised countries as more ambition economies of the developing world, as Korea, Republic (South Korea). Also this large size country group includes such economies, which have considerable crude oil stock, by which they can make influences on the world market conditions and distribution of incomes coming from the mining sector and specially crude oil production and manufacturing process, like Saudi-Arabia, Nigeria, Indonesia, United Arab Emirates, Bahrain, Iraq, Iran, Qatar, Kuwait and Algeria. The other large economies with considerable internal domestic market are for example China, India and Pakistan. The smaller countries also contribute the whole economic conditions of those regions, where they are existing.

During the study work Visits are needed to some statistical offices to collect more data – as Libraries, Statistical Offices, Universities, Several companies issuing data base for international financial issues connecting with *government debt*, *balance of payment* of different countries, from which the in selected Asian and African developing countries. Use international data bases in different official institutions for setting up the model of the state debt and negative balance of payment. How the payment is going on from side of debated countries for financial resources given by international bank and financial institutions. In this study some different tables and figures are for describing the financial movements in in selected Asian and African developing countries and in the world economy for decreasing the

state debt and negative balance of payment. Also these different scientific sources are collected in the references relevant to scientific research given in the study. Also the collect the data base from different statistical year books, mainly from World Bank and International Fund.

The study of the Dissertation has objective to set up rang for the 30 selected developing countries based on the SPSS statistical system (SPSS = Special Program for the Social Sciences). The study would like to analyse that how these developing economies can develop their performance with their financial conditions as main issues for the development and how the essence of these economic developments is by overviewing Labour productivity, GDP growing rate, GDP per employed concerning the FDI inflow and outflow.

The FDI inflow and outflow have important role for the economic growth of any country, because the FDI inflow can ensure more foreign financial capital resources for the general national economic development. On the hand in this case any country does not have to obtain more credits with more interests for its economic development, if the FDI of international or transnational corporations or companies finance this once. Therefore the FDI given by foreign companies will be less costly, than to obtain credit with interests to realise national investments, in spite that the foreign company will be free of taxes even within decade or decades. On the other hand any country should get more credit if less FDI of foreign companies come into developing counties.

The study would also like to analyse the role of FDI inflow for the national economic development of developing economies. Also there is another importance of the FDI for national economic development, namely the advanced technology of FDI is invested in the developing countries. Therefore the financial and advanced technological one-side dependence of developing countries can be less by their cooperation with foreign companies for extending FDI inflow into developing economies. These economic and financial developing trends would be analysed in the Dissertation.

In the Dissertation the *unit of measurement* is based on the financial calculations coming from different *international statistical materials published* mostly by UN, as World Bank, UNCTAD and ILO, therefore originally the basic financial calculations are set up the US Dollar (US\$). But because the further calculation is my *owned calculation concerning the*

growing rate, the average fluctuating changes in prices, GDP and labour productivity and others, therefore the later calculations are based in percent, all of the data bases are set up percent system in my Dissertation. The SWOT analyses also are methods of the analyses. The subchapters are connecting with each other, as chain determined by the SPSS system.

The prepare the *model of the government debt conditions* of in selected Asian and African developing countries and their national financial and economic reasons. In the study work it is needed to describe the international and *world economic background for creating the increasing or decreasing government debt situation* of in selected Asian and African developing countries. The statistical analyses including SPSS (*Special Program for Social Sciences*) are to describe the whole model for the *structure of the government debts and negative balance of payment* in in selected Asian and African developing countries.

The study analyses some comparisons among selected Asian and African developing countries and other developing countries. Naturally the compare needs for analysing some differences among developing and developed economies in fields of the economic growth in the light of employment conditions and financial situation.

Analyse the possibilities for using experiences in selected Asian and African developing countries to *manage the balance of the government debt and decreasing negative balance of payment*:

- How describe these *financial situations, how the solutions, and how the avoiding of the increasing the government debt and negative balance of payment* in selected Asian and African developing countries and their possibility in other developing countries.
- The *FDI (Foreign Direct Investment) inflow and outflow concerning the changing investment activities* can provide possibilities for solution for the government debt and negative balance of payment by *increasing the employment ration with increasing personal income taxes*.
- Role of the central banks and national banks for decreasing the government debt and negative balance of payment by different means for example the *credit conditions for the population or fluctuate the national currency rates* in national economies.
- Describe any *international activities* or co-operations for moderating the government debt and negative balance of payment.

- The question is that the price system and the population domestic consumptions, the inflation and GDP growing rate can make create correlations among themselves to decrease the level of the government debt and negative balance of payment.

- The economic growth should follow the *environment-friendly innovative development*. Actually the global warming is depending on human activities based the increasing production and consumption, which leads to increasing rate of gas emission to growing the role of the GHG (greenhouse gas) emission. All of the negative influences coming from the GHG emission lead to global warming and the increasing level of the sea, which can cover more areas of the continents to decrease the cultivable areas for food and agricultural production. Finally the space and areas decrease for the possible life conditions of the mankind. Therefore the study can concern the environmental conservation strategy of developing economies.

Some questions can emerge in this study concerning the financial and economic conditions of the selected developing economies. The analyse extends from 2006 until 2015-2016 period, which can overview the different economic development processes, which emphasize the labour productivity and by its developing trend the consumption volume increase, which also can stimulate the economic growth in these selected economies.

The question can emerge that how the *labour productivity* and FDI inflow and outflow can realise the successful economic growth and favourable tax-revenues of the national governments in the selected countries?

The *other question can be that what reasons were* for the good prosperity of selected countries after the economic crisis in 2009?

Also the other question can emerge that how the tax revenues can have correlations with increasing the negative balance of the government debt in percent of the GDP? Also how the less FDI inflow into countries can stimulate the less GDP per employed people?

There are *some hypotheses* concerning the possible analysing issues with several economic variances in cases of the selected developing economies, which are as follows:

.- Hypothesis 1. It would be demonstrated that *labour productivity* by ensuring satisfactory *competitiveness* of the domestic products produced of these selected countries on the world market, cannot always ensure sufficient *tax revenues* to decrease the negative *balance of the payment*. Also it would be demonstrated that in these thirty selected developing countries, where the level of the labour productivity decreased, this made negative influences on the level of growing rate of these economies based on the increasing *government debt in GDP* and increasing the negative *balance of payment in GDP*. If any country has even decreased the *balance of payment*, while increased the labour productivity, these can affect creating a considerable decreasing share of the government debt in GDP.

.- Hypothesis 2. It would be demonstrated that by the increasing *labour productivity* the *production process* can also increase accompanying with the *positive balance of payment calculated in GDP*, which mostly leads to increasing rate of *GDP per employed* and *GDP growing rate*. Also if the better revenue possibility of the foreign firms is, this can affect them to increase the *FDI inflow (Foreign Direct Investment)* into these selected developing countries. Also if their revenue possibility can be less favourable their *FDI outflow* will realise from the national economies to other countries either in Asian and African one or to the other region of the world economy.

.- Hypothesis 3. It would be demonstrated that if the better economic conditions concerning the *labour productivity* decreases the *negative balance of payment* or increase the positive balance of payment calculated in percent of GDP for the national economies of the Asian and African countries. Therefore the government debt in GDP decreases in percent of GDP in this period. Generally those countries, which have mostly considerable *positive balance of payment in GDP*, the *government debt* will be less amount *in the GDP*.

.- Hypothesis 4. The *labour productivity* does not necessarily increase the level of the domestic *consumption and the employment*. Sometimes it may happened, that the domestic consumption and the employment can decrease labour productivity considerably. It is demonstrated that when the *employment* rate decreased, this can contribute to the decreasing the *consumption* level in cases of the selected developing economies. Also when the *employment* rate increased, this can contribute to the increasing the *consumption* level in cases of the selected developing economies.

.- Hypothesis 5. The increasing *FDI inflow* did not affect influence to increase the *employment* rate in the developing economies in sometimes. The correlation between increasing *government debt* and higher deficit of the *balance of payment* may depend on the actual *tax revenues*.

By the end of the study it is to write answer for hypothesis, as thesis and new results, and write conclusions for the main meanings of the Dissertation. The possible future prosperity can be summarised for decreasing the state debts and balance of payment.

2. RESEARCH METHODS

In this research the SPSS (Special Program for Social Sciences) scientific methods are used by ten variances within four components for analysing the performance of different selected thirty Asian and African economies. The structure of the research methods is setting up as it is follow:

FIRST Component

LabProductiv-1	Average Labour Productivity in 2006-2016 in Dollar (2011)
GovDebtinGDP- 2	Average Central government debt, total in % of GDP 2006-2015
BalaPayInGDP- 3	Average of Balance of Payment in GDP, 2005-2015

SECOND Component

GDPperEmploy-4	GDP per Employed from 2006, 2015/2006, 2006= 100
GDPgrowth015 -5	Average GDP growth rate between 2006.-2015. in %
FDIinflow15 - 6	FDI Inward flow 2005-2015, and 2005= 100
FDIoutflow15 - 7	FDI Outward flow 2005-2015 and 2005= 100

THIRD Component

ConsumPr0611 -8	Average of consumer price in 2006-2011 in %
TaxRevenue -9	Average Tax revenue in % of GDP 2006-2016

FOURTH Component

BalanPayment- 10	Balance of Payment 2006-2015, and 2006= 100
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Also in the research some other methods are used mostly compare system among selected 30 economies based on the variances. These variances emphasize the correlations, significance, compare and difference in cases of these selected economies. The main compare for differences among these countries is mostly the labour productivity, GDP growth, GDP per employed, government debt, tax revenue, balance of payment, consumer price fluctuation and FDI inflow and outflow process among economies, which this last one is not only among these selected economies but with rest of the world economy. The variance analyses, correlation and regressive calculation, factor analyses and cluster analyses are based on the SPSS research and data analysing (Sajtos – Mitev, 2006).

There are several other experts, for example one of the most favourable experts, namely Salvatore, Dominic (Salvatore 2011), who pointed out that even *Balassa* focused on the positive connections between *labour productivity* and *exports* for the United States of America and the British Economy (UK), which was confirmed by subsequent studies by *Balassa* using 1950 data and *Stern* using 1950 and 1959 data. Also the actual Ricardian trade model was emphasized by *Golub* for the foreign trade between the United States and Japan using data for 33 industries during the last decade of the XX century. Also data coming from 1990s by *Golub* and *Hsieh* for foreign trade among the US and nine other countries (Japan, Germany, the UK, France, Italy, Canada, Australia, Mexico, and Korea) using data for 39 sectors between 1972 and 1992. Thus, production costs other than labour costs, demand considerations, political ties, and various obstructions to the flow of international trade did not seem to break the link between relative labour productivity and export shares (Golub, 1995; Stern -Tubiana, 2008; Balassa, 1962; Haberler, 1935).

Also Salvatore, D. (Salvatore 2011, Salvatore, 2003; Golub- Hsieh, 2000) over his theorem of comparative advantages, who extend his theory with *Heckscher-Ohlin model* concerning the foreign trade, as he wrote:

“The factor-price equalization theorem of the *Heckscher-Ohlin* (H-O) model postulates that *international trade will bring about equalization in the returns to homogeneous or identical factors across nations*. What this means is that international trade will cause the wages of the same type of labour (Labour with the same level of training, skills, and productivity) to be the same in all trading nations (in the absence of trade restriction, transportation costs, and other assumptions). Similarly, international trade will cause the return or earnings of homogeneous capital (Le, capital of the same productivity and risk) to be the same in all trading nations. Both relative and absolute factor prices are equalized.”

My opinion that the foreign trade included in the accounting for the balance of the payment for any national economy – has important role to stimulate the economic growth, but *the main essence of the economies is to increase the labour productivity*. Because the labour productivity can basically provide the possibility to ensure the international competitiveness for companies of any national economy. Without labour productivity there is no competitiveness either on the world market or domestic market, because the large sized

foreign international corporations and foreign transnational corporations mostly appear competitors on the domestic market, with their cheaper and higher qualified products and therefore they can press out the national small and medium or large sized companies even from their own national markets.

Therefore the labour productivity and its continuous development can only ensure competitiveness of the domestic-national companies on the world market, and if they could obtain international market positions, just after that they can obtain secular competitiveness on the domestic markets, as well. This means that the first the domestic national companies should produce products and provide services for the domestic market relevant to the qualified demands of the world market, and therefore they could obtain competitiveness on the world market and domestic market in the same time. From this point of view the domestic markets cannot be separated from the world market.

From this opinion of mine the study also emphasizes on the analysing the developing trends of the labour productivity in direction to the GDP growth and possible positive balance of payment.

3. RESULTS AND DISCUSSION

3.1 Correlations and Significance among 30 selected Asian and African economies

The different tables show the correlations and significance among 30 selected Asian and African countries based on the SPSS analysing system using ten variances within four components. The data base summarises the main statistical data concerning each country with their data belonging to the ten variances and five clusters for 30 countries.

.- The data well shows Correlation among the variances. If the values of the correlations are closed to 0,500- this means 50% or more, the correlations are strong or if these are down the level of 0,500 the correlations are weak. The value as 0,448 can middle strong among the variances. Naturally the correlations are strong by 0,596 (59,6%) between GDPperEmploy and the GDPgrowth15, because the GDP growth rate stimulates the increasing level of the GDP per employed person/capita. Also if the GDP per employed increases, this means that the GDP growth should increase. Also the same strong correlation is by 0,595 (59,5%) between two variances namely GDPgrowth015, because if the GDP growth rate increases, this concentrates the capital accumulation, which becomes as enough financial bases for creating a good background for increase of FDIoutflow15.

.- There are other strong correlations among variances, for example in cases of LabProductiv (Labour Productivity) and BalaPayInGDP. This means that if the labour productivity increases either at level of firms or at level of the whole economy, this process stimulates to increase the price income for the firms and by selling their products the VAT – value added taxes – increase for the governmental budget, the export can increase by strengthening the competitiveness of domestic firms on the world market, therefore the balance of governmental budget and balance of the government debt and the balance of foreign trade can increase into the positive direction. Also some domestic financial reserves can increase. All of these financial elements make considerable positive influences on the creating the positive balance of the payment at the level of the domestic performance of the 30 selected Asian and African countries. This can be easierly understood, when the strong correlation is inversely between GovDebtinGDP and BalaPayInGDP, because the government debt in GDP increases, this leads to the decreasing level of the balance of payment in GDP. If the government debt

decreases in % of GDP, the balance of payment in GDP can be increasing to the positive balance of payment in GDP. This contradiction between two variances emphasizes the considerable role of the government debt for creating the balance of payment calculated in GDP.

.- Also there inversely is a logical strong correlation between labour productivity and GDPperEmploy in selected 30 Asian and African countries, which means that if the labour productivity increases, the GDP per employed decreases. *In case this large country-group if the labour productivity increases, the employment level increases, therefore the GDP per employed decreases.* This is true in case of this country-group based on the statistical databases, because if the labour productivity increases, this increase is more than the increase of the GDP per employed or the GDP per employed decreases. It has reason that the labour productivity does not increase in all of the sectors in this country group, only the main emphasized or main dominant sectors have increase in labour productivity. For example in China the labour productivity increased by 18,2%, while the GDP per employed increased by six times more than the labour productivity. In Kuwait the labour productivity increased by 157,5% the GDP per employed decreased by 23,8% in the same period.

.- In the *Figure-4-1-1*, the factor analysis shows the correlations among different 30 selected Asian and African countries based on the REGR factor score 1 and REGR factor score 2. The first component includes the variances, namely **LabProductiv**, **GovDebtinGDP** and **BalaPayinGDP** on the principle “X” line and the second component includes other variances **GDPperEmploy**, **GDPgrowth015**, **FDIinflow15** and **FDIoutflow15** on the principle “Y” line.

In the selected countries over principle “X” line on the right side until “Origo” the LabProductiv and BalaPayinGDP mostly increase, while the GovDebtinGDP decreases. Also in these countries the GDPperEmploy, GDPgrowth015, FDIinflow15 and FDIoutflow15 increase. This means that the increase of the LabProductiv and BalaPayinGD and decrease of the GovDebtinGDP can make influences on the increasing the other variances of the second component. *By the increasing labour productivity the production process can also increase*

.- From the second component the variance GDP per employed from 2006 to 2015, where the 2006 = 100, the most important crude oil economies, as Saudi Arabia and Qatar have less GDP per employed by 17,3% in Saudi Arabia and 7,3% in Qatar, than one of other economies

of this country group, because originally both of them have highly level of GDP per employed, which cannot increase so considerably comparably to other developing countries' results. For example GDP per employed was 66,7% in India, 64,1% in Myanmar, 44,5% in Bangladesh. Also other two crude oil exporting countries, namely Indonesia has 37,9% and Nigeria has 33,9% in 2015 from 2006 (100%), because the crude oil export could ensure considerable development for GDP per employed, but from the lower level than one of Saudi Arabia and Qatar. *Naturally the GDP per employed is always depending from the world price of the crude oil, which can be followed the economic growth of crude oil exporting countries. Also the similarly to above mentioned it can be declared that the average GDP growth rate between 2006-2015 in %, as variance namely GDPgrowth015, was considerable in cases of the crude oil exporting economies, for example 12,4% in Qatar, 5,2% in Saudi Arabia, 5,96% in Nigeria and 5,63% in Indonesia. But other countries have higher growing rate than in cases of crude oil economies, because their economic backwardness was more considerable, for example 8% in Myanmar, 7,4% in India and 6,2% in Bangladesh. Also it should be mentioned that Qatar could reach 12,4% for GDP growing rate in this period from all of the 30 selected countries, but this is a small country against India with its population more than one billion people or Indonesia, where 200 hundred million people are living.*

.- In cases of those countries, where the balance of payment in GDP and therefore the average central government debt in GDP is at low level and also their domestic market size is small concerning the measure of the population, these countries have considerable FDIoutflow15 (variance). For example it is proofed in cases of Qatar by 116% by 41,3% increasing FDIoutflow15, Saudi Arabia by 41,3% and Nigeria by 55,5%. India has average central government debt in GDP by 54,47%, which led to high level of the FDIinflow15 by 48% and FDIoutflow15 by 15,1%. Naturally in case of India the highest GDP per employed by 66,7% was resulted by the highest FDIinflow15 by 48% based on the 54,47% central government debt in GDP in this period, in this third country group (see Figure-4-1-1, Figure-4-1-4, Figure-4-1-5 and Table-4-1-1, ILOSTAT, 2016 and World Development Indicators, 2016). The positive balance of payment in GDP and the FDIoutflow15 are the highest from those countries, where the central government debt is lowest – Qatar, Saudi Arabia and Nigeria. In those countries, where the central government debt in GDP is high or considerable, the FDIinflow15 is more considerable, for example, in cases of India, Bangladesh and Indonesia. In case of Bangladesh the FDIoutflow15 is very low comparably to other countries of the third country-group.

.- Additionally to the GDP growth and FDI outflow of China, also China has realised the highest level of growth for the *GDP per employed* by 109,3% since 2006, which is more than any other country from the 30 selected one in the same period. Also this GDP growth per employed was needed for China, because the demands of the wide side national market and domestic consumers should be met by the Chinese industrial supply. Also this considerable GDP per employed is needed for the consequence and dynamic export oriented foreign strategy and policy to supply the demands of more wide side world market. In this case the Chinese industry wanted to obtain more share of the world market, while the demand of the domestic market should be supplied.

Naturally the LabProductiv, as average labour productivity in the period of 2006 and 2016 has a considerable role for creating a better and more favourable competitive position of any country on the world market. China could have obtained a considerable and consequence development trend in field of the labour productivity by 18,2% for the same period. In spite that this growing rate is not seemed as highly level, but to realise this result in the large sized economy of China, this result is very considerable one even comparably to the results of the selected 30 countries.

.- In the *Figure-4-1-2*, the factor analysis shows the correlations among different 30 selected Asian and African countries based on the REGR factor score 1 and REGR factor score 3. The first component, as was written includes the variances, namely **LabProductiv**, **GovDebtinGDP** and **BalaPayinGDP** on the principle “X” line and the third component includes other two variances, namely **ConsumPr0611** and **TaxRevenue** on the principle “Y” line. In the selected countries on principle “X” line on the right side, over line “X”, until “Origo” those countries, where the LabProductiv and BalaPayinGDP mostly increase, while the GovDebtinGDP decreases, on the principle “Y” line until over “Origo” the ConsumPr0611 decreases or mostly the consumer price level increases little and the TaxRevenue increases.

.- EXAMPLES of the countries: In this session Qatar has reached the increasing level of 8% in field of ConsumPr0611, as average consumer price increase for the period of 2006-2011, while the TaxRevenue reached considerable increase by 18,23%. Therefore this last data takes Qatar into this session. Also Kuwait has little increase in the ConsumPr0611, namely by

5,35% with 1,2% in field of TaxRevenue, United Arab Emirates has 10,9% increasing trend in field of ConsumPr0611 with 0,35% in field of TaxRevenue. This means that these three countries reached little increase in TaxRevenue, but Qatar has more than the other two, and also they had little increasing trend in ConsumPr0611 and because of the little increase trend was in their cases, therefore these countries are in session over the line “X”. Also the positions of the countries in the score system are determined by their data base concerning the three variances of the first component (see Figure-4-1-1, Figure-4-1-2, Table-4-1-1 and Table-4-1-8: Rotated Component Matrix).

.- some countries can be here, because the ConsumPr0611 can decrease or increase but by little measure. Here the important example is case of Korea, Republic of, because it has less increase ConsumPr0611, but this country has considerable increase by 14,52% in TaxRevenue. China has also less increase trend in field of ConsumPr0611 and more increase in field of TaxRevenue, therefore this country is here, because of the low level increase of its ConsumPr0611, but highly increase of TaxRevenue. In general the tax revenues did not increase considerably comparably to one of the other countries. Also Algeria reached the second biggest TaxRevenue increase by 38,36%, but less little increase by 3,6% in ConsumPr0611, therefore this country with Korea Republic of in this session. The large considerable measure shows how the governments of the countries want to realise the direct economic intervention into the economies and the national performances of these countries, in spite that countries are set up free market oriented economic strategy.

In general, it can be declared that the increase of the Tax revenues can be higher than the increasing trend of the ConsumPr0611 in the period of 2006 and 2011. The TaxRevenue increased considerably in cases of Vietnam by 21,2%, Turkey by 20,2%, Tunisia by 20,1%, Thailand by 15,7%, Malaysia by 14,7%, Philippines by 13%, Pakistan by 9,8%, Sudan 9,5% and Iran by 6,68%. Naturally those countries, which have no so considerable increase in the TaxRevenue, for example in case of Iran, but this country has important increase in ConsumPr0611 by 15,3%, which is the second biggest increase after 17,9% in Iraq. Iran is in this session with Vietnam, because the balance of payment in GDP, as variance of first component increased little (see Figure-4-1-1). In spite that Iran has considerable increase in ConsumPr0611, this country can be expected under line “X” to the left side from “Origo”, but it has less increase in balance of payment in GDP.

.- The ConsumPr0611 increased by 9,6% in India, by 9,4% in Nigeria, by 7,9% in Indonesia, by 7,7% in Bangladesh, by 5,4% in Oman, by 5,3% in Saudi Arabia, and by 2,74% in Bahrain. In general the TaxRevenue can be declared that it has decreasing trends in the international compare, when the other countries of the selected 30 countries have more considerable increase in the tax revenue. Because TaxRevenue increase was little as 1,18% in Bahrein, 2,55% in Oman, 3% in Nigeria, 7,95% in Bangladesh, 11,4% in Indonesia, and 12,2% in Saudi Arabia. In general the data base concerning these two variances of the third component is closed to each other, not to big differences among data of two variances. The TaxRevenue did not increase so considerable and the ConsumPr0611 did not increase so much. Generally in those countries, where the consumption price increased, the tax revenues were decreased by the national governments. In case of Indonesia, where the tax revenue increase was higher, the consumption price level increased less than the first one. Also it is the same in Saudi Arabia; tax revenue increase was higher than the consumption price level increase. It was opposite to Nigeria, where the consumption price level was higher than the tax revenue in the same period. This means that the national governments want to remain the purchase power parity of the population.

.- Generally also the similar conditions can be experienced as in the earlier country-group were, namely in those countries, where the ConsumPr0611 increased the TaxRevenue decreased, for example in case of Myanmar (Burma) the first was as 18,9%, while the TaxRevenue increased by 3,12% in the same period. Therefore there is a contradiction process in these countries concerning these two variances of the third component. This country group of this session of the score has an unfavourable economic conditions concerning the increasing trend of the GovDebtinGDP and decreasing the positive balance of payment in GDP or increasing the negative balance of payment in GDP.

For example GovDebtinGDP increased by 111% in Lebanon, by 106% in Lao PDR, by 85,8% in Egypt, by 50,9% in Morocco in average in GDP in period of 2006-2015. Also the BalaPayinGDP decrease was by 15% in Lebanon, by 13,5% in Jordan, by 3,5% in Morocco, by 1,8 in Yemen and Egypt, and by 4,6% in Iraq. Therefore because of these negative economic conditions and trends these countries are in this session. Mostly all of the economic conditions of these countries concerning this session have negative trends in field variances of first and third components. Countries are mostly crude oil exporting in the earlier session

(under line “X” to the right side) have better economic conditions concerning the first component.

.- The fourth component including one variance, namely balance of payment – BalanPayment between 2006-2015 and 2006=100, – can be described in the Figure-4-1-3, based on the statistical data base in Table -4-1-1.

In spite that generally those countries are in session of score, on the line “X”, above this one and to the right side from “Origo”, the Balance of Payment is increasing and under the line ”X” BalanPayment is decreasing the first component including three variances first determine the positions of countries of this 30 country-group into the sessions of the score system. Therefore in spite that the BalanPayment of Saudi Arabia has decreased by 26,8% since 2006 (2006= 100), by 11,8% in India and by 6,1% in Indonesia, these countries remain above line “X” and not under one. In ceases of these countries the most important variances of the first component determine their positions, for example their LabProduktiv is considerably positive remark, also the BalaPaInGDP, even in India and in Indonesia it is about minus 1,1% but this one is not considerable. For example Saudi Arabia has a successful economic life and national performance, because in spite that its BalanPayment has decreased by 26,8% since 2006 for one decade, its BalaPayInGDP has consequently increased by 12,5% annually for the period of 2005-2015. For example in case of Indonesia in spite that this country’s BalanPayment has decreased by 6,1% since 2006 (2006 = 100) this country could keep the BalaPayInGDP at very low level of 1,1% annually averagely.

.- Based on the statistical analysis, and cluster analysis, the 30 selected Asian and African countries are clustered into five clusters, where the most important direction for the classification is the labour productivity, but the other variances have considerable role in this one. Also it is important that the countries of each country-group should similar to themselves or the difference cannot be so high among themselves within each country-group (see Figure-4-1-3 and Figure-4-1-4 and Table-4-1-1 and Table-4-1-11). Naturally the each variance of the ten variances can be different for selected countries, therefore the countries are classified by the variances. In the first country group the labour productivity is moderately increasing and in the second country group the Arab crude oil exporting countries have considerable increase for their labour productivity. The other clusters have so mixed economies from the 30 selected countries based on the different variances.

.- The Table-4-1-12 and Table-4-1-13 connecting the cluster analyses and also concern the Figure-4-1-4 and Figure-4-1-5. The Table-4-1-12 and Table-4-1-13 show the structure of the clustering the 30 selected countries into different clusters, which depends on that how many clusters are, and into which the countries can be clustered. The Table-4-1-13 shows countries to be clustered into two classes, three classes, four classes and five classes. Also the Figure-4-1-5 with Dendrogram using Linkage visually how the clusters of countries can be cut. If the cut is at level remarked by 5, therefore 11 clusters of countries from 30 selected one will be or if the cut is at level remarked by 25, therefore 2 clusters of the 30 countries will be created. Naturally the optimum version can be 5 clusters of countries, as these SPSS analyses are set up (see Table-4-1-1 and Figure-4-1-5).

The clustering system is set up on different economic characters of the 30 selected countries, which characters are analysed by ten variances classified into four different variances. Ten variances are economic data concerning the different economic parts of the performance of the countries. Strengthen of the correlations and significance among ten variances as economic data is determining rang of countries concerning each other and therefore the clustering system for them. Naturally countries of each cluster should be similar to each other, otherwise these countries cannot be clustered into one cluster.

The Table-4-1-11 and Table-4-1-14 summary the main result for analysing the 30 selected Asian and African countries based on the SPSS analyses. In the Case Processing Summary all cases are valid and no any missing for cases of the selected 30 countries (Table-4-1-11). The Case Processing Summary means that in the analysed cases, all of the 30 countries are included in ten variances by 100% and no any excluded based on the Ward Method of SPSS. This means that the analyses are complete (Table-4-1-14).

. - The last Table-4-1-15, namely Cases Summaries provides summarised analyses about main characters of each cluster or country-group by variances and the differences among countries based on the median, minimum, maximum, Std. Deviation and mean values(also see the Table-4-1-9). Some data of this Table-4-1-15 is similar to Table-4-1-9, in which the data are summarised for 30 countries as one country-group. But in the case of the Table-4-1-15, the data are summarised for cases of five country-group and each country-group is summarised for the above mentioned values. Also in the Table-4-1-15 the other value is indicated as

median value, which is at middle level between the minimum and maximum values determined by ten variances based on the statistical data bases of Table-4-1-1.

.- In the Table-4-1-15, in general the large difference in case of the Std. Deviation is considerable not only in all of the 30 countries, but most of the five country-groups in fields of the labour productivity, GDP per employed, FDIinflow15 and FDIoutflow15. Also it can be mentioned that the Std. Deviation is very considerable in case of the THIRD country-group including seven countries (see Figure-4-1-5), where the value is 73,596 in field of the *labour productivity*, which is more than the level of Std. Deviation averagely by value 46,768 of 30 countries. Also the difference, as Std. Deviation is very high level by value 56,742 in field of the *FDIinflow15* in case of the FOURTH country-group including eight countries.

.- In general the difference in Std. Deviation is similarly considerable among 30 countries as well as inside each country-group of five country-groups in fields of the above mentioned four variances. This means that inside each country-groups the difference in Std. Deviation can be more than average difference among 30 countries. In the FIFTH country-group including two countries, the difference in Std. Deviation is considerably at highly level by value 64,788 in field of *ConsumPr016* (consumer price), but this difference is not usually among 30 countries, because this difference of Std. Deviation is only between Iran and Sudan. The above mentioned tables well provide proof how the structure of the correlation and significance are among the 30 selected countries in Asia and Africa. These countries are very variable from the OPEC crude oil exporting countries with highly level of labour productivity in their advanced mining sector, countries with increasing GDP growth rate and other countries with high negative balance of the payment. The data analyses based on the SPSS system, the inverse, logical and strong correlations can be experienced between two variances, namely labour productivity and GDPperEmploy in cases of selected 30 Asian and African countries emphasizing labour productivity increases, while the GDP per employed decreases. *In case of this large country-group if the labour productivity increases, the employment level increases, therefore the GDP per employed decreases* (also see the Table-4-1-1). Also the clustering system can follow these correlations and significance based on the different performance of the 30 selected countries analysed by ten variances classified into four different variances.

4. CONCLUSIONS AND SUGGESTIONS

4.1 Some conclusions and suggestions for developing the thirty selected Asian and African economies

At the beginning of the study and research *some questions* were emerged in this study concerning the financial and economic conditions of the selected developing economies concerning the different economic development processes, consumption volume increase and the role of the FDI.

The FDI inflow and the FDI outflow and their balance can stimulate the economic activities and the performance of the countries by increasing the job possibilities to increase the purchase power parity and the consumption of the population. The labour productivity and the increasing jobs based on the capital inflow and more activity of the domestic national firms and corporations can increase the incomes for either consumers, as employees or corporations. The increasing trends of the incomes can increase the revenues and different kinds of the taxes for the fiscal budget and decreasing government debt , which can make considerable influences on the changing the balance of the governmental budget to decrease or increase this one into the negative or positive directions. Finally the main aim is to decrease the government debt and the creating the positive balance of the payment of the economies.

Other question can emerge that how the *labour productivity* and FDI inflow and outflow can realise the successful economic growth and favourable tax-revenues of the national governments in the selected countries? The labour productivity has considerable role for the managing the successful and competitive companies and it can also contribute to the positive balance of the payment in cases of the selected countries.

The *other question can be that what reasons were* for the good prosperity of selected countries after the economic crisis in 2009? In this year, in 2009, most of the developing countries could implement a considerable fall in their economic growth, which made considerable backwardness in fields of the GDP decrease per employed people, consumption, balance of payment and FDI inflow into most of developing countries included in these selected one. This negative economic decrease resulted increasing government debt because of the decreasing tax revenues.

Also the low level of the *labour productivity* could not ensure enough satisfactory competitiveness of the domestic products produced by companies of these developing countries on the world market. The *foreign exchange rate* was going wrong, therefore the FDI inflow was not stimulated to increase the more investments in the developing economies. The countries needed for ensuring more exported products to obtain less imported products. This means that the unified imported product should be paid by more times exported products.

The weak *national financial reserves* also contributed to the stronger increasing negative *balance of the payment* of each country. Also the weak national financial reserves were pressed by increasing *government debt*, which could “feed” more and higher deficit of the balance of the payment. In spite that the domestic market could narrow, therefore the exported products could have increased since the beginning of the economic crisis. But the employment rate decreased, which also contributed to the decreasing the PPP (purchase power parity) and this led to the narrowing the domestic market. Also the low level of the employment could not help to increase the export, which could have been obligatory for the paying more imported products, but not in volume but in value of import, because of the decreasing foreign exchange rate of these selected countries.

Also the other question can emerge that how the tax revenues can have correlations with increasing the negative balance of the government debt in percent of the GDP? Also how the less FDI inflow into countries can stimulate the less GDP per employed people? Naturally this is a very quiet issue that the less investment can result less employment which can make backwardness for the tax revenues after paying personal income taxes and VAT (value added taxes) after buying products with VAT. The different countries have different economic conditions in these fields mentioned above.

4.2 New Scientific Results

.- 1 The LabProductiv, as average *labour productivity* in the period of 2006 and 2016 has a considerable role for creating a better and more favourable *competitive position* of any country on the world market. It can be proofed that *labour productivity* by ensuring satisfactory *competitiveness* of the domestic products produced of these selected countries on the world market, cannot always ensure sufficient *tax revenues* to decrease the negative *balance of the payment*.

In these countries, where the level of the labour productivity decreased, this made negative influences on the level of growing rate of these economies based on the increasing *government debt in GDP* and increasing the negative *balance of payment in GDP*. If any country has even decreased the *balance of payment*, while increased the labour productivity, these can affect creating a considerable decreasing share of the government debt in GDP. If any country increases the positive balance of payment, while the labour productivity remain at very low level, these can affect creating a considerable increasing share of the government debt in GDP. Also if the negative balance of payment decreases; but the labour productivity considerably increases this leads to create a considerable decreasing government debt in GDP. This means that the labour productivity can strengthen the trade exchange for the companies, which for the longer time can stimulate the future positive balance of payment by increasing *tax revenues* payment from the companies' surplus profit income, personal income from employed people' salaries and from the value added taxes paid after the increasing consumption or based on the increasing the *consumer price level*.

From point of view of the data bases coming from 30 selected African and Asian economies it is very clear that the labour productivity has a dominant role for *setting the range of countries*. In this quarter of the score, above line "X" in the right side, most of the countries calculated by this statistical program have had considerable average increase in field of the labour productivity from 2006 to 2016 based on the US dollar of 2011.

.- 2 By the increasing *labour productivity* the *production process* can also increase accompanying with the *positive balance of payment calculated in GDP*, which mostly leads to increasing rate of *GDP per employed* and *GDP growing rate*. Also the better revenue

possibility for the foreign firms can affect them to increase their *FDI inflow (Foreign Direct Investment)* into these selected developing countries and *FDI outflow* from these countries to other countries either in Asian and African one or to the other region of the world economy if their revenue position become less favourable. Also the FDI can *strengthen the labour productivity and economic independence* of selected developing countries from the world economy in fields of labour productivity, advanced technology and financial issue.

In cases of those countries, where the balance of payment in GDP (BalaPayInGDP) and therefore also the average central government debt in GDP (GovDebtinGDP) are at low level and also their domestic market size is smaller concerning the measure of the population, these countries have considerable FDIoutflow¹⁵ (variance). The fixed performance of China can ensure for this country to extend its economic influences on the world economy mostly by increasing FDI inflow into other countries and the export oriented strategy based on the diversified economic strategy.

.- 3 The better economic conditions concerning the *labour productivity* decreases the *negative balance of payment* or increase the positive balance of payment calculated in percent of GDP for the national economies of the Asian and African countries. Therefore the government debt in GDP decreases in percent of GDP in this period. Generally those countries, which have mostly considerable *positive balance of payment in GDP*, the *government debt* will be less amount *in the GDP*. First this can be demonstrated in cases of the crude oil exporting countries. In those countries, where the balance of payment in GDP is less positive or negative, even in less negative balance, their government debt in GDP can be considerable. This is a strong correlation between the balance of payment and government debt.

.- 4 If any country decreases the balance of payment, while the *labour productivity* remain at very low level, and also the *GDP per employed* increases, therefore all of these three elements affect creating a considerable small share of the government debt in GDP, because the GDP per employed shows considerable investment in direction to creating jobs, to extend the domestic market with increasing the *Consumption price* level. This means that either the increasing developed level of labour productivity or the increasing investment by increasing the GDP per employed, which can implement the lower level of the government debt in GDP in any country.

.- 5 It is proved that the increasing *FDI inflow* did not affect influence to increase the *employment* rate in the developing economies in sometimes. The correlation between increasing *government debt* and higher deficit of the *balance of payment* may depend on the actual *tax revenues*.

5. SUMMARY

The research work in this dissertation aimed at analysing the 30 selected Asian and African countries based on different variances mentioned in some chapters in detailed. The analyses compared by scientific approaches these countries and declared the differences among these countries within several clusters. Based on the data these countries are very variable and they have many difficulties to coordinate their international regional economic integration or to set up a wide side work separation based on their international competitiveness. Naturally any country can have comparative advantages with some, more or less international competitiveness, but these countries mostly have weak economic positions to create strong economic role by their mostly weak foreign exchange rate.

According to the China and its performance from the 30 selected Asian and African countries – except Qatar - China has reached the top level of

- .- the average GDP growth rate between 2006-2015 (GDPgrowth015) by 9,55%,
- .- GDP per employed from 2006 (GDPperEmploy) by 109,3% based on the diversified economic development strategy to ensure jobs and supply the demands of the domestic market and population from the domestic production with export oriented strategy,
- .- FDI Outward flow 2005-2015 (FDIoutflow15, 2005=100) by 118,3%
- .- these results were realised together moderate increase of balance of payment (BalanPayment) by 14,9%,
- .- increase of tax revenue (TaxRevenue) by 9,9%,
- .- keeping level of average of consumer price in the same period (ConsumPr0611) by increasing 2,94%,
- .- by keeping the level of 4,4%, as positive balance of payment in GDP (BalaPayInGDP),
- .- internationally comparably successful low level of the average central government debt, total (GovDebtinGDP) by 11,5%
- .- with increasing average labour productivity (LabProductiv) by increasing 18,2% as averagely in period of 2006-2016.

Also China has started to develop its performance in direction to the environmental conservation strategy based on using green energy and implementing green investments.

If any country has decreased the balance of payment, this can make influence on the creating a considerable increasing share of the government debt in GDP. If any country has increased the balance of payment, this can make influence on the creating a considerable decreasing share of the government debt in GDP. There is a contradiction correlation, if the balance of payment decreases; this leads to create a considerable increasing government debt in GDP, but if the balance of payment increases; this leads to create a considerable decreasing government debt in GDP. In this case the positive balance of payment is calculated.

In cases of the crude oil exporting economies the GDP per employed is always depending from the world price of the crude oil, which can be followed by the economic growth of these crude oil exporting countries. Also the similarly to above mentioned it can mostly be declared that the average GDP growth rate between 2006-2015 in %, as variance namely GDPgrowth015, was considerable in cases of the crude oil exporting economies.

Finally the most of these 30 selected countries have considerable increasing rate in field of labour productivity, but this does not mean that their labour productivity can be developed. Therefore and because of the labour productivity is at low level the government debt and negative balance of payment in GDP are considerable in most of the 30 selected countries. Also the FDI outflow is in case of considerable one, this is not mostly caused by strong economy, but weak economic background of the national economies for receiving FDI inflow in the countries.

The solution of these economic conditions is to develop national economies by international co-operations, strengthen national currencies and connect this one to the relative strong international currencies as US dollar, decrease government debt by increasing labour productivity, which last one can make fixed economic position for companies and employees by increasing their purchase power parity.

6. LIST OF PUBLICATION OF BAHAA AL ASMI

Al Asmi, Bahaa, PhD Student

Articles in Journal in English (2x 8 = 16 credit)

Zsarnóczai, J. S. - **Bahaa Al Asmi** – Vajda, Andrea (2014): Water management in Middle East and North –Africa, pp. 32-38. *Hungarian Agricultural Engineering*, N° 26/2014 pp. 32-38. Published online: <http://hae-journals.org/>, HU ISSN 0864-7410 (Print) / HU ISSN 2415-9751(Online), DOI: 10.17676/HAE.2014.26.32

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Articles in Journal in Hungarian (2x6 = 12 credit)

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